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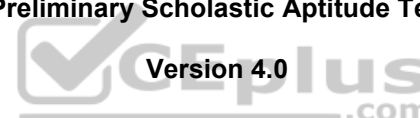
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PSAT

Preliminary Scholastic Aptitude Test



**Sections**

1. Math
2. Reading

**Exam A****QUESTION 1**

If Lynn can type a page in  $p$  minutes, what piece of the page can she do in 5 minutes?

- A.  $5/p$
- B.  $p - 5$
- C.  $p + 5$
- D.  $p/5$
- E.  $1 - p + 5$

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 2**

If Sally can paint a house in 4 hours, and John can paint the same house in 6 hour, how long will it take for both of them to paint the house together?

- A. 2 hours and 24 minutes
- B. 3 hours and 12 minutes
- C. 3 hours and 44 minutes
- D. 4 hours and 10 minutes
- E. 4 hours and 33 minutes

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**



**QUESTION 3** Employees of a discount appliance store receive an additional 20% off of the lowest price on an item. If an employee purchases a dishwasher during a 15% off sale, how much will he pay if the dishwasher originally cost \$450?

- A. \$280.90
- B. \$287
- C. \$292.50
- D. \$306
- E. \$333.89

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 4**

The sales price of a car is \$12,590, which is 20% off the original price. What is the original price?

- A. \$14,310.40
- B. \$14,990.90
- C. \$15,290.70

D. \$15,737.50

E. \$16,935.80

**Correct**

**Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

#### QUESTION 5

Solve the following equation for A:

$$2A/3 = 8 + 4A$$

A. -2.4

B. 2.4

C. 1.3

D. -1.3

E. 0

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 6** If Leah is 6 years older than Sue, and John is 5 years older than Leah, and the total of their ages is 41. Then how old is Sue?

A. 8

B. 10

C. 14

D. 19

E. 21

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

#### QUESTION 7

Alfred wants to invest \$4,000 at 6% simple interest rate for 5 years. How much interest will he receive?

A. \$240

B. \$480

C. \$720

D. \$960

E. \$1,200

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 8**

Jim is able to sell a hand-carved statue for \$670 which was a 35% profit over his cost. How much did the statue originally cost him?

- A. \$496.30
- B. \$512.40
- C. \$555.40
- D. \$574.90
- E. \$588.20

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 9** The city council has decided to add a 0.3% tax on motel and hotel rooms. If a traveler spends the night in a motel room that costs \$55 before taxes, how much will the city receive in taxes from him?

- A. 10 cents
- B. 11 cents
- C. 15 cents
- D. 17 cents
- E. 21 cents

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 10**

A student receives his grade report from a local community college, but the GPA is smudged. He took the following classes: a 2 hour credit art, a 3 hour credit history, a 4 hour credit science course, a 3 hour credit mathematics course, and a 1 hour science lab. He received a “B” in the art class, an “A” in the history class, a “C” in the science class, a “B” in the mathematics class, and an “A” in the science lab. What was his GPA if the letter grades are based on a 4 point scale? ( $A = 4$ ,  $B = 3$ ,  $C = 2$ ,  $D = 1$ ,  $F = 0$ )

- A.  
2.7
- B.  
2.8
- C.  
3.0
- D.  
3.1
- E. 3.2

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 11** Simon arrived at work at 8:15 A.M. and left work at 10: 30 P.M. If Simon gets paid by the hour at a rate of \$10 and time and ½ for any hours worked over 8 in a day. How much did Simon get paid?



- A. \$120.25
- B. \$160.75
- C. \$173.75
- D. \$180
- E. \$182.50

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 12** Grace has 16 jellybeans in her pocket. She has 8 red ones, 4 green ones, and 4 blue ones. What is the minimum number of jellybeans she must take out of her pocket to ensure that she has one of each color?

- A. 4
- B. 8
- C. 12D. 13
- E. 16

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 13** If  $r = 5z$  then  $15z = 3y$ , then  $r =$

- A.  $y$
- B.  $2y$
- C.  $5y$
- D.  $10y$
- E.  $15y$

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 14** If 300 jellybeans cost you  $x$  dollars. How many jellybeans can you purchase for 50 cents at the same rate?

- A.  $150/x$
- B.  $150x$
- C.  $6x$
- D.  $1500/x$
- E.  $600x$

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 15**

Lee worked 22 hours this week and made \$132. If she works 15 hours next week at the same pay rate, how much will she make?

- A. \$57
- B. \$90
- C. \$104D. \$112
- E. \$122

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 16** If  $8x + 5x + 2x + 4x = 114$ , the  $5x + 3 =$

- A. 12
- B. 25
- C. 33
- D. 47
- E. 86

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**



**QUESTION 17** You need to purchase a textbook for nursing school. The book cost \$80.00, and the sales tax where you are purchasing the book is 8.25%. You have \$100. How much change will you receive back?

- A. \$5.20
- B. \$7.35
- C. \$13.40D. \$19.95
- E. \$21.25

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 18**

You purchase a car making a down payment of \$3,000 and 6 monthly payments of \$225. How much have you paid so far for the car?

- A. \$3225
- B. \$4350
- C. \$5375
- D. \$6550
- E. \$6398

**Correct Answer:** B

**Section:** Math  
**Explanation**

**Explanation/Reference:**

**QUESTION 19** Your supervisor instructs you to purchase 240 pens and 6 staplers for the nurse's station. Pens are purchased in sets of 6 for \$2.35 per pack. Staplers are sold in sets of 2 for 12.95. How much will purchasing these products cost?

- A. \$132.85
- B. \$145.75
- C. \$162.90
- D. \$225.25
- E. \$226.75

**Correct Answer:** A

**Section:** Math  
**Explanation**

**Explanation/Reference:**

**QUESTION 20**

If  $y = 3$ , then  $y^3(y^3 - y) =$

- A. 300
- B. 459
- C. 648
- D. 999
- E. 1099

**Correct Answer:** C

**Section:** Math  
**Explanation**

**Explanation/Reference:**

**QUESTION 21**

If the average of three numbers is  $V$ . If one of the numbers is  $Z$  and another is  $Y$ , what is the remaining number?

- A.  $ZY - V$
- B.  $Z/V - 3 - Y$  C.  $Z/3 - V - Y$
- D.  $3V - Z - Y$
- E.  $V - Z - Y$

**Correct Answer:** D

**Section:** Math  
**Explanation**

**Explanation/Reference:**

**QUESTION 22**

Two cyclists start biking from a trail's start 3 hours apart. The second cyclist travels at 10 miles per hour and starts 3 hours after the first cyclist who is traveling at 6 miles per hour. How much time will pass before the second cyclist catches up with the first from the time the second cyclist started biking?

- A. 2 hours
- B. 4  $\frac{1}{2}$  hours
- C. 5  $\frac{3}{4}$  hours

- D. 6 hours  
E. 7 ½ hours

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 23**

Jim can fill a pool carrying buckets of water in 30 minutes. Sue can do the same job in 45 minutes. Tony can do the same job in 1 ½ hours. How quickly can all three fill the pool together?

- A. 12 minutes  
B. 15 minutes  
C. 21 minutes  
D. 23 minutes  
E. 28 minutes

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 24** Mary is reviewing her algebra quiz. She has determined that one of her solutions is incorrect.

Which one is it?

- A.  $2x + 5(x - 1) = 9$ ,  $x = 2$   
B.  $p - 3(p - 5) = 10$ ,  $p = 2.5$   
C.  $4y + 3y = 28$ ,  $y = 4$   
D.  $5w + 6w - 3w = 64$ ,  $w = 8$   
E.  $t - 2t - 3t = 32$ ,  $t = 8$

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 25** What simple interest rate will Susan need to secure to make \$2,500 in interest on a \$10,000 principal over 5 years?

- A.  
4%  
B.  
5%  
C.  
6%  
D.  
7%  
E. 8%

**Correct Answer:** B

**Section:** Math  
**Explanation**

**Explanation/Reference:**

**QUESTION 26**

Which of the following is not a rational number?

- A.  $-4$
- B.  $\frac{1}{5}$
- C.  $0.8333333\ldots$
- D.  $0.45$
- E.  $\sqrt{2}$

**Correct Answer:** E

**Section:** Math  
**Explanation**

**Explanation/Reference:**

**QUESTION 27**

A study reported that in a random sampling of 100 women over the age of 35 showed that 8 of the women were married 2 or more times. Based on the study results, how many women in a group of 5,000 women over the age of 35 would likely be married 2 or more times?

- A. 55
- B. 150C. 200 D. 400
- E. 600

**Correct Answer:** D

**Section:** Math  
**Explanation**

**Explanation/Reference:**

**QUESTION 28** John is traveling to a meeting that is 28 miles away. He needs to be there in 30 minutes. How fast does he need to go to make it to the meeting on time?

- A. 25mph
- B. 37mph
- C. 41mph
- D. 49mph
- E. 56mph

**Correct Answer:** E

**Section:** Math  
**Explanation**

**Explanation/Reference:**

**QUESTION 29** If Steven can mix 20 drinks in 5 minutes, Sue can mix 20 drinks in 10 minutes, and Jack can mix 20 drinks in 15 minutes, how much time will it take all 3 of them working together to mix the 20 drinks?

- A. 2 minutes and 44 seconds
- B. 2 minutes and 58 seconds
- C. 3 minutes and 10 seconds
- D. 3 minutes and 26 seconds

E. 4 minutes and 15 seconds

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

#### QUESTION 30

If Sam can do a job in 4 days that Lisa can do in 6 days and Tom can do in 2 days, how long would the job take if Sam, Lisa, and Tom worked together to complete it?

A. 0.8 days

B. 1.09 daysC. 1.23 days D. 1.65 days

E. 1.97 days

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

#### QUESTION 31

Jim has 5 pieces of string. He needs to choose the piece that will be able to go around his 36-inch waist. His belt broke, and his pants are falling down. The piece needs to be at least 4 inches longer than his waist so he can tie a knot in it, but it cannot be more than 6 inches longer so that the ends will not show from under his shirt. Which of the following pieces of string will work the best?

A. 3 feet

B.  $3\frac{3}{4}$  feetC.  $3\frac{1}{2}$  feet D.  $3\frac{1}{4}$  feet

E.  $2\frac{1}{2}$  feet

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

#### QUESTION 32

The last week of a month a car dealership sold 12 cars. A new sales promotion came out the first week of the next month and the sold 19 cars that week. What was the percent increase in sales from the last week of the previous month compared to the first week of the next month?

A. 58%

B. 119%C. 158% D. 175%

E. 200%

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 33** If two planes leave the same airport at 1:00 PM, how many miles apart will they be at 3:00 PM if one travels directly north at 150 mph and the other travels directly west at 200 mph?

A. 50 miles

B. 100 miles C. 500 miles

- D. 700 miles  
E. 1,000 miles

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 34**

During a 5-day festival, the number of visitors tripled each day. If the festival opened on a Thursday with 345 visitors, what was the attendance on that Sunday?

- A. 345  
B. 1,035 C. 1,725 D. 3,105  
E. 9,315

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 35** Round 907.457 to the nearest tens place.

- A. 908.0  
B. 910  
C. 907.5  
D. 900  
E. 907.46



**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 36**

At a certain high school, the respective weights for the following subjects are:

Mathematics 3, English 3, History 2, Science 2 and Art 1.

What is a student's average whose marks were the following: Geometry 89, American Literature 92, American History 94, Biology 81, and Sculpture 85?

- A. 85.7  
B. 87.8  
C. 88.9  
D. 89.4  
E. 90.2

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 37**

Ginger over the course of an average work-week wanted to see how much she spent on lunch daily. On Monday and Thursday, she spent \$5.43 total. On Tuesday and Wednesday, she spent \$3.54 on each day. On Friday, she spent \$7.89 on lunch. What was her average daily cost?

- A. \$3.19
- B. \$3.75
- C. \$3.90
- D. \$4.08
- E. \$4.23

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 38** What is 1230.932567 rounded to the nearest hundredths place?

- A. 1200
- B. 1230.9326
- C. 1230.93
- D. 1230
- E. 1230.933

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**



**QUESTION 39** Subtract the following numbers rounded to the nearest tenths place.

134.679  
−45.548  
−67.8807

- A. 21.3
- B. 21.25
- C. −58.97
- D. −59.0
- E. 1

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 40**

What is the absolute value of −9?

- A. −9
- B. 9
- C. 0
- D. −1



E. 1

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 41** What is the median of the following list of numbers?

4, 5, 7, 9, 10, 12

- A. 6
- B. 7.5
- C. 7.8
- D. 8E. 9

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 42**

What is the mathematical average of the number of weeks in a year, seasons in a year, and the number of days in January?

- A. 36
- B. 33
- C. 32
- D. 31
- E. 29



**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 43**

In a college, some courses contribute more towards an overall GPA than other courses. For example, a science class is worth 4 points; mathematics is worth 3 points; history is worth 2 points; and English is worth 3 points. The values of the grade letters are as follows, A = 4, B = 3, C = 2, D = 1, F = 0. What is the GPA of a student who made a “C” in Trigonometry, a “B” in American History, an “A” in Botany, and a “B” in Microbiology?

- A. 2.59
- B. 2.86
- C. 3.08
- D. 3.33
- E. 3.67

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 44** Over the course of a week, Fred spent \$28.49 on lunch. What was the average cost per day?

- A. \$4.07
- B. \$3.57
- C. \$6.51
- D. \$2.93
- E. \$5.41

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 45**

A roast was cooked at 325° F in the oven for 4 hours. The internal temperature rose from 32° F to 145° F. What was the average rise in temperature per hour?

- A. 20.2° F/hr
- B. 28.25° F/hr
- C. 32.03° F/hr
- D. 37° F/hr
- E. 37.29° F/hr

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**



**QUESTION 46** In the number 743.25 which digit represents the tenths space?

- A. 2
- B. 3
- C. 4
- D. 5
- E. 6

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 47** Add  $0.98 + 45.102 + 32.3333 + 31 + 0.00009$

- A. 368.573
- B. 210.536299
- C. 109.41539
- D. 99.9975
- E. 80.8769543

**Correct Answer:** C

**Section:** Math  
**Explanation**

**Explanation/Reference:**

**QUESTION 48**

Find  $0.12 \div 1$

- A. 12
- B. 1.2
- C. .12
- D. .012
- E. .0012

**Correct Answer:** C

**Section:** Math  
**Explanation**

**Explanation/Reference:**

**QUESTION 49 (9**

$\div 3) \times (8 \div 4) =$

- A. 1
- B. 6
- C. 72
- D. 576
- E. 752

**Correct Answer:** B

**Section:** Math  
**Explanation**

**Explanation/Reference:**

**QUESTION 50 6**

$\times 0 \times 5$

- A. 30
- B. 11
- C. 25
- D. 0
- E. 27

**Correct Answer:** D

**Section:** Math  
**Explanation**

**Explanation/Reference:**

**QUESTION 51**

$7.95 \div 1.5$

- A. 2.4
- B. 5.25

5.3  
C.  
6.2  
D.  
7.3  
E. 7.5

**Correct Answer:** B

**Section:** Math  
**Explanation**

**Explanation/Reference:**

**QUESTION 52 –**

32 + 7 equals:

A. –25  
B. 25  
C. –26  
D. 26  
E. 27

**Correct Answer:** A

**Section:** Math  
**Explanation**

**Explanation/Reference:**



**QUESTION 53 –**

37 + –47 equals:

A. 64  
B. –84  
C. 65  
D. –75  
E. –66

**Correct Answer:** B

**Section:** Math  
**Explanation**

**Explanation/Reference:**

**QUESTION 54 41%**

equals:

A. 4.1  
B. .41  
C. .041  
D. .0041  
E. .00415

**Correct Answer:** B

**Section:** Math  
**Explanation**

**Explanation/Reference:**

**QUESTION 55** Describe the following sequence in mathematical terms.  
144, 72, 36, 18, 9

- A. Descending arithmetic sequence
- B. Ascending arithmetic sequence
- C. Descending geometric sequence
- D. Ascending geometric sequence
- E. Miscellaneous sequence

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 56** Which of the following is not a whole number followed by its square?

- A. 1, 1
- B. 6, 36
- C. 8, 64
- D. 10, 100
- E. 11, 144

**Correct Answer:** E

**Section:** Math

**Explanation**



**Explanation/Reference:**

**QUESTION 57**

A nurse has to record her temperatures in Celsius but her thermometer reads Fahrenheit. A patient's temperature is 100.7° F. What is the temperature in °C?

- A. 32° C
- B. 36.5° C
- C. 38.2° C
- D. 213.3° C
- E. 223.7° C

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 58** Art realized that he had 2 more quarters than he had originally thought in his pocket. If all of the change in his pocket is quarters and it totals to \$8.75, how many quarters did he originally think were in his pocket?

- A. 27
- B. 29 C. 31 D. 33
- E. 35

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 59** There are 12 more apples than oranges in a basket of 36 apples and oranges. How many apples are in the basket?

- A. 12
- B. 15
- C. 24
- D. 28
- E. 36

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 60** Which of the following correctly identifies 4 consecutive odd integers where the sum of the middle two integers is equal to 24?

- A. 5, 7, 9, 11
- B. 7, 9, 11, 13
- C. 9, 11, 13, 15
- D. 11, 13, 15, 17
- E. 13, 15, 17, 19



**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 61** What is the next number in the sequence? 6, 12, 24, 48, \_\_\_\_

- A. 72
- B. 96
- C. 108D. 112
- E. 124

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 62** Which of the following numbers could be described in the following way: an integer that is a natural, rational and whole number?

- A. 0
- B. 1
- C. 2.33

- D. -3
- E. none of the above

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 63** What is the next number in the following pattern? 1, 1/2, 1/4, 1/8, \_\_\_\_

- A. 1/10
- B. 1/12
- C. 1/14
- D. 1/15
- E. 1/16

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 64** Of the following units, which would be most likely to measure the amount of sugar needed in a recipe for 2 dozen cookies?

- A. degrees Celsius
- B. milliliters
- C. quarts
- D. kilograms
- E. cups

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 65**  $10^4$  is not equal to which of the following?

- A. 100,000
- B.  $0.1 \times 10^5$
- C.  $10 \times 10 \times 10 \times 10$
- D.  $10^2 \times 10^2$
- E. 10,000

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 66**

Multiply  $10^4$  by  $10^2$

- A.  $10^8$   
B.  $10^2$   
C.  $10^6$   
D.  $10^{-2}$   
E.  $10^3$

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 67** Divide

$x^5$  by  $x^2$

- A.  $x^7$   
B.  $x^4$   
C.  $x^{10}$   
D.  $x^3$   
E.  $x^{2.5}$

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 68**

Find  $8.23 \times 10^9$

- A. 0.00000000823  
B. 0.00000823  
C. 8.23  
D. 823000000  
E. 82300000000

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 69**

83,000 equals:

- A.  $83.0 \times 10^4$   
B.  $8.3 \times 10^4$   
C.  $8.3 \times 10^3$   
D.  $83.0 \times 10^5$   
E.  $83.0 \times 10^2$



**Correct Answer:** B  
**Section:** Math  
**Explanation**

**Explanation/Reference:**

**QUESTION 70**

00875 equals:

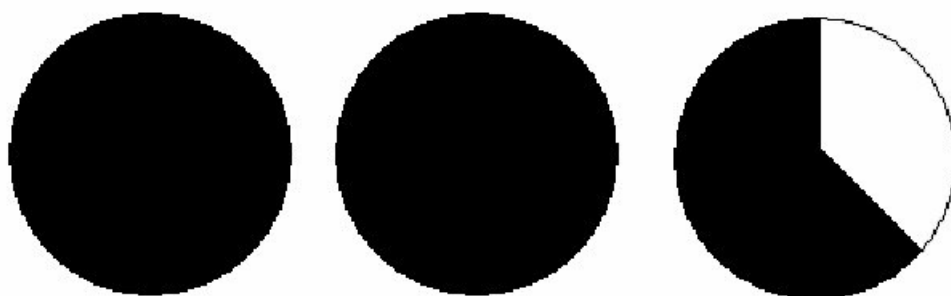
- A.  $8.75 \times 10^{-2}$
- B.  $8.75 \times 10^{-3}$
- C.  $8.75 \times 10^{-4}$
- D.  $87.5 \times 10^{-3}$
- E.  $875 \times 10^{-4}$

**Correct Answer:** B  
**Section:** Math  
**Explanation**

**Explanation/Reference:**

**QUESTION 71**

What is the improper fraction or mixed number represented by the following figure?



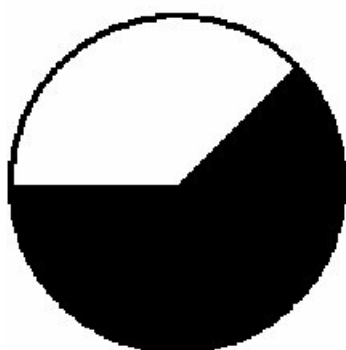
- A.  $2 \frac{1}{3}$
- B.  $\frac{7}{6}$
- C.  $2 \frac{5}{8}$
- D.  $\frac{11}{3}$
- E.  $\frac{11}{9}$

**Correct Answer:** C  
**Section:** Math  
**Explanation**

**Explanation/Reference:**

**QUESTION 72**

Which of the following fractions most correctly depicts the shaded area of the circle below?



- A.  $\frac{3}{8}$
- B.  $\frac{5}{8}$
- C.  $\frac{3}{4}$
- D.  $\frac{5}{11}$
- E.  $\frac{1}{2}$

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 73** Which of the following is not a fraction equivalent to  $\frac{3}{4}$ ?

- A.  $\frac{6}{8}$
- B.  $\frac{9}{12}$
- C.  $\frac{12}{18}$  D.  $\frac{21}{28}$
- E.  $\frac{27}{36}$

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 74**

Solve:  $0.25 + 0.65$

- A.  $\frac{1}{2}$
- B.  $\frac{9}{10}$
- C.  $\frac{4}{7}$
- D.  $\frac{2}{9}$
- E.  $\frac{5}{16}$

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 75** Which of the following statements is false?

- A. In the fraction  $\frac{1}{2}$ , one is the numerator.

- B. When 4.89 is rounded to the ones place, the answer is 5.
- C. Ten thousandths place is located 5 places to the right of the decimal
- D.  $\frac{7}{6}$  is described as an improper fraction.
- E.  $33\frac{1}{3}\%$  is equivalent to  $\frac{1}{3}$

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 76** Find  
the square of  $\frac{25}{9}$

- A.  $\frac{5}{3}$
- B.  $\frac{3}{5}$
- C.  $7\frac{58}{81}$
- D.  $\frac{15}{2}$
- E.  $\frac{650}{81}$

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 77** Sarah needs to make a cake and some cookies. The cake requires  $\frac{3}{8}$  cup of sugar and the cookies require  $\frac{3}{5}$  cup of sugar. Sarah has  $\frac{15}{16}$  cups of sugar. Does she have enough sugar, or how much more does she need?

- A. She has enough sugar.
- B. She needs  $\frac{1}{8}$  of a cup of sugar.
- C. She needs  $\frac{3}{80}$  of a cup of sugar.
- D. She needs  $\frac{4}{19}$  of a cup of sugar.
- E. She needs  $\frac{1}{9}$  of a cup of sugar.

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 78** There are 8 ounces in a  $\frac{1}{2}$  pound. How many ounces are in  $7\frac{3}{4}$  lbs?

- A. 12 ounces
- B. 86 ounces
- C. 119 ounces
- D. 124 ounces
- E. 138 ounces

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 79**

If the value of  $x$  and  $y$  in the following fraction are both tripled, how does the value of the fraction change?

$$\frac{xz}{y}$$

- A. increases by half
- B. decreases by half
- C. triples
- D. doubles
- E. remains the same

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 80**

Which of the following fractions is the equivalent of 0.5%?

- A.  $\frac{1}{20}$
- B.  $\frac{1}{200}$
- C.  $\frac{1}{2000}$
- D.  $\frac{1}{5}$
- E.  $\frac{1}{500}$

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 81** Which of these numbers is a factor of 21?

- A. 2
- B. 5
- C. 7
- D. 42
- E. 44

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 82**

If the average person drinks 8, (8oz) glasses of water per day, a person who drinks 12.8oz of water after a morning exercise session has consumed what fraction of the daily average?

- A.  
 $\frac{1}{3}$
- B.  
 $\frac{1}{5}$

- C.  
1/7
- D. 1/9
- E. 1/10

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 83**

You need  $\frac{4}{5}$  cups of water for a recipe. You accidentally put  $\frac{1}{3}$  cups into the mixing bowl with the dry ingredients. How much more water in cups do you need to add?

- A.  $\frac{1}{3}$  cups
- B.  $\frac{2}{3}$  cups
- C.  $\frac{1}{15}$  cupsD.  $\frac{7}{15}$  cups
- E.  $\frac{7}{16}$  cups

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 84  $\frac{3}{4}$**

$-\frac{1}{2} =$

- A.  
 $\frac{1}{4}$
- B.  
 $\frac{1}{3}$
- C.  
 $\frac{1}{2}$
- D.  
 $\frac{2}{3}$
- E.  $\frac{2}{5}$

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 85**

$7\frac{1}{2} - 5\frac{3}{8} =$

- A.  $1\frac{1}{2}$
- B.  $1\frac{2}{3}$
- C.  $2\frac{1}{8}$
- D.  $3\frac{1}{4}$
- E. 3

**Correct Answer:** C

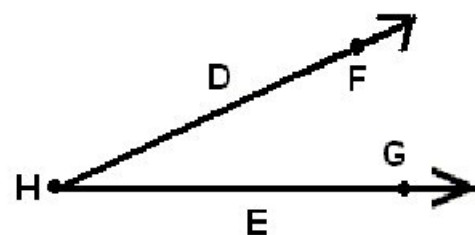
**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 86**

Which of the following letters represents the vertex in the following picture?



- A. D and E
- B. E and H
- C. F and G
- D. G only
- E. H only

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**



**QUESTION 87** If a circle has the diameter of 8, what is the circumference?

- A. 6.28
- B. 12.56
- C. 25.13
- D. 50.24
- E. 100.48

**Correct Answer:** C

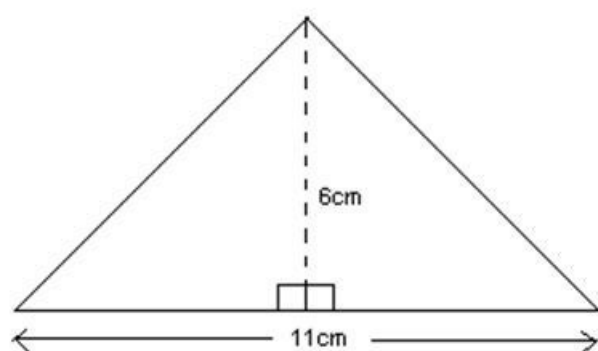
**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 88**

What is the area of the triangle below?



- A.  $22\text{cm}^2$
- B.  $33\text{cm}^2$
- C.  $44\text{cm}^2$
- D.  $50\text{cm}^2$
- E.  $66\text{cm}^2$

**Correct Answer:** B

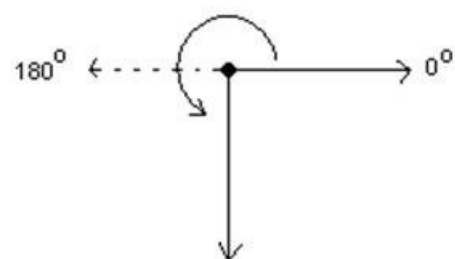
**Section:** Math

**Explanation**

**Explanation/Reference:**

#### QUESTION 89

What is the measure of the solid line angle depicted by the following figure?



- A. 90 degrees
- B. 180 degrees
- C. 225 degrees
- D. 270 degrees
- E. 0 degrees

**Correct Answer:** D

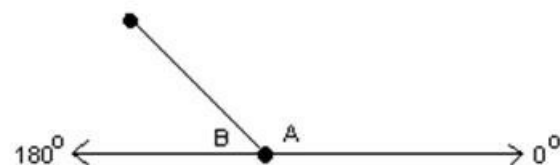
**Section:** Math

**Explanation**

**Explanation/Reference:**

#### QUESTION 90

What is the measure of angle B in the following figure if angle A measures  $135^\circ$ ?



- A.  $40^\circ$
- B.  $45^\circ$
- C.  $50^\circ$
- D.  $135^\circ$
- E.  $225^\circ$

**Correct Answer:** B

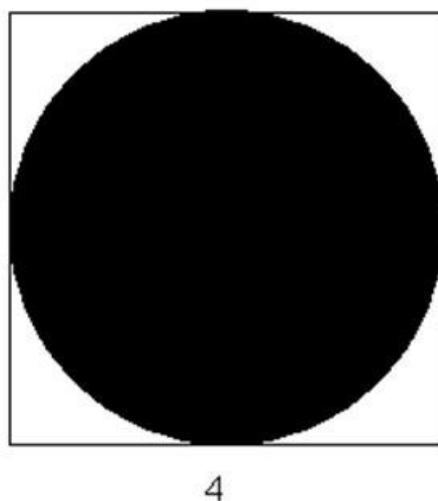
**Section:** Math

**Explanation**

**Explanation/Reference:**

#### QUESTION 91

In the following figure, what is the area of the shaded circle inside of the square?



- A. 512
- B. 256
- C. 16
- D. 50.24
- E. 12.57

**Correct Answer:** E

**Section:** Math

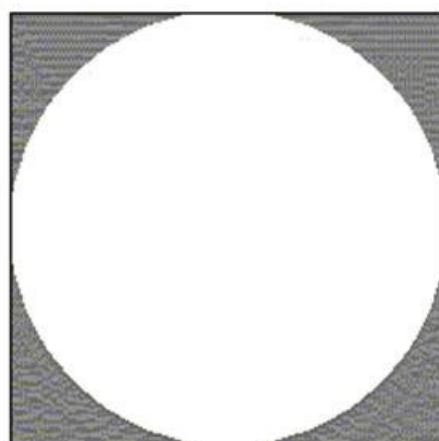
**Explanation**

**Explanation/Reference:**

#### QUESTION 92

In the figure below, determine the area of the shaded region of the figure.





7

- A. 9.354
- B. 10.52
- C. 16.437
- D. 49
- E. 104.86

**Correct Answer:** B

**Section:** Math

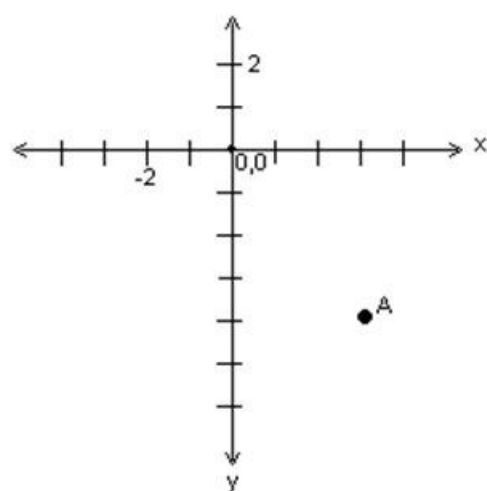
**Explanation**

**Explanation/Reference:**



### QUESTION 93

What are the coordinates of point A on the following graph?



- A.  $(-3, -4)$
- B.  $(-4, 3)$
- C.  $(3, -4)$
- D.  $(-4, -3)$
- E.  $(3, 4)$

**Correct Answer:** C

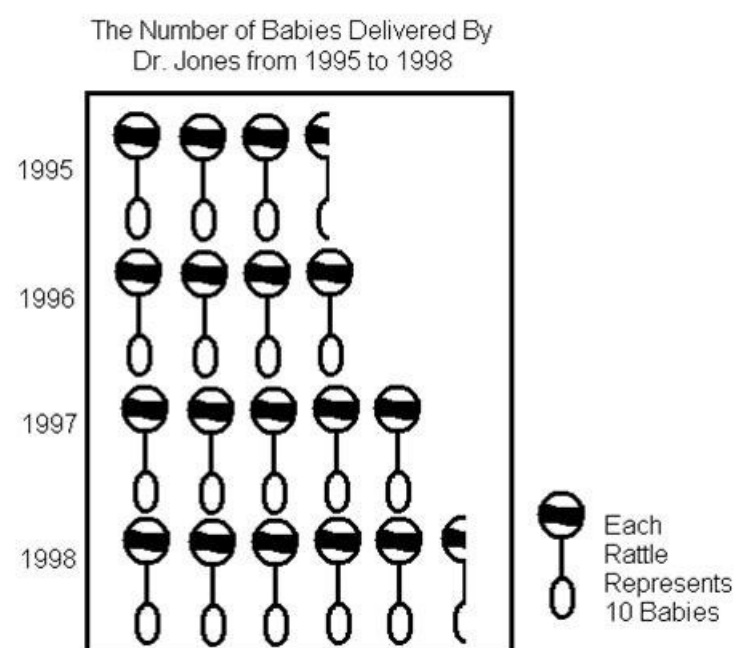
Section: Math

Explanation

Explanation/Reference:

#### QUESTION 94

What was the average number of babies that Dr. Jones delivered each year from 1995 to 1998?



- A. 35
- B. 40
- C. 45
- D. 50
- E. 55

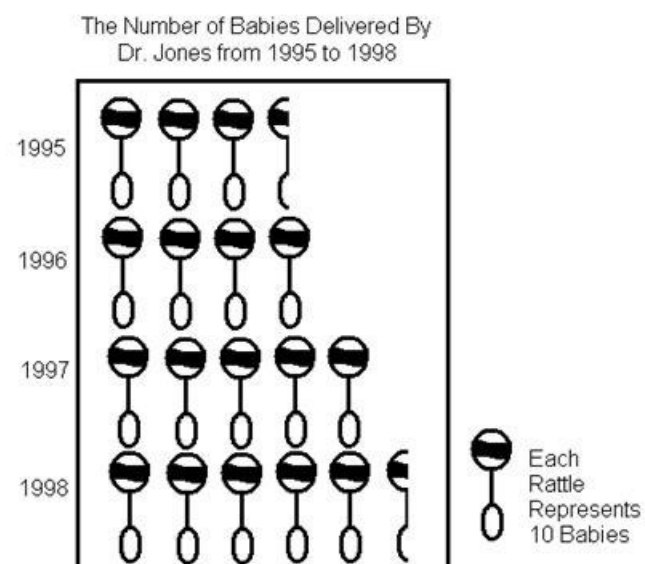
Correct Answer: C

Section: Math

Explanation

Explanation/Reference:

#### QUESTION 95



How many babies did Dr. Jones deliver in 1998?

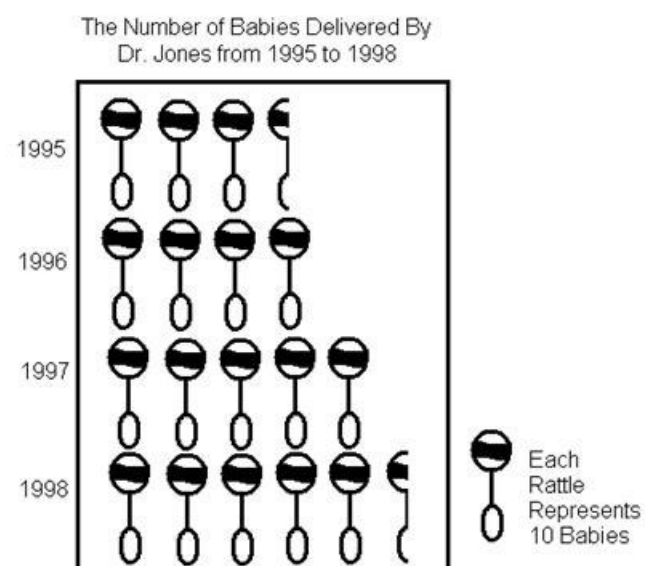
- A. 25
- B. 35
- C. 45
- D. 55
- E. 65

**Correct Answer:** D

**Section:** Math  
**Explanation**

**Explanation/Reference:**

#### QUESTION 96



If Dr. Jones delivered 85 babies in 1999, how many rattles would represent this number?

- A. 6  $\frac{1}{2}$
- B. 7

- C.  $7\frac{1}{2}$  D. 8  
E.  $8\frac{1}{2}$

**Correct Answer:** E

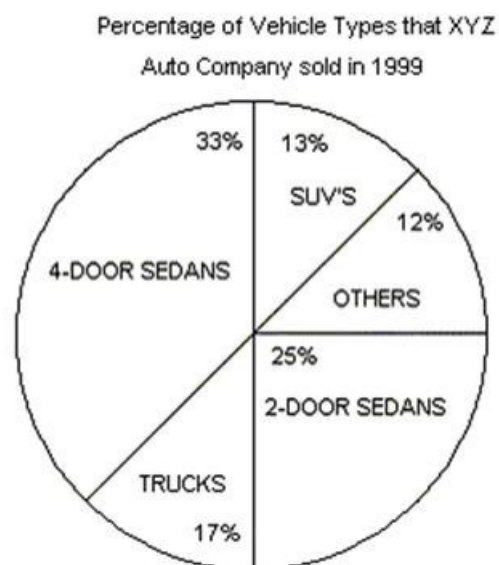
**Section:** Math

**Explanation**

**Explanation/Reference:**

#### QUESTION 97

If XYZ Auto Company sold 23,000 vehicles in 1999, how many were SUV's?



- A. 2,990  
B. 3,030  
C. 3,450  
D. 4,760  
E. 4,775

**Correct Answer:** A

**Section:** Math

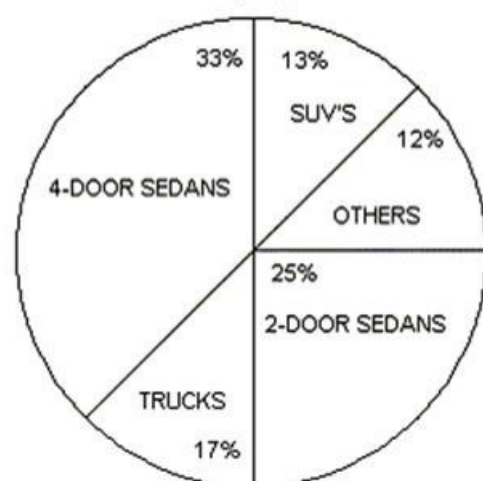
**Explanation**

**Explanation/Reference:**

#### QUESTION 98

If 7,650 trucks were sold in 1999, how many total vehicles were sold in 1999 by XYZ Auto Company?

Percentage of Vehicle Types that XYZ  
Auto Company sold in 1999



- A. 35,000
- B. 40,000
- C. 45,000
- D. 50,000
- E. 55,000

**Correct Answer:** C

**Section:** Math

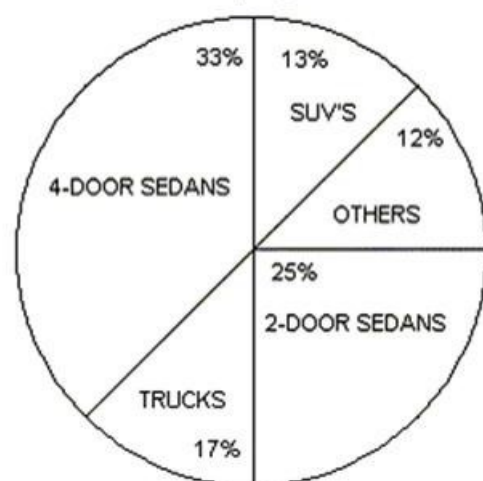
**Explanation**

**Explanation/Reference:**

**QUESTION 99**

If 3,750 2-door sedans were sold in 1999, then how many 4-door sedans were sold in 1999 by XYZ Auto Company?

Percentage of Vehicle Types that XYZ  
Auto Company sold in 1999



- A. 3,578
- B. 4,950

- C. 5,120
- D. 5,670
- E. 5,845

**Correct Answer:** B

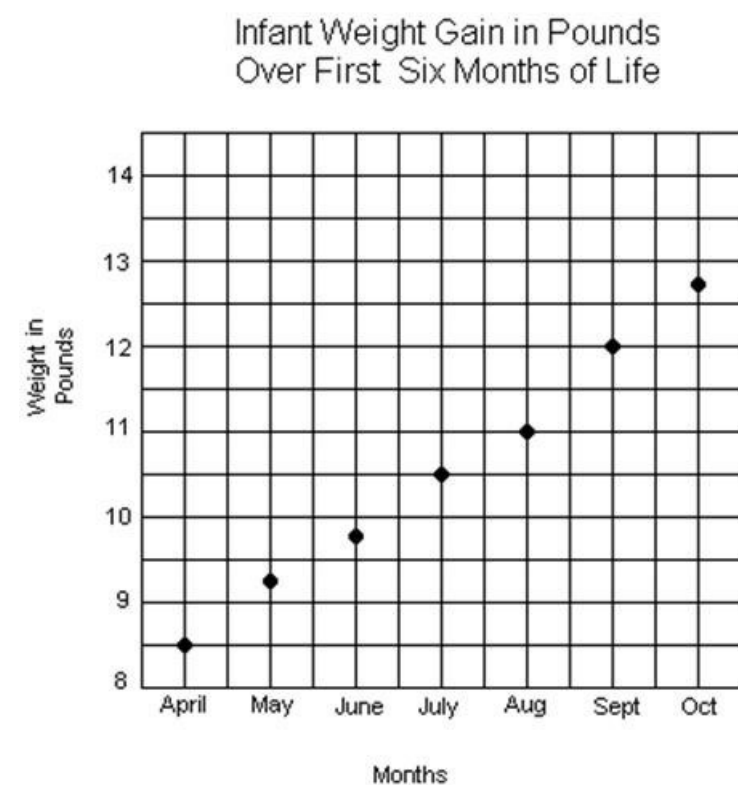
**Section:** Math

**Explanation**

**Explanation/Reference:**

#### QUESTION 100

How much did the infant gain in the first month of life?



- A. 6 ounces
- B. 12 ounces
- C. 15 ounces
- D. 8 lbs 8 ounces
- E. 9 lbs 4 ounces

**Correct Answer:** B

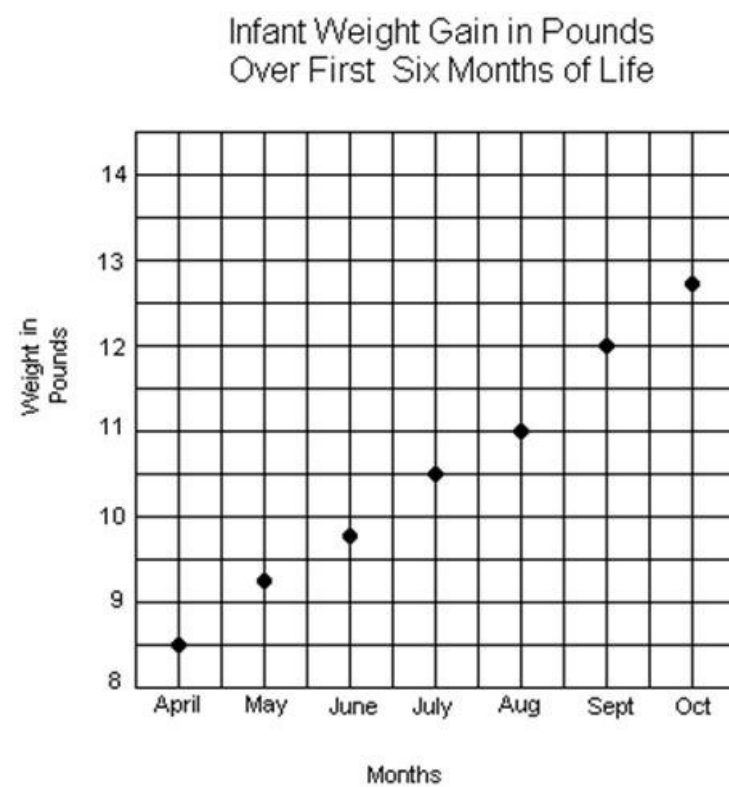
**Section:** Math

**Explanation**

**Explanation/Reference:**

#### QUESTION 101

What was the average weight of the infant from April to October, rounded to the nearest ounce?



- A. 10 lbs  
 B. 10 lbs 5 ounces C. 10 lbs 9 ounces D. 11 lbs 5 ounces  
 E. 11 lbs 9 ounces



**Correct Answer:** C

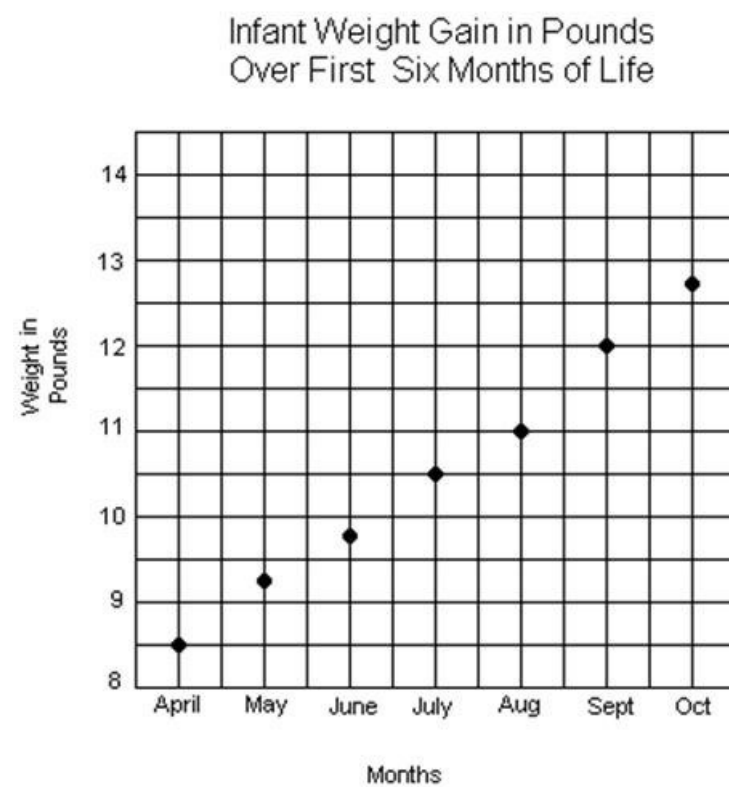
**Section:** Math

**Explanation**

**Explanation/Reference:**

#### QUESTION 102

Between which two months did the infant gain the most weight?



- A. April and May
- B. June and July
- C. July and August
- D. August and September
- E. September and October



**Correct Answer:** D

**Section:** Math

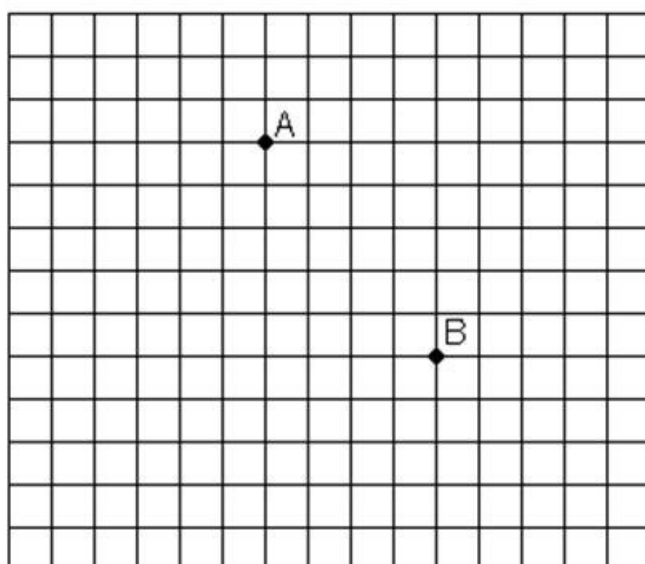
**Explanation**

**Explanation/Reference:**

#### QUESTION 103

In the graph below, no axes or origin is shown. If point B's coordinates are (10,3), which of the following coordinates would most likely be A's?





- A. (17, -2)
- B. (10, 6)
- C. (6, 8)
- D. (-10, 3)
- E. (-2, -17)

**Correct Answer:** C

**Section:** Math

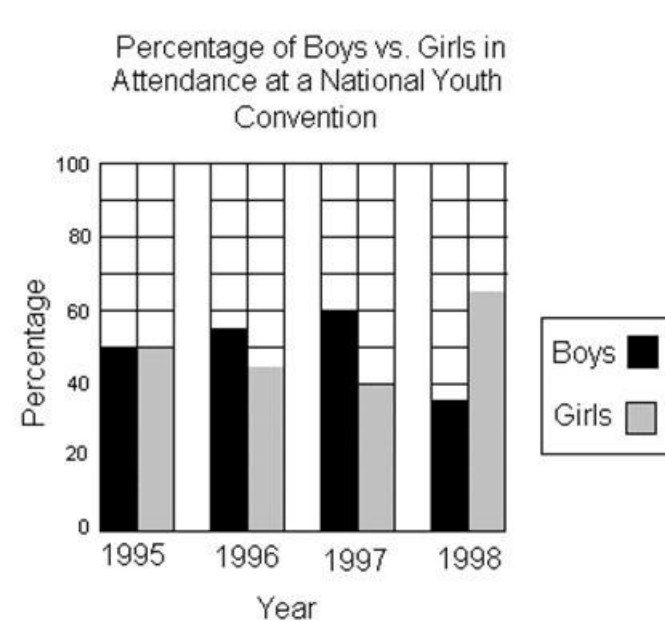
**Explanation**

**Explanation/Reference:**



#### QUESTION 104

How many boys attended the 1995 convention?



Total Number in Attendance at Nation Youth Convention

Year	Number
1995	716
1996	1108
1997	1520
1998	2244

- A. 358
- B. 390

- C. 407  
D. 540  
E. 716

**Correct Answer:** A

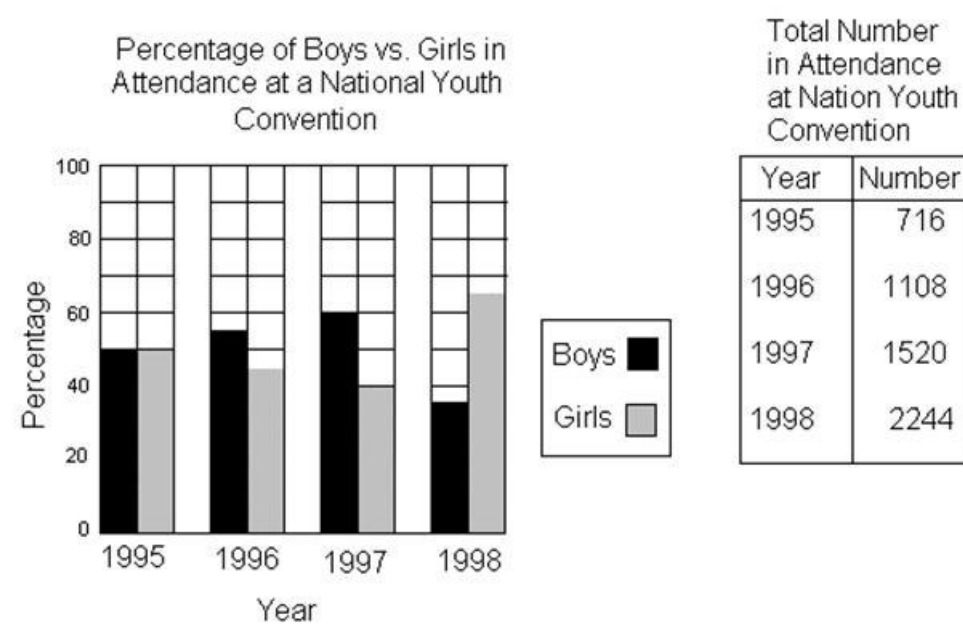
**Section:** Math

**Explanation**

**Explanation/Reference:**

#### QUESTION 105

Which year did the same number of boys and girls attend the conference?



- A. 1995  
B. 1996  
C. 1997  
D. 1998  
E. None

**Correct Answer:** A

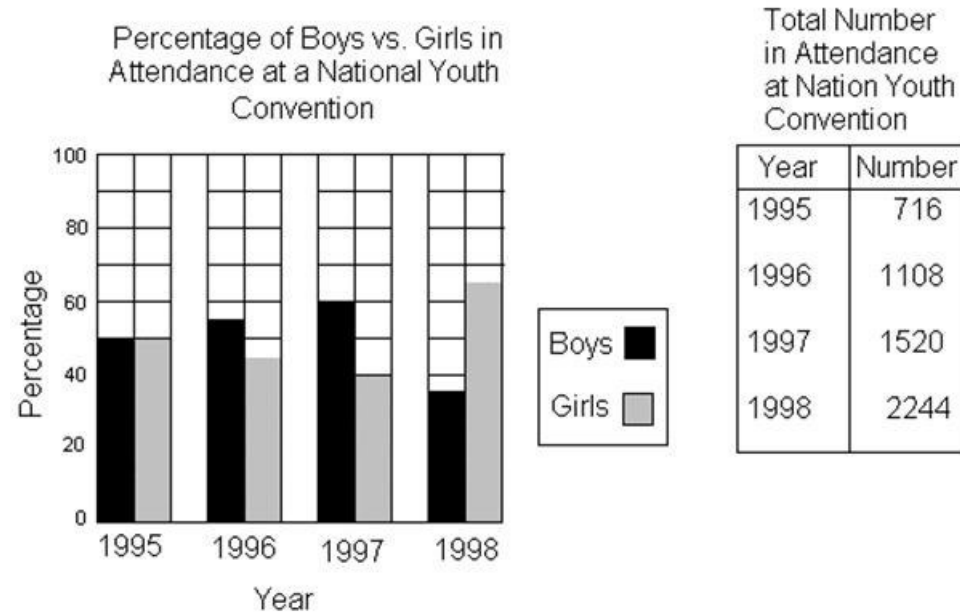
**Section:** Math

**Explanation**

**Explanation/Reference:**

#### QUESTION 106

Which two years did the least number of boys attend the convention?



- A. 1995 and 1996
- B. 1995 and 1998
- C. 1996 and 1997
- D. 1996 and 1992
- E. 1997 and 1998

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**



#### QUESTION 107

An instrument store gives a 10% discount to all students off the original cost of an instrument. During a back to school sale an additional 15% is taken off the discounted price. Julie, a student at the local high school, purchases a flute for \$306. How much did it originally cost?

- A. \$325
- B. \$375
- C. \$400
- D. \$408
- E. \$425

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

#### QUESTION 108

If  $y(x - 1) = z$  then  $x =$

- A.  $y - z$
- B.  $z/y + 1$
- C.  $y(z - 1)$

- D.  $z(y - 1)$   
E.  $1 - zy$

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 109** Which of the following values is NOT equal to  $34(58 + 9)$ ?

- A.  $34 \times 67$   
B.  $58(34 + 9)$   
C.  $34 \times 58 + 34 \times 9$   
D.  $1,972 + 306$   
E.  $(9 + 58) 34$

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 110** Two angles of a triangle measure  $15^\circ$  and  $85^\circ$ . What is the measure for the third angle?

- A.  $50^\circ$   
B.  $55^\circ$   
C.  $60^\circ$   
D.  $80^\circ$   
E.  $90^\circ$

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 111** If 5 ounces is equal to 140 grams, then 2 pounds of ground meat is equal to how many grams?

- A. 863  
B. 878  
C. 896  
D. 915  
E. 932

**Correct Answer:** C

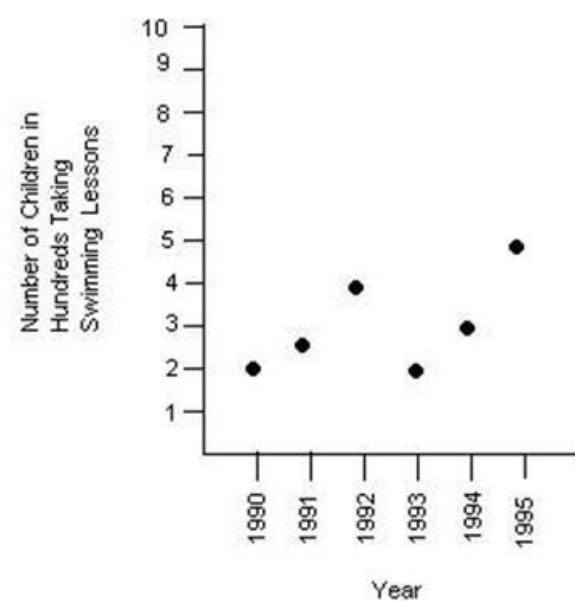
**Section:** Math

**Explanation**

**Explanation/Reference:**

# QUESTION 112

Which year did the most children take swimming lessons?



- A. 1990
- B. 1991
- C. 1992
- D. 1994
- E. 1995

**Correct Answer:** E

**Section:** Math

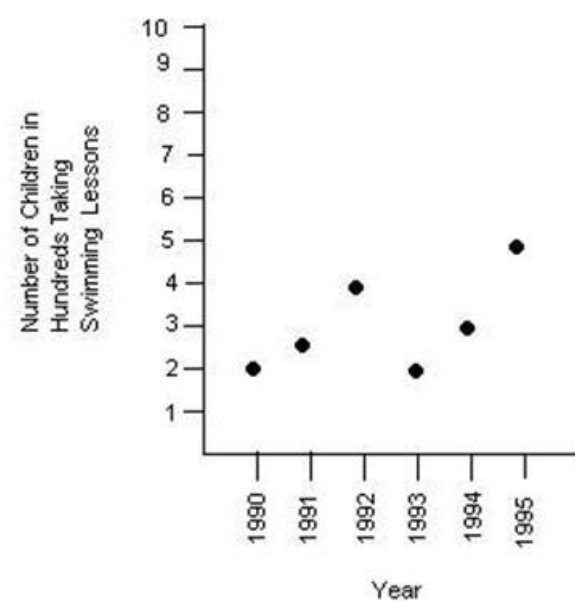
**Explanation**

**Explanation/Reference:**



# QUESTION 113

Between which year did the largest decrease in children taking swimming lessons occur?



- A. 1990-1991
- B. 1991-1992
- C. 1992-1993
- D. 1993-1994
- E. 1994-1995

**Correct Answer:** C

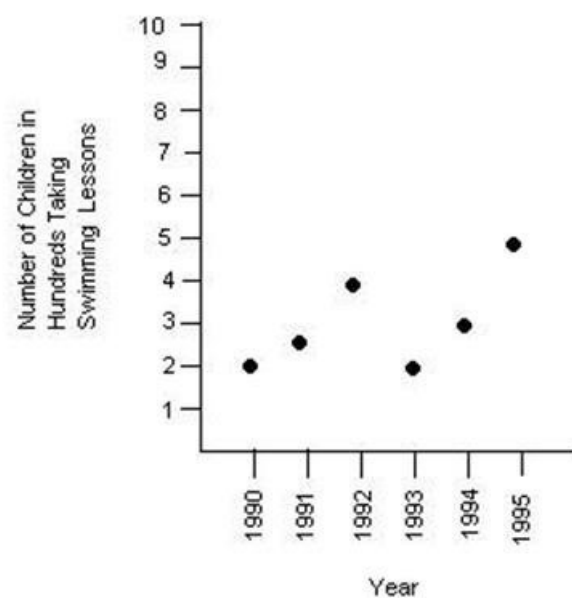
**Section:** Math

**Explanation**

**Explanation/Reference:**

#### QUESTION 114

What was the average number of children taking swim lessons from 1990 to 1995?



- A. 250
- B. 308
- C. 385
- D. 450
- E. 1,850

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 115** Which of the following is equal to  $5.93 \times 10^{-2}$ ?

- A. 0.0593
- B. 0.00593
- C. 593
- D. 5930
- E. 59300

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 116** On a Map, 1 inch represents 20 miles. The distance between 2 towns is  $6 \frac{1}{5}$  inches. How many miles are actually between the two towns?

- A. 65 miles
- B. 84 miles
- C. 124 milesD. 138 miles
- E. 145 miles

**Correct Answer:** C

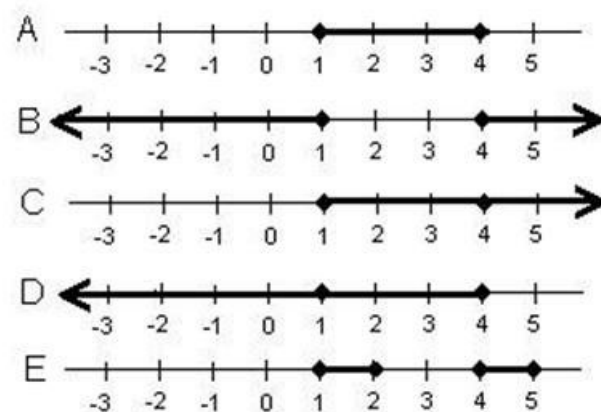
**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 117**

Which of the following is a correct graph of  $x > 1$ ,  $x < 4$ ?



- A. Line A
- B. Line B
- C. Line C
- D. Line D
- E. Line E

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 118** How many cubed pieces of fudge that are 3 inches on an edge can be packed into a Christmas tin that is 9 inches deep by 12 inches wide by 8 inches high with the lid still being able to be closed?

- A. 18
- B. 24

- C. 32
- D. 36
- E. 43

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 119**

Sarah is twice as old as her youngest brother. If the difference between their ages is 15 years how old is her youngest brother?

- A. 10
- B. 15
- C. 20
- D. 25
- E. 30

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 120** Which of the following fractions is equal to  $\frac{5}{6}$ ?

- A.  $\frac{20}{30}$
- B.  $\frac{15}{24}$
- C.  $\frac{25}{30}$
- D.  $\frac{40}{54}$
- E.  $\frac{2}{7}$

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 121**

What will it cost to tile a kitchen floor that is 12 feet wide by 20 feet long if the tile cost \$8.91 per square yard?

- A. \$224.51
- B. \$237.60
- C. \$246.55
- D. \$271.38
- E. \$282.32

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**



**QUESTION 122** In a writing competition, the first place winner receives  $\frac{1}{2}$  of the prize money. The second runner up receives  $\frac{1}{4}$  of what the winner won. What was the total amount of prize money distributed if the winner receives \$6,000?

- A. \$6,000
- B. \$8,500
- C. \$12,000D. \$15,000
- E. \$18,500

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 123** You are lying 120ft away from a tree that is 50 feet tall. You look up at the top of the tree. Approximately how far is your hear from the top of the tree in a straight line?

- A. 50 feet
- B. 75 feet
- C. 120 feet
- D. 130 feetE. 150 feet

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 124**

A cyclist bikes x distance at 10 miles per hour and returns over the same path at 8 miles per hour. What is the cyclist's average rate for the round trip in miles per hour?

- A. 8.1
- B. 8.3
- C. 8.6
- D. 8.9
- E. 9.0

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 125**

If edging cost \$2.32 per 12-inch stone, and you want a double layer of edging around your flower bed that is 6 yards by 1 yard. How much will edging you flower bed cost?

- A. \$32.48
- B. \$64.96
- C. \$97.44
- D. \$129.92
- E. \$194.88

**Correct Answer:** E  
**Section:** Math  
**Explanation**

**Explanation/Reference:**

**QUESTION 126** If  $3x = 6x - 15$  then  $x + 8 =$

- A. 5  
B. 10 C. 11 D. 12  
E. 13

**Correct Answer:** E  
**Section:** Math  
**Explanation**

**Explanation/Reference:**

**QUESTION 127**

The number of milliliters in 1 liter is

- A. 10,000  
B. 1,000  
C. 0.1  
D. 0.01  
E. 0.001

**Correct Answer:** B  
**Section:** Math  
**Explanation**

**Explanation/Reference:**

**QUESTION 128** The cost to ride on a ferry is \$5.00 per vehicle and driver with an additional cost of 50 cents per passenger. If the charge to get on the ferry is \$6.50, how many people were in the vehicle?

- A. 1  
B. 2  
C. 3  
D. 4  
E. 5

**Correct Answer:** D  
**Section:** Math  
**Explanation**

**Explanation/Reference:**

**QUESTION 129**

What is  $\frac{1}{9}$  of 9?

- A.  $\frac{1}{9}$   
B. 0 C. 1 D. 2 E. 3

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 130** In his pocket, a boy has 3 red marbles, 4 blue marbles, and 4 green marbles. How many will he have to take out of his pocket to ensure that he has taken out at least one of each color?

- A. 3
- B. 7
- C. 8
- D. 9
- E. 11

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 131** Which fraction is equal to 0.20%?

- A.  $\frac{1}{20}$
- B.  $\frac{1}{40}$
- C.  $\frac{1}{50}$
- D.  $\frac{1}{400}$
- E.  $\frac{1}{500}$



**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 132** Find the missing term in the following sequence: 4, 9, 19, \_\_, 79

- A. 36
- B. 37
- C. 38
- D. 39
- E. 40

**Correct Answer:** D

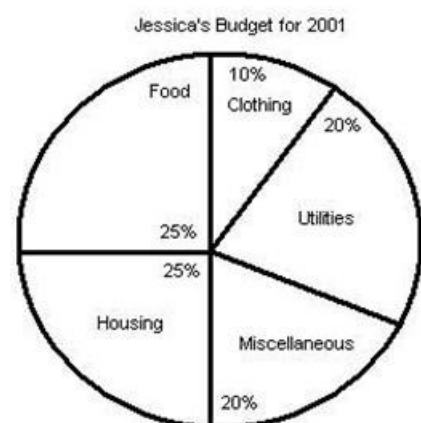
**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 133**

How much money did Jessica's budget allow for housing in April of 2001?



Jessica's Monthly Earnings from January 2001 to June 2001

January	\$2578
February	\$2432
March	\$2668
April	\$2490
May	\$2622
June	\$2555

- A. \$617.80
- B. \$620.92
- C. \$622.50
- D. \$626.38
- E. \$633.20

**Correct Answer: C**

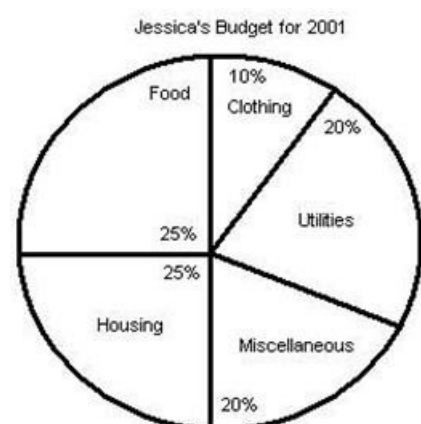
**Section: Math**  
**Explanation**

**Explanation/Reference:**



#### QUESTION 134

What was the average amount of money that Jessica's budget allowed for clothing the first six months of 2001?



Jessica's Monthly Earnings from January 2001 to June 2001

January	\$2578
February	\$2432
March	\$2668
April	\$2490
May	\$2622
June	\$2555

- A. \$249.90
- B. \$250.40
- C. \$251.32
- D. \$253.33
- E. \$255.75

**Correct Answer: E**

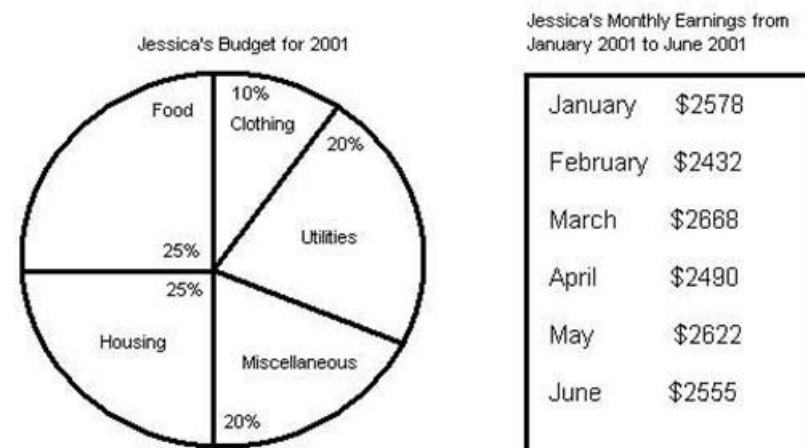
**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 135**

If Jessica only spent 20% instead of the 25% allotment for food in May of 2001, how much did she save?



- A. \$131.10
- B. \$144.30
- C. \$148.32
- D. \$152.22
- E. \$153.33



**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 136** Jonathan can type a 20 page document in 40 minutes, Susan can type it in 30 minutes, and Jack can type it in 24 minutes. Working together, how much time will it take them to type the same document?

- A. 5 minutes
- B. 10 minutes
- C. 15 minutes
- D. 18 minutes
- E. 20 minutes

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 137** Of the following fractions, which is less than  $\frac{2}{3}$ ?

- A.  $\frac{7}{8}$
- B.  $\frac{5}{8}$

- 5/6  
C.  
3/4  
D.  
3/5  
E. 5/7

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 138** A hockey team won 6 games and lost 8. What is the ratio of wins to number of games?

- A. 6/8  
B. 8/6  
C. 3/7  
D. 8/14  
E. 6/7

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 139** Sue receives a base salary of \$90 weekly plus a 12% commission on all sales. Sue had \$3,000 in sales this week. How much did she make total?

- A. \$375  
B. \$450  
C. \$480  
D. \$510  
E. \$525

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 140** If the perimeter of a rectangular house is  $25 \frac{1}{3}$  yards, and the length is 22 feet. What is the width?

- A. 16 feet  
B. 35 feet  
C. 37 feet  
D. 40 feet  
E. 42 feet

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 141** Jimmy made a 15% profit on the sale of a custom designed boat, and the original cost of the boat was \$15,000. The boat sold for how much?

- A. \$17,250.00
- B. \$16,540.44
- C. \$16,230.34
- D. \$15,980.55
- E. \$15,870.88

**Correct Answer:** A

**Section:** Math  
**Explanation**

**Explanation/Reference:**

**QUESTION 142**

A recent study showed that an increase in body weight by 10 kilograms resulted in a 0.15% increase in heart disease. What fraction is equal to 0.15%?

- A.  $\frac{3}{2000}$
- B.  $\frac{2}{750}$
- C.  $\frac{7}{4000}$
- D.  $\frac{5}{3462}$
- E.  $\frac{1}{500}$

**Correct Answer:** A

**Section:** Math  
**Explanation**

**Explanation/Reference:**

**QUESTION 143** If  $3x + 5x = -8$ , then  $x + 1 =$

- A. -2
- B. -1
- C. 0D. 1 E. 2

**Correct Answer:** C

**Section:** Math  
**Explanation**

**Explanation/Reference:**

**QUESTION 144** Two angle in a triangle equal  $120^\circ$ . What is the measure of the third angle?

- A.  $60^\circ$
- B.  $70^\circ$
- C.  $80^\circ$
- D.  $90^\circ$
- E.  $120^\circ$

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 145** Which of the following would be an appropriate unit to measure sugar for a cookie recipe?

- A. liters
- B. cups
- C. quarts
- D. kilograms
- E. pounds

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 146** Two angles of a triangle each measure  $70^\circ$ . What is the measure of the third angle in degrees?

- A.  $40^\circ$
- B.  $80^\circ$
- C.  $100^\circ$  D.  $120^\circ$
- E.  $140^\circ$

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 147** If Jack needs  $2\frac{1}{2}$  pints of cream to make a dessert. How many pints will he need to make 3 desserts?

- A.  $2\frac{1}{2}$
- B. 3 C. 4
- D. 5
- E.  $7\frac{1}{2}$

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 148** A discount store takes 50% off of the retail price of a desk. For the store's holiday sale, it takes an additional 20% off of all furniture. The desk's retail price was \$320. How much is the desk on sale for during the holiday sale?

- A. \$107
- B. \$114
- C. \$128
- D. \$136



E. \$192

**Correct Answer:** C

**Section:** Math

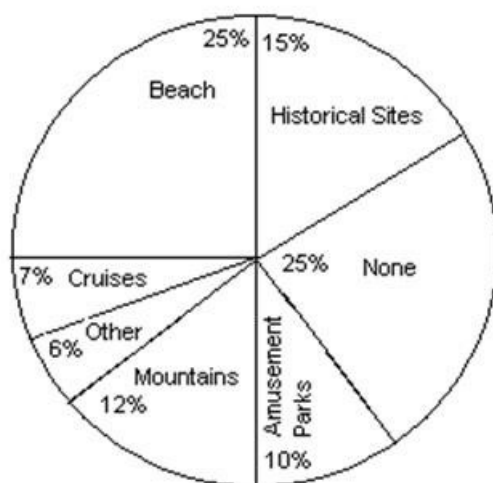
**Explanation**

**Explanation/Reference:**

#### QUESTION 149

Which vacation destination is most common for the students?

Vacation Destinations for Students  
Attending Washington Middle School



- A. Beach
- B. Historical Sites
- C. Cruises
- D. Mountains
- E. Other

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

#### QUESTION 150

If 500 students attend Washington Middle School, how many are going to the mountains for vacation?

Vacation Destinations for Students  
Attending Washington Middle School



- A. 25
- B. 60
- C. 75
- D. 100
- E. 125

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**



**QUESTION 151** If a  $\frac{1}{4}$  of a teaspoon is 1ml, then how many milliliters are in 6 teaspoons?

- A. 10ml
- B. 12.5ml
- C. 15mlD. 20ml
- E. 24ml

**Correct Answer:** E

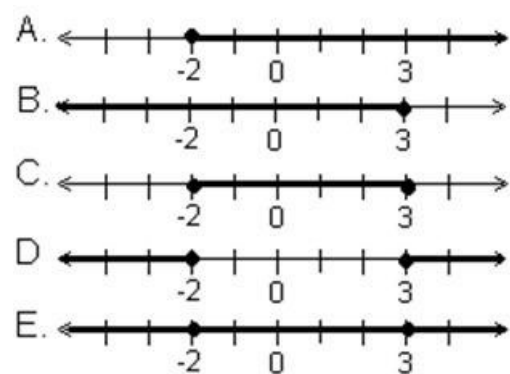
**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 152**

Which of the following is the correct graph for  $x \geq 3$  or  $x \leq -2$ ?



- A. Line A
- B. Line B
- C. Line C
- D. Line D
- E. Line E

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

#### QUESTION 153

A scale on a map states that every  $\frac{1}{4}$  of an inch represents 20 miles. If two cities are  $3\frac{1}{2}$  inches apart, how many miles are actually between the two cities?

- A. 14 miles
- B. 20 miles
- C. 125 miles
- D. 230 miles
- E. 280 miles

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 154** Michelle wants to expand her flowerbed by increasing the length and width each by 2ft. What will the new area of the flowerbed be, if  $L$  and  $W$  represent the original dimensions of the flowerbed's length and width?

- A.  $2LW$
- B.  $2(L + W)$
- C.  $2L + 2W$
- D.  $(L + 2)(W + 2)$
- E.  $LW/2$

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

#### QUESTION 155

Melinda's lights went out. She has 3 pairs of red socks in her drawer, 2 pairs of black socks, and 5 pairs of white socks. What is the minimum number of pairs she must remove from the drawer to ensure that she has a pair of each color?

- A. 3
- B. 5
- C. 7
- D. 9
- E. 10

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

#### QUESTION 156

Which of the following fractions are correctly placed from the least in value to the greatest in value?

- A.  $\frac{1}{4}$ ,  $\frac{17}{25}$ ,  $\frac{3}{4}$ ,  $\frac{11}{16}$
- B.  $\frac{17}{25}$ ,  $\frac{1}{4}$ ,  $\frac{11}{16}$ ,  $\frac{3}{4}$
- C.  $\frac{1}{4}$ ,  $\frac{17}{25}$ ,  $\frac{11}{16}$ ,  $\frac{3}{4}$
- D.  $\frac{1}{4}$ ,  $\frac{17}{25}$ ,  $\frac{3}{4}$ ,  $\frac{11}{16}$
- E.  $\frac{3}{4}$ ,  $\frac{17}{25}$ ,  $\frac{11}{16}$ ,  $\frac{1}{4}$

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**



#### QUESTION 157

What is the mathematical average of the number of days in a typical year, the number of days in a week, and the number of hours in a day?

- A. 100
- B. 115
- C. 132
- D. 158
- E. 224

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

#### QUESTION 158

$1.75 \times 10^5 =$

- A. 175,000
- B. 17,500
- C. 1,750
- D. 0.00175
- E. 0.000175

**Correct Answer:** A

**Section:** Math

**Explanation****Explanation/Reference:**

**QUESTION 159** The electric company charges 3 cents per kilowatt-hour. George used 2800 kilowatt-hours in April, 3200 kilowatt-hours in May, and 3600 kilowatt-hours in June. What was his average cost of electricity for the 3 months?

- A. \$72
- B. \$88
- C. \$96
- D. \$102
- E. \$113

**Correct Answer:** C

**Section:** Math

**Explanation****Explanation/Reference:****QUESTION 160**

On a map,  $\frac{1}{3}$  inch equals 15 miles. The distance between two towns on a map is  $3\frac{2}{3}$  inches. How many miles are actually between the two towns?

- A. 11
- B. 16
- C. 88
- D. 132
- E. 165

**Correct Answer:** E

**Section:** Math

**Explanation****Explanation/Reference:**

**QUESTION 161** James invested \$4,000 at 5% interest per year; how long will it take him to earn \$200 in simple interest?

- A. 1 year
- B. 2 years
- C. 3 years
- D. 4 yearsE. 5 years

**Correct Answer:** A

**Section:** Math

**Explanation****Explanation/Reference:****QUESTION 162**

John pays \$650 in property tax. What is the assessed value of his property if property taxes are 1.2% of assessed value?

- A. \$28,800.27
- B. \$41,328.90
- C. \$43,768.99
- D. \$54,166.67

E. \$64,333.39

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 163**

A lamp is marked with a sale price of \$23.80, which is 15% off of the regular price. What is the regular price?

A. \$26

B. \$28

C. \$30

D. \$32

E. \$43

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 164** A mattress store sells their stock for 15% off of retail. If someone pays cash, they take an additional 10% off of the discounted price. If a mattress's retail price is \$750, what is the price after the store discount and the cash discount?

A. \$550.75

B. \$562.50

C. \$573.75

D. \$637.50

E. \$675.00

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 165**

85% of what number is 136?

A. 160

B. 170

C. 180

D. 190

E. 220

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 166** A building that is 150ft tall casts a shadow of 20 feet long. At the same time a tree casts a shadow of 2ft. How tall is the tree?

- A. 10
- B. 15
- C. 20
- D. 25
- E. 30

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 167** Which of the following is a true statement?

- A. The product of two negative numbers is negative.
- B. The product of one negative and one positive number is positive.
- C. When dividing a positive number by a negative number, the results are negative.
- D. When dividing a negative number by a positive number, the results are positive.
- E. When dividing a negative number by a negative number the results are negative.

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 168** What is the fractional equivalent of 12.5%?

- A.  
1/4
- B.  
2/9
- C.  
1/5
- D.  
1/8
- E. 2/7

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 169** Change  $4 \frac{3}{5}$  to an improper fraction.

- A.  $\frac{23}{5}$
- B.  $\frac{7}{5}$
- C.  $\frac{12}{20}$
- D.  $\frac{20}{12}$
- E.  $\frac{12}{5}$

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 170** The fine for a driver riding in the carpool lane without any passengers is \$133. A driver is issued a bench warrant for \$2,294.25, which includes a 15% fee for late charges and court costs. How many tickets has the driver not paid?

- A. 10
- B. 12
- C. 13
- D. 14
- E. 15

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 171**

Brett started a race at 6:30 A.M., and he did not cross the finish line until 1:05 P.M. How long did it take for Brett to finish the race?

- A. 6 hours and 15 minutes
- B. 6 hours and 35 minutes
- C. 7 hours and 5 minutes
- D. 7 hours and 15 minutes
- E. 7 hours and 35 minutes



**Correct Answer:** B

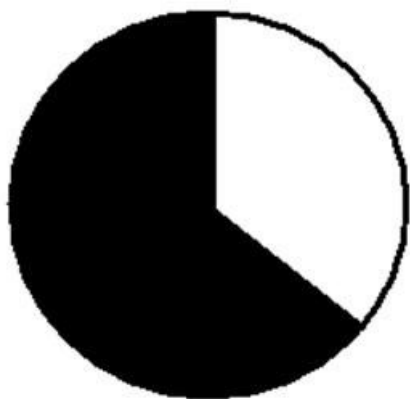
**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 172**

What is the fraction equivalent of the shaded region in the following circle?



- A.  $\frac{2}{3}$
- B.  $\frac{3}{8}$  C.  $\frac{4}{5}$



- D.  $\frac{3}{4}$   
E.  $\frac{7}{16}$

**Correct Answer:** A  
**Section:** Math  
**Explanation**

**Explanation/Reference:**

**QUESTION 173**  
Multiply  $2.345 \times 0.023$

- A. 0.53935  
B. 0.053935  
C. 0.0053935D. 10.195652  
E. 101.95652

**Correct Answer:** B  
**Section:** Math  
**Explanation**

**Explanation/Reference:**

**QUESTION 174** A men's basketball team won 24 games and lost 32. What is the ratio of games lost to the number of games played?

- A. 32:24  
B. 4:3C. 3:4 D. 4:7  
E. 3:7



**Correct Answer:** D  
**Section:** Math  
**Explanation**

**Explanation/Reference:**

**QUESTION 175** Which of the following choices is equivalent to  $\frac{5}{6}$ ?

- A.  $\frac{5}{12}$   
B.  $\frac{10}{6}$   
C.  $\frac{20}{30}$ D.  $\frac{15}{24}$   
E.  $\frac{15}{18}$

**Correct Answer:** E  
**Section:** Math  
**Explanation**

**Explanation/Reference:**

**QUESTION 176** Jill earns \$120 for 8 hours of work. At the same pay rate, how much will she earn for 15 hours of work?

- A. \$180  
B. \$225

- C. \$245
- D. \$280
- E. \$310

**Correct Answer:** B

**Section:** Math

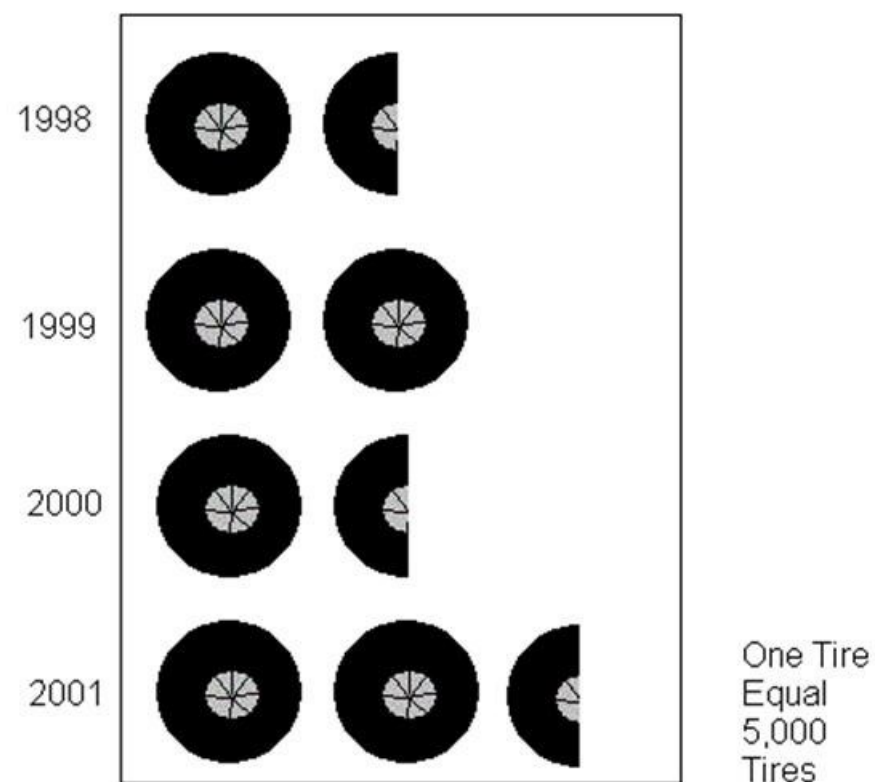
**Explanation**

**Explanation/Reference:**

#### QUESTION 177

Which two years were the least number of tires sold?

The Number of Tires Sold by XYZ Company



- A. 1998 and 1999
- B. 1998 and 2000
- C. 1998 and 2001
- D. 1999 and 2000
- E. 2000 and 2001

**Correct Answer:** B

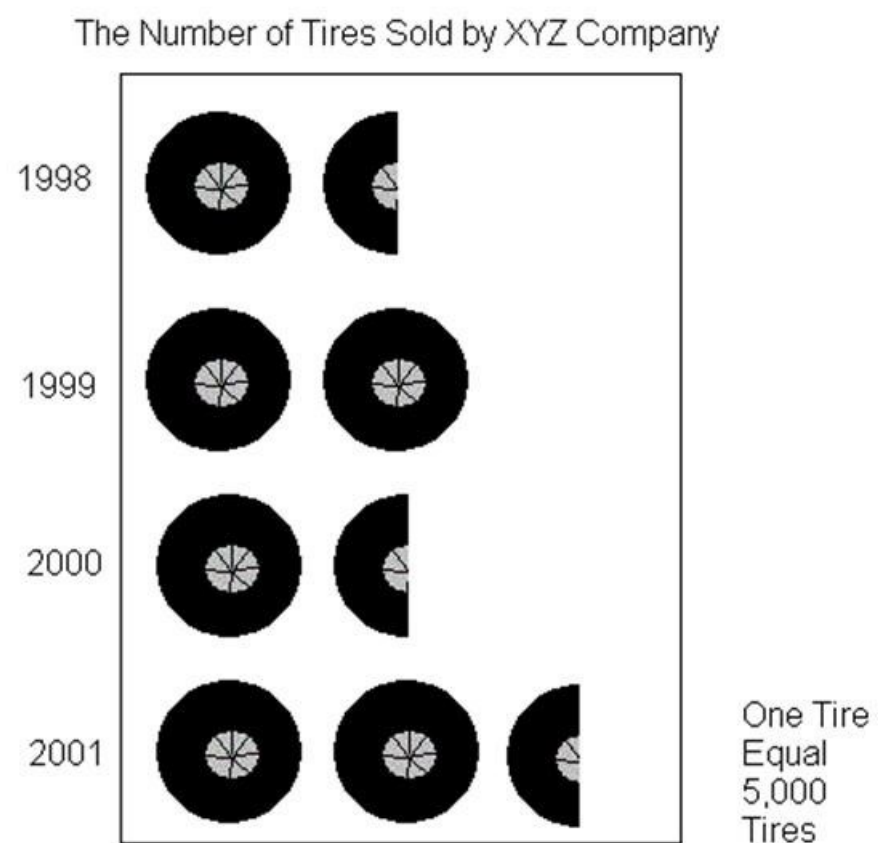
**Section:** Math

**Explanation**

**Explanation/Reference:**

#### QUESTION 178

Which year did the store sell  $\frac{1}{3}$  more tires than the year before?



- A. 1998
- B. 1999
- C. 2000
- D. 2001
- E. This did not occur during the 4 year span.

**Correct Answer:** B

**Section:** Math

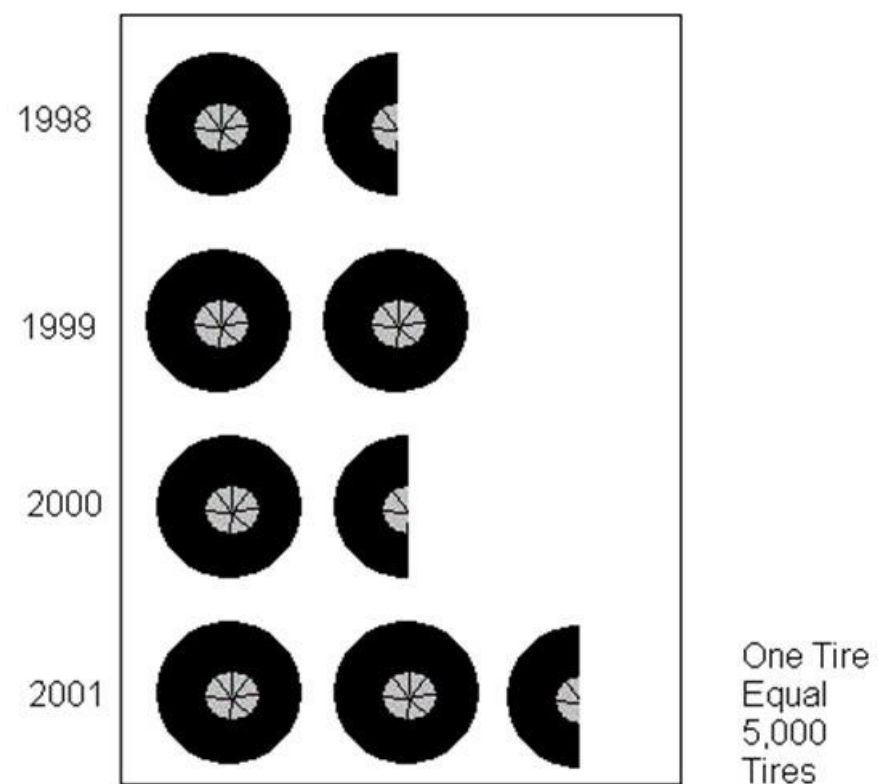
**Explanation**

**Explanation/Reference:**

#### QUESTION 179

What was the average number of tires sold by the store from 1998 to 2001?

The Number of Tires Sold by XYZ Company



- A. 9,000
- B. 9,375
- C. 9,545
- D. 9,770
- E. 9,995



**Correct Answer:** B

**Section:** Math  
**Explanation**

**Explanation/Reference:**

#### QUESTION 180

A salesman sold 20 cars in the month of July, and 40 cars the month of August. What is the percent increase in the number of cars the salesman sold?

- A. 50%
- B. 100% C. 150% D. 200%
- E. 250%

**Correct Answer:** B

**Section:** Math  
**Explanation**

**Explanation/Reference:**

#### QUESTION 181

If one side of a square is 5 units, what is the area of the square?

- A. 10
- B. 15
- C. 20
- D. 25
- E. 30

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 182** If  $8x + 5 = 21$ , then  $3x + 4 =$

- A. 2
- B. 5
- C. 10
- D. 16
- E. 17

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 183** In triangle  $ABC$ ,  $AB = BC$  and ( $C$ 's measure is  $65^\circ$ .) What is the measure of angle  $B$ ?

- A.  $40^\circ$
- B.  $50^\circ$
- C.  $60^\circ$
- D.  $65^\circ$
- E.  $75^\circ$

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 184** If the average arithmetic mean of 8, 12, 15, 21,  $x$  and 11 is 17 then what is  $x$ ?

- A. 3
- B. 15C. 17 D. 35
- E. 42

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 185**

Sarah has a 20 dollar bill and a 5 dollar bill. If she purchases two items, one for \$11.23 and the other for \$8.32, then how much money does she have left over?

- A. \$3.75
- B. \$5.45
- C. \$6.34
- D. \$7.77
- E. \$8.12

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 186** How long will Lucy have to wait before for her \$2,500 invested at 6% earns \$600 in simple interest?

- A. 2 years
- B. 3 years
- C. 4 years
- D. 5 yearsE. 6 years

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**



**QUESTION 187** What is 35% of a number if 12 is 15% of a number?

- A. 5
- B. 12C. 28 D. 33
- E. 62

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 188** A computer is on sale for \$1600, which is a 20% discount off the regular price. What is the regular price?

- A. \$1800
- B. \$1900C. \$2000
- D. \$2100
- E. \$2200

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 189**

A car dealer sells a SUV for \$39,000, which represents a 25% profit over the cost. What was the cost of the SUV to the dealer?

- A. \$29,250
- B. \$31,200
- C. \$32,500
- D. \$33,800
- E. \$33,999

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 190**

After having to pay increased income taxes this year, Edmond has to sell his BMW. Edmond bought the car for \$49,000, but he sold it for a 20% loss. What did Edmond sell the car for?

- A. \$24,200
- B. \$28,900
- C. \$35,600
- D. \$37,300
- E. \$39,200

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 191**

Find  $0.12 \div 12$

- A. 100
- B. 10
- C. 1
- D. 0.01
- E. 0.001

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 192**

Find the mode of the following list of numbers: 2, 4, 6, 4, 8, 2, 9, 4, 3, 8

- A. 2
- B. 3
- C. 4
- D. 5
- E. 6

**Correct Answer:** C

**Section:** Math  
**Explanation**

**Explanation/Reference:**

**QUESTION 193** In the fraction  $\frac{3}{x}$ ,  $x$  may not be substituted by which of the following sets?

- A. {1, 2, 4}
- B. {-2, -3, -4}
- C. {1, 3, 7}
- D. {0, 10, 20}
- E. {1.8, 4.3}

**Correct Answer:** D  
**Section:** Math  
**Explanation**

**Explanation/Reference:**

**QUESTION 194** At a company fish fry,  $\frac{1}{2}$  in attendance are employees. Employees' spouses are  $\frac{1}{3}$  of the attendance. What is the percentage of the people in attendance who are not employees or employee spouses?

- A. 10.5%
- B. 16.7%
- C. 25%
- D. 32.3%
- E. 38%

**Correct Answer:** B  
**Section:** Math  
**Explanation**

**Explanation/Reference:**

**QUESTION 195** If the value of  $x$  and  $y$  in the fraction  $\frac{XZ}{Y}$  are both tripled, how does the value of the fraction change?

- A. increases by half
- B. decreases by half
- C. triples
- D. doubles
- E. remains the same

**Correct Answer:** E  
**Section:** Math  
**Explanation**

**Explanation/Reference:**

**QUESTION 196** Of the following units which would be more likely used to measure the amount of water in a bathtub?

- A. kilograms



- B. liters
- C. milliliters
- D. centigrams
- E. volts

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 197** If a match box is 0.17 feet long, what is its length in inches the most closely comparable to the following?

- A.  $5 \frac{1}{16}$  inch highlighter
- B.  $3 \frac{1}{8}$  inch jewelry box
- C.  $2 \frac{3}{4}$  inch lipstick
- D.  $2 \frac{3}{16}$  inch staple remover
- E.  $4 \frac{1}{2}$  inch calculator

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 198**

After purchasing a flat screen television for \$750, John realizes that he got a great deal on it and wishes to sell it for a 15% profit. What should his asking price be for the television?

- A. \$800.30
- B. \$833.60
- C. \$842.35
- D. \$862.50
- E. \$970.25

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 199** If 6 is 24% of a number, what is 40% of the same number?

- A. 8
- B. 10
- C. 15 D. 20
- E. 25

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 200** What is the cost in dollars to steam clean a room  $W$  yards wide and  $L$  yards long if the steam cleaners charge 10 cents per square foot?

- A.  $0.9WL$
- B.  $0.3WL$
- C.  $0.1WL$
- D.  $9WL$
- E.  $3WL$

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 201** Which of the following has the least value?

- A. 0.27
- B.  $\frac{1}{4}$
- C.  $\frac{3}{8}$
- D.  $\frac{2}{11}$  E. 11%

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**



**QUESTION 202** What will it cost to carpet a room with indoor/outdoor carpet if the room is 10 feet wide and 12 feet long? The carpet costs 12.51 per square yard.

- A. \$166.80
- B. \$175.90
- C. \$184.30
- D. \$189.90
- E. \$192.20

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 203** If the perimeter of a rectangular house is 44 yards, and the length is 36 feet, what is the width of the house?

- A. 10 yards
- B. 18 yards
- C. 28 feet
- D. 32 feet
- E. 36 yards

**Correct Answer:** A

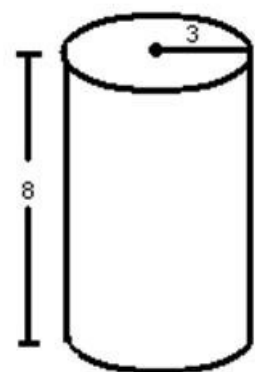
**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 204**

What is the volume of the following cylinder?



- A. 210.91
- B. 226.20
- C. 75.36
- D. 904.32
- E. 28.26

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**



**QUESTION 205** What is the volume of a cube whose width is 5 inches?

- A. 15 cubic inches
- B. 25 cubic inches
- C. 64 cubic inches
- D. 100 cubic inches
- E. 125 cubic inches

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 206**

Sally has three pieces of material. The first piece is 1yd. 2ft. 6in. long, the second piece is 2yd. 1ft. 5in long, and the third piece is 4yd. 2ft. 8in long. How much material does Sally have?

- A. 7yd. 1ft. 8in.
- B. 8yd. 4ft. 4in.
- C. 8yd. 11in.
- D. 9yd. 7in.
- E. 10yd.

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 207** A can's diameter is 3 inches, and its height is 8 inches. What is the volume of the can?

- A. 50.30
- B. 56.55
- C. 75.68
- D. 113.04
- E. 226.08

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 208** If the area of a square flowerbed is 16 square feet, then how many feet is the perimeter of the flowerbed?

- A. 4
- B. 12C. 16 D. 20
- E. 24

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**



**QUESTION 209** One inch equals 2.54cm, how many centimeters tall is a 76inch man?

- A. 20cm
- B. 29.92cm
- C. 193.04cm
- D. 300.04cm E. 593.04cm

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 210** A room measures 11ft × 12ft × 9ft. What is the volume?

- A. 1188ft<sup>3</sup>
- B. 32ft<sup>3</sup>
- C. 120ft<sup>3</sup>
- D. 1300ft<sup>3</sup>
- E. 1350ft<sup>3</sup>

**Correct Answer:** A

**Section:** Math  
**Explanation**

**Explanation/Reference:**

**QUESTION 211**

A vitamin's expiration date has passed. It was supposed to contain 500mg of Calcium, but it has lost 325mg of Calcium. How many mg of Calcium are left?

- A. 135mg
- B. 175mg
- C. 185mg
- D. 200mg
- E. 220mg

**Correct Answer:** B  
**Section:** Math  
**Explanation**

**Explanation/Reference:**

**QUESTION 212**

You have orders to give a patient 20mg of a certain medication. The medication is stored 4mg per 5mL dose. How many milliliters will need to be given?

- A. 15mL
- B. 20mL
- C. 25mL
- D. 30mL
- E. 35mL



**Correct Answer:** C  
**Section:** Math  
**Explanation**

**Explanation/Reference:**

**QUESTION 213**

You need exactly a 1680ft<sup>3</sup> aquarium for your fish. At the pet store you see four choices of aquariums, but the volume is not listed. The length, width, and height are listed on the box. Which of the following aquariums would fit your needs?

- A. 12ft × 12ft × 12ft
- B. 13ft × 15ft × 16ft
- C. 14ft × 20ft × 6ft
- D. 15ft × 16ft × 12ft
- E. 15ft × 12ft × 12ft

**Correct Answer:** C  
**Section:** Math  
**Explanation**

**Explanation/Reference:**

**QUESTION 214** One slice of bread is 80 calorie. Approximately how many calories are in 2 ½ slices of bread?

- A. 140 calories
- B. 200 calories
- C. 220 calories
- D. 240 calories
- E. 260 calories

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 215**

If a discount of 20% off the retail price of a desk saves Mark \$45, how much did he pay for the desk?

- A. \$145
- B. \$160
- C. \$180
- D. \$210
- E. \$215

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 216**

A customer pays \$1,100 in state taxes on a newly purchased car. What is the value of the car if state taxes are 8.9% of the value?

- A. \$9,765.45
- B. \$10,876.90
- C. \$12,359.55
- D. \$14,345.48
- E. \$15,745.45

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 217** How many years does Steven need to invest his \$3,000 at 7% to earn \$210 in simple interest?

- A. 1 year
- B. 2 years
- C. 3 years
- D. 4 years
- E. 5 years

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 218**

Sabrina's boss states that she will increase Sabrina's salary from \$12,000 to \$14,000 per year if she enrolls in business courses at a local community college. What percent increase in salary will result from Sabrina taking the business courses?

- A. 15%
- B. 16.7%
- C. 17.2%
- D. 85%
- E. 117%

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 219**

35% of what number is 70?

- A. 100
- B. 110
- C. 150
- D. 175
- E. 200

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 220**

What number is 5% of 2000?

- A. 50
- B. 100
- C. 150 D. 200
- E. 250

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 221** What

percent of 90 is 27?

- A. 15%
- B. 20%
- C. 30%
- D. 33%
- E. 41%

**Correct Answer:** C

**Section:** Math  
**Explanation**

**Explanation/Reference:**

**QUESTION 222**

Jim works for \$15.50 per hour for a health care facility. He is supposed to get a 75 cent per hour raise at one year of service. What will his percent increase in hourly pay be?

- A. 2.7%
- B. 3.3%
- C. 133%
- D. 4.8%
- E. 105%

**Correct Answer:** D  
**Section:** Math  
**Explanation**

**Explanation/Reference:**

**QUESTION 223** If 45 is 120% of a number, what is 80% of the same number?

- A. 30
- B. 32
- C. 36
- D. 38
- E. 41

**Correct Answer:** A  
**Section:** Math  
**Explanation**

**Explanation/Reference:**

**QUESTION 224** 25%  
of 400 =

- A. 100
- B. 200
- C. 800
- D. 10,000
- E. 12,000

**Correct Answer:** A  
**Section:** Math  
**Explanation**

**Explanation/Reference:**

**QUESTION 225**

22% of \$900 =

- A. 90
- B. 198C. 250 D. 325
- E. 375



**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 226** Which of the following percentages is equal to 0.45?

- A. 0.045%
- B. 0.45%
- C. 4.5%
- D. 45%
- E. 0.0045%

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 227** Which of these percentages equals 1.25?

- A. 0.125%
- B. 12.5%
- C. 125%
- D. 1250%
- E. 1250.5%

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

**QUESTION 228**

Solve each problem. Then decide which is the best of the choices given and fill in the corresponding oval on the answer sheet. If

$y = (x + 3)^2$ , then  $(-2x - 6)^2$  must equal which of the following?

- A.  $-4y^2$
- B.  $-2y^2$
- C.  $-4y$
- D.  $2y$
- E.  $4y$

**Correct Answer:** E

**Section:** Math

**Explanation**

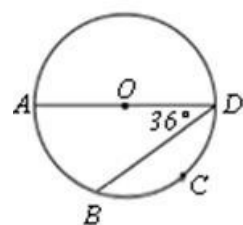
**Explanation/Reference:**

Explanation:

The expression  $(-2x - 6)^2$  can be rewritten as  $[-2(x + 3)]^2$ , which equals  $4(x + 3)^2$ . Since  $y = (x + 3)^2$ , it follows that  $(-2x - 6)^2 = 4(x + 3)^2 = 4y$ . The correct answer is choice (E).

**QUESTION 229**





In the figure above, AD is a diameter of the circle with center O and  $AO = 5$ . What is the length of arc BCD?

- A.  $\pi/2$
- B.  $\pi$
- C.  $3\pi/2$  D.  $3\pi$
- E.  $7\pi/2$

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

To solve this problem, it is helpful to draw segment OB in the figure. Since OB and OD are both radii of the circle, they both equal 5. Therefore, the angles opposite these congruent sides of  $\triangle$  triangle BOD are congruent and  $\angle OBD = 36^\circ$ .

The third angle of the triangle,  $\angle BOD$ , equals  $180^\circ - 36^\circ - 36^\circ = 108^\circ$ . Arc BCD is a fraction of the circumference of the circle and more specifically equals  $\frac{108}{360} 2\pi(5)$ , which equals  $3\pi$ . The correct answer is choice (D).

#### QUESTION 230

$$S = \frac{a}{b} + \frac{c}{d} + \frac{1}{e}$$

If  $0 < a < b < c < d < e$  in the equation above, then the greatest increase in S would result from adding 1 to the value of which variable?

- A.  $a$
- B.  $b$
- C.  $c$
- D.  $d$
- E.  $e$

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

When the denominator of a fraction is increased, the value of the fraction decreases. Therefore, adding 1 to  $b$ ,  $d$ , or  $e$  will decrease the sum S. Increasing one of the numerators, either  $a$  or  $c$ , will increase S. Adding 1 to  $a$  changes  $\frac{a}{b}$  to  $\frac{a+1}{b}$ , thereby increasing S by  $\frac{1}{b}$  divided by  $b$ . Adding 1 to  $c$  changes  $\frac{c}{d}$  to  $\frac{c+1}{d}$ , thereby increasing S by  $\frac{1}{d}$  divided by  $d$ . Since  $b < d$ , then  $\frac{1}{b} > \frac{1}{d}$ , so the increase from adding 1 to  $a$  is greater than the increase from adding 1 to  $c$ . Therefore, adding 1 to  $a$  will result in the greatest increase in S. The correct answer is (A).

#### QUESTION 231

If  $\otimes$  is defined for all positive numbers  $a$  and  $b$  by  $a \otimes b = \frac{ab}{a+b}$ , then  $10 \otimes 2 =$

- A. 5 over 3
- B. 5 over 2
- C. 5
- D. 20 over 3
- E. 20

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Substituting 10 for  $a$  and 2 for  $b$  in the expression  $\frac{ab}{a+b}$  a times  $b$  over  $a$  plus  $b$  yields  $\frac{10 \times 2}{10+2} = \frac{20}{12} = \frac{5}{3}$ , equation The correct answer is (A).

**QUESTION 232** If  $m$  and  $p$  are positive integers and  $(m + p) \times m$  is even, which of the following must be true?

- A. If  $m$  is odd, then  $p$  is odd.
- B. If  $m$  is odd, then  $p$  is even.
- C. If  $m$  is even, then  $p$  is even.
- D. If  $m$  is even, then  $p$  is odd.
- E.  $m$  must be even.

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

If  $m$  is even, then the expression  $(m + p) \times m$  will always be even and it cannot be determined whether  $p$  is even or odd. This eliminates choices (C) and (D). If  $m$  is odd, then  $(m + p) \times m$  will be even only when  $m + p$  is even and  $m + p$  will be even only when  $p$  is odd. The correct answer is (A) since the truth of statement (A) also eliminates choices (B) and (E).

**QUESTION 233** If  $xy = 2$  and  $xy^2 = 8$ , what is the value of  $x$ ?

- A.  $\frac{1}{2}$
- B.  $2$
- C.  $4$
- D.  $8$
- E.  $16$

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Substituting  $xy = 2$  into the equation  $xy^2 = 8$ , you will obtain  $(xy)y = 2y = 8$ , thus  $y = 4$ . To find  $x$ , substitute  $y = 4$  into one of the two original equations to obtain  $x = \frac{1}{2}$ . The answer to this problem is (A).

**QUESTION 234**

	-8	3
$w$	-2	$x$
		-3

In the incomplete table above, the sum of the three integers in each row, column, and diagonal is the same. If the numerical values in four of the blocks are as shown, what is the value of  $w$ ?

- A. -6
- B. -5
- C. 2
- D. 5
- E. 8

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Since the sum of the integers in each row, column, and diagonal is the same, it follows that  $w - 2 + a = 3 + a - 3$ . Thus  $w - 2 = 0$  so that  $w = 2$ . The answer to this problem is (C).

**QUESTION 235** If  $n$  is an odd integer, which of the following must be an odd integer?

- A.  $n - 1$
- B.  $n + 1$
- C.  $2n$
- D.  $3n + 1$
- E.  $4n + 1$

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

If  $n$  is an odd integer, both one more and one less than  $n$  will be even integers, eliminating choices (A) and (B). Any even multiple of  $n$  will be an even integer, eliminating choice (C). However,  $4n$  is even, making  $4n + 1$  an odd integer. The answer to this problem is (E). Note that  $3n + 1$  is even if  $n$  is odd and it is odd if  $n$  is even. Since the question asks, "Which of the following MUST be an odd integer," (D) cannot be the correct answer.

**QUESTION 236** A 19-liter mixture consists by volume of 1 part juice to 18 parts water. If  $x$  liters of juice and  $y$  liters of water are added to this mixture to make a 54-liter mixture consisting by volume of 1 part juice to 2 parts water, what is the value of  $x$ ?

- A. 17
- B. 18
- C. 27
- D. 35
- E. 36

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

It is given that the 19-liter mixture consists by volume of 1 part juice to 18 parts water, so that there is 1 liter of juice and 18 liters of water in the mixture. Since the ratio  $\frac{\text{juice}}{\text{water}} = \frac{1}{18}$  juice/water = 1/18 and  $x$  liters of juice and  $y$  liters of water are added to make a mixture consisting by volume of 1 part juice to 2 parts water, then  $\frac{1+x}{18+y} = \frac{1}{2}$  equation. The new mixture is 54 liters; therefore,  $x + y = 54 - 19 = 35$ . The two simultaneous equations to be solved are  $\frac{1+x}{18+y} = \frac{1}{2}$  equation and  $x + y = 35$ . Since the question asks for the value of  $x$ , substitute  $y = 35 - x$  into the fractional equation obtaining  $\frac{1+x}{18+35-x} = \frac{1}{2}$  equation It follows that  $2 + 2x = 18 + 35 - x$  or  $3x = 51$  so  $x = 17$ . The answer to this problem is (A).

**QUESTION 237**

If  $a$  and  $b$  are integers greater than 100 such that  $a + b = 300$ , which of the following could be the exact ratio of  $a$  to  $b$ ?

- A. 9 to 1
- B. 5 to 2
- C. 5 to 3
- D. 4 to 1
- E. 3 to 2

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

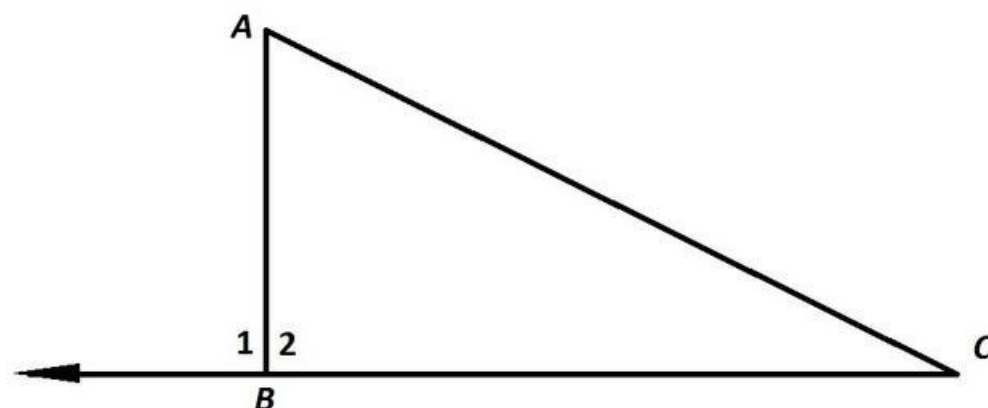
Explanation:

To solve this question, you need to look at the answer choices. For any of the answer choices to be the ratio of  $a$  to  $b$ , some multiple of the sum of the two numbers must evenly divide 300. For example, if the ratio of  $a$  to  $b$  equaled 9 to 1, then  $a$  would equal  $9x$  and  $b$  would equal  $x$  for some number  $x$ . Furthermore,  $9x + x$  would have to equal 300. This is possible since  $10x = 300$  yields an integer solution, namely  $x = 30$ . However, if  $x = 30$ , then  $a$  would equal 270 and  $b$  would equal 30. Although the sum of these numbers equals 300, they do not satisfy the other condition in the problem. That is, both of these numbers are not greater than 100. Therefore, choice (A) can be eliminated.

Answer choices (B) and (C) can be eliminated since neither the sum of the two numbers in (B) nor the sum of the two numbers in (C) evenly divided 300. ( $5x + 2x = 300$  does not yield an integer solution, nor does  $5x + 3x = 300$ .)

Although answer choices (D) and (E) are possible ratios of  $a$  to  $b$  (both  $4x + x = 300$  and  $3x + 2x = 300$  yield integer solutions), (D) results in  $a = 240$  and  $b = 60$  and can be eliminated since 60 is not greater than 100. Only choice (E) gives a correct ratio of  $a$  to  $b$  that satisfies all of the conditions in the problem. For (E),  $a = 180$  and  $b = 120$ , and both integers are greater than 100.

#### QUESTION 238



Refer to the above figure. You are given that  $AB = 5$  and  $BC = 12$ . Which of the following statements would be sufficient to prove that angle 2 is a right angle, given what is already known?

- I)  $AC = 13$
- II) angle BAC and angle BCA are both acute
- III) angle 1 is a right angle

- A. I and II only
- B. None of these
- C. II and III only
- D. I, II, and III
- E. I and III only

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

If  $AC = 13$ , then  $\triangle ABC$  has short sides  $AB = 5$ ,  $BC = 12$  and long side  $AC = 13$ . Since  $5^2 + 12^2 = 25 + 144 = 169 = 13^2$ , then, by the converse of the Pythagorean Theorem,  $\triangle ABC$  is a right triangle with right angle 2. Statement I is sufficient.

If angle BAC and angle BCA are both acute, we know nothing about angle 2; every triangle has at least two acute angles regardless of type. Statement II tells us nothing.

Angle 1 and angle 2 form a linear pair and are therefore supplementary. If one is a right angle, so is the other. Therefore, if angle 1 is a right angle, so is angle 2. Statement III is sufficient.

The correct response is Statement I and III only.

#### QUESTION 239



Two seniors, Abby and Ben, and two juniors, Cathy and Dave, are to be assigned to the 3 lockers shown above according to the following rules. The locker assignments of all four students can be determined from the assignments of which of the following pairs?

- I. Abby and Ben
- II. Ben and Cathy
- III. Cathy and Dave

- A. I only
- B. II only
- C. III only
- D. I and II only
- E. I, II, and III

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Since the students are to be assigned to the lockers shown, each "assignment" is the pairing of a student with a specific locker (locker #46, #47, or #48), not the pairing of a student with another student. The conditions of the problem allow you to deduce which students will share a locker, but they are not enough to allow you to deduce the specific locker assignments. For example, knowing that Cathy and Dave will share a locker does not tell you to which locker they will be assigned.

First consider what knowing the assignments of Abby and Ben will tell you about the locker assignments of the remaining two students. Since Abby and Ben are seniors and they cannot share a locker with each other or with any juniors, you know that Cathy and Dave must share the third locker. Since you know the specific locker assignments of all four students, (I) is correct.

If you know the assignments of Ben and Cathy, you know that Abby is in the third locker and Dave must share Cathy's locker. Therefore, (II) is correct.

If you know the assignments of Cathy and Dave (they must share the same locker), you only know to whom one of the lockers is assigned. You will not know specifically to which lockers Abby and Ben are assigned – you will only know that they do not share a locker. The correct answer is choice (D).

#### QUESTION 240

For positive integers  $a$  and  $b$ , let  $a \Delta b$  be defined as  $ab + 1$ . If  $x$  and  $y$  are positive integers and  $x \Delta y = 16$ , which of the following could be a value of  $y$ ?

- I. 1
- II. 2
- III. 3

- A. I only
- B. II only
- C. I and III only
- D. II and III only
- E. I, II, and III

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

For this question, you are given that  $x \Delta y = 16$  where  $x \Delta y$  is defined as  $xy + 1$ . You are asked which of three values are possible for  $y$  when  $xy + 1 = 16$ .

The value of  $y$  could be 1 if  $x = 4$ , since  $4^1 + 1 = 4^2 = 16$ . So I is correct. The value of  $y$  could be 3 if  $x = 2$ , since  $2^3 + 1 = 2^4 = 16$ . So III is correct. Since there is no integer that can be raised to the  $(2 + 1)$  or 3rd power to obtain 16, II is not correct. The correct answer is (C).

**QUESTION 241** An isosceles triangle has a base of 6 and a height of 4. What is the perimeter of the triangle?

- A. 10
- B. None of these
- C. 16
- D. 24
- E. 14

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

An isosceles triangle is basically two right triangles stuck together. The isosceles triangle has a base of 6, which means that from the midpoint of the base to one of the angles, the length is 3. Now, you have a right triangle with a base of 3 and a height of 4. The hypotenuse of this right triangle, which is one of the two congruent sides of the isosceles triangle, is 5 units long (according to the Pythagorean Theorem). The total perimeter will be the length of the base (6) plus the length of the hypotenuse of each right triangle (5).  $5 + 5 + 6 = 16$

**QUESTION 242**

What is the area of a square that has a diagonal whose endpoints in the coordinate plane are located at  $(-8, 6)$  and  $(2, -4)$ ?

- A. 100
- $200\sqrt{2}$
- $50\sqrt{2}$
- B.
- C.
- D. 50
- E.  $100\sqrt{2}$



**Correct Answer:** A

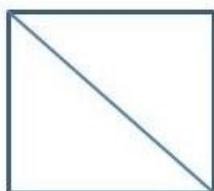
**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

If we draw a diagonal on a square, we can form a right triangle in which the diagonal is the hypotenuse and the legs are two of the sides of the square. The figure below shows a diagonal drawn on a square.



The right triangle constructed from the sides of the square and the diagonal is an isosceles triangle, because all the sides of the square are congruent. This is a special 45-45 degree triangle.

Our approach for the problem will be as follows: we first can find the length of the diagonal with the distance formula. Then, using the properties of 45-45 triangles, we can find the length of the side of the square. Finally, if we square the side length, we will have the square's area.

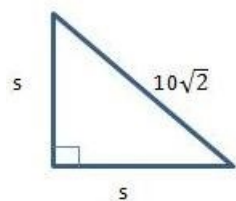
First, let's find the length of the diagonal using the distance formula. The distance ( $d$ ) between two points with coordinates  $(x_1, y_1)$  and  $(x_2, y_2)$  is as follows:

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

The distance between the endpoints  $(-8, 6)$  and  $(2, -4)$  is

$$\begin{aligned} & \sqrt{(2 - (-8))^2 + (-4 - 6)^2} \\ &= \sqrt{10^2 + (-10)^2} \\ &= \sqrt{2(100)} = 10\sqrt{2} \end{aligned}$$

Now, let's construct a right triangle with legs of lengths  $s$  and  $s$  and a hypotenuse equal to the diagonal, whose length is  $10\sqrt{2}$ .



As we previously established, this is 45-45 degree triangle. In these types of triangles, the hypotenuse is  $\sqrt{2}$  times larger than both the legs. Thus we can set up the following equation to find  $s$ :

$$s\sqrt{2} = 10\sqrt{2}$$

Divide both sides by  $\sqrt{2}$ .

$$s = 10$$

Lastly, we must calculate the area of the square, which is equal to  $s^2$ , or 100.

The answer is 100.

#### QUESTION 243

Three points in the  $xy$ -coordinate system form a triangle.

The points are  $(-1,5)(-1,1)(4,5)$ .

What is the perimeter of the triangle?

- A.  $9 + \sqrt{26}$
- B.  $9 + \sqrt{71}$
- C. 9
- D.  $9 + \sqrt{41}$



**Correct Answer:** D

**Section:** Math

**Explanation**

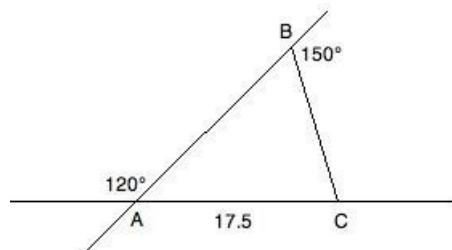
**Explanation/Reference:**

Explanation:

Drawing points gives sides of a right triangle of 4, 5, and an unknown hypotenuse.

Using the pythagorean theorem we find that the hypotenuse is  $\sqrt{41}$ .

#### QUESTION 244



Based on the information given above, what is the perimeter of triangle ABC?



- $17.5 + 17.5\sqrt{3}$   
 $52.5\sqrt{3}$   
 $35 + 17.5\sqrt{2}$   
 $52.5 + 17.5\sqrt{3}$   
 $306.25\sqrt{3}$

A.  
B.  
C.  
D.  
E.

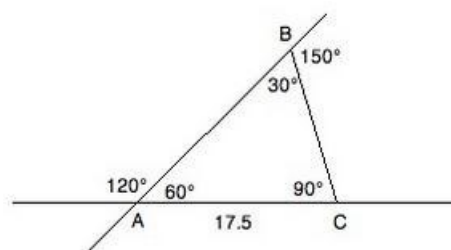
**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:



Consult the diagram above while reading the solution. Because of what we know about supplementary angles, we can fill in the inner values of the triangle. Angles A and B can be found by the following reductions:

$$A + 120 = 180; A = 60$$

$$B + 150 = 180; B = 30$$

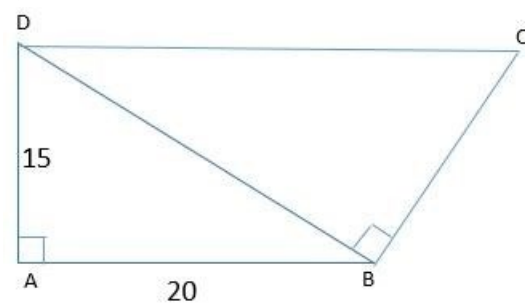
Since we know  $A + B + C = 180$  and have the values of A and B, we know:

$$60 + 30 + C = 180; C = 90$$

This gives us a 30:60:90 triangle. Now, since 17.5 is across from the 30° angle, we know that the other two sides will have to be  $\sqrt{3}$  and 2 times 17.5; therefore, our perimeter will be as follows:

$$17.5 + 2(17.5) + 17.5\sqrt{3} = 52.5 + 17.5\sqrt{3}$$

#### QUESTION 245



In the figure above, line segments DC and AB are parallel. What is the perimeter of quadrilateral ABCD?

- A. 85  
B. 75  
C. 90  
D. 80  
E. 95

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Because DC and AB are parallel, this means that angles CDB and ABD are equal. When two parallel lines are cut by a transversal line, alternate interior angles (such as CDB and ABD) are congruent.

Now, we can show that triangles ABD and BDC are similar. Both ABD and BDC are right triangles. This means that they have one angle that is the same – their right angle. Also, we just established that angles CDB and ABD are congruent.

By the angle-angle similarity theorem, if two triangles have two angles that are congruent, they are similar. Thus triangles ABD and BDC are similar triangles.

We can use the similarity between triangles ABD and BDC to find the lengths of BC and CD. The length of BC is proportional to the length of AD, and the length of CD is proportional to the length of DB, because these sides correspond. We don't know the length of DB, but we can find it using the Pythagorean Theorem. Let  $a$ ,  $b$ , and  $c$  represent the lengths of AD, AB, and BD respectively. According to the Pythagorean Theorem:

$$a^2 + b^2 = c^2$$

$$15^2 + 20^2 = c^2$$

$$625 = c^2 \quad c =$$

$$25$$

The length of BD is 25.

We can now set up a proportion in order to find the lengths of DC and CB.

Side AB on triangle ABD corresponds to side BD on triangle DBC. Also, side DA corresponds to side CB. Because triangles ABD and BDC are similar, the ratio of AB to BD is the same as the ratio of DA to CB.

$$\frac{\text{length of } AB}{\text{length of } BD} = \frac{\text{length of } DA}{\text{length of } CB}$$

$$\frac{20}{25} = \frac{15}{\text{length of } CB}$$

We can cross multiply the proportion to solve for the length of CB.

$$20(\text{length of } CB) = 15(25) = 375$$

$$\text{Length of } CB = 18.75$$

Similarly, because the length of BD corresponds to the length of DC, we can set up another proportion to find the length of BC.

$$\frac{\text{length of } AB}{\text{length of } BD} = \frac{\text{length of } BD}{\text{length of } DC}$$

$$\frac{20}{25} = \frac{25}{\text{length of } DC}$$

$$20(\text{length of } DC) = 25(25) = 625$$

$$\text{Length of } DC = 31.25$$

We now have what we need to find the perimeter of the quadrilateral.

Perimeter = sum of the lengths of AB, BC, CD, and DA.

$$\text{Perimeter} = 20 + 18.75 + 31.25 + 15 = 85 \quad \text{The answer is}$$

85.

#### QUESTION 246

$\triangle GHJ \sim \triangle KLM$  and angle G is a right angle.

Which angle or angles must be complementary to angle H?

- I) angle G
- II) angle J
- III) angle KIV) angle L
- V) angle M

- A. II and V only
- B. IV only
- C. I only
- D. I and III only
- E. II only

**Correct Answer:** A

Section: Math

Explanation

**Explanation/Reference:**

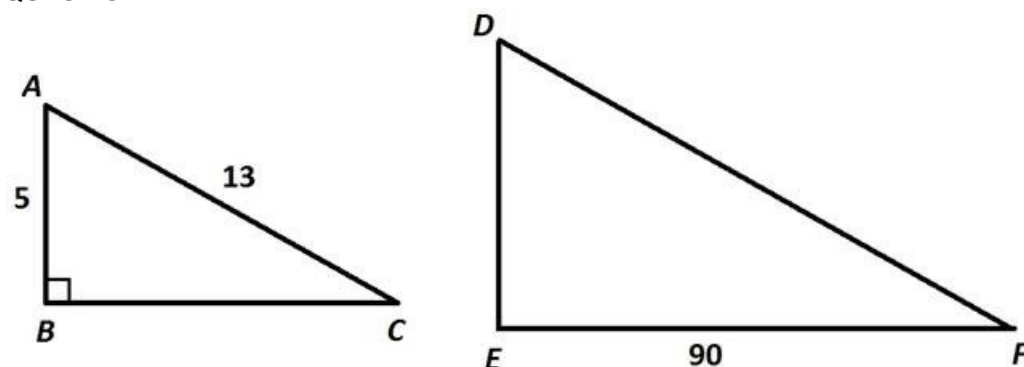
Explanation:

Angle G is a right angle, and, since corresponding angles of similar triangles are congruent, so is angle K. A right angle cannot be part of a complementary pair so both can be eliminated. angle

L can be eliminated, since it is congruent to angle H; congruent angles are not necessarily complementary.

Since angle G is right angle,  $\triangle GHJ$  is a right triangle, and angle H and angle J are its acute angles. That makes angle J complementary to angle H. Since angle M is congruent to angle J, it is also complementary to angle H. The correct response is II and V only.

**QUESTION 247**



Refer to the above figure. Given that  $\triangle ABC \sim \triangle DEF$ , give the perimeter of  $\triangle DEF$ .

- A. 135
- B. 306
- C. 208
- D. 324
- E. 225

Correct  
Answer:  
E



Section: Math

Explanation

**Explanation/Reference:**

Explanation:

By the Pythagorean Theorem,

$$\begin{aligned} BC &= \sqrt{(AC)^2 - (AB)^2} \\ &= \sqrt{13^2 - 5^2} \\ &= \sqrt{169 - 25} \\ &= \sqrt{144} \\ &= 12 \end{aligned}$$

The similarity ratio of  $\triangle DEF$  to  $\triangle ABC$  is

$$\frac{EF}{BC} = \frac{90}{12} = 7.5,$$

which is subsequently the ratio of the perimeter of  $\triangle DEF$  to that of  $\triangle ABC$ .

The perimeter of  $\triangle ABC$  is  $AB + BC + AC = 5 + 12 + 13 = 30$ , so the

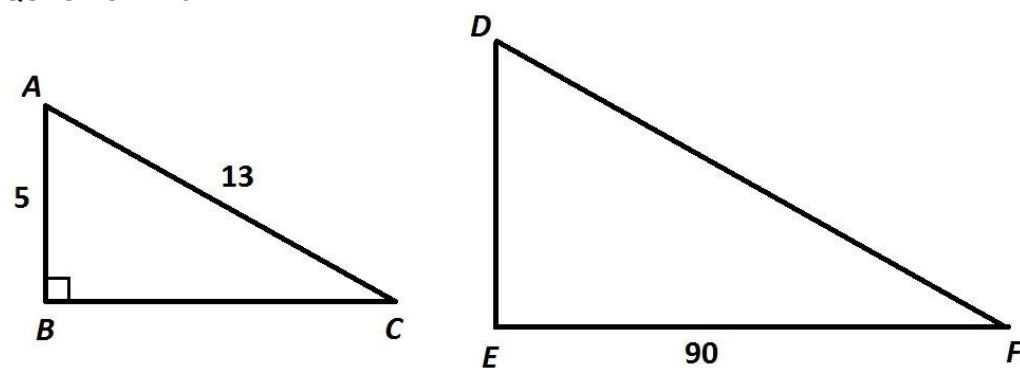
perimeter of  $\triangle DEF$  can be found using this ratio:

$$\frac{\text{Perim } \triangle DEF}{\text{Perim } \triangle ABC} = 7.5$$

$$\frac{\text{Perim} \triangle DEF}{30} = 7.5$$

$$\text{Perim} \triangle DEF = 7.5 \times 30 = 225$$

#### QUESTION 248



Refer to the above figure. Given that  $\triangle ABC \sim \triangle DEF$ , give the area of  $\triangle DEF$ .

- A. 243.75
- B. 1,828.125
- C. 225
- D. 1,687.5
- E. The correct answer is not among the other responses.

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

By the Pythagorean Theorem,

$$BC = \sqrt{(AC)^2 - (AB)^2}$$

$$= \sqrt{13^2 - 5^2}$$

$$= \sqrt{169 - 25}$$

$$= \sqrt{144}$$

$$= 12$$

The similarity ratio of  $\triangle DEF$  to  $\triangle ABC$  is

$$\frac{EF}{BC} = \frac{90}{12} = 7.5$$

This can be used to find  $DE$ :

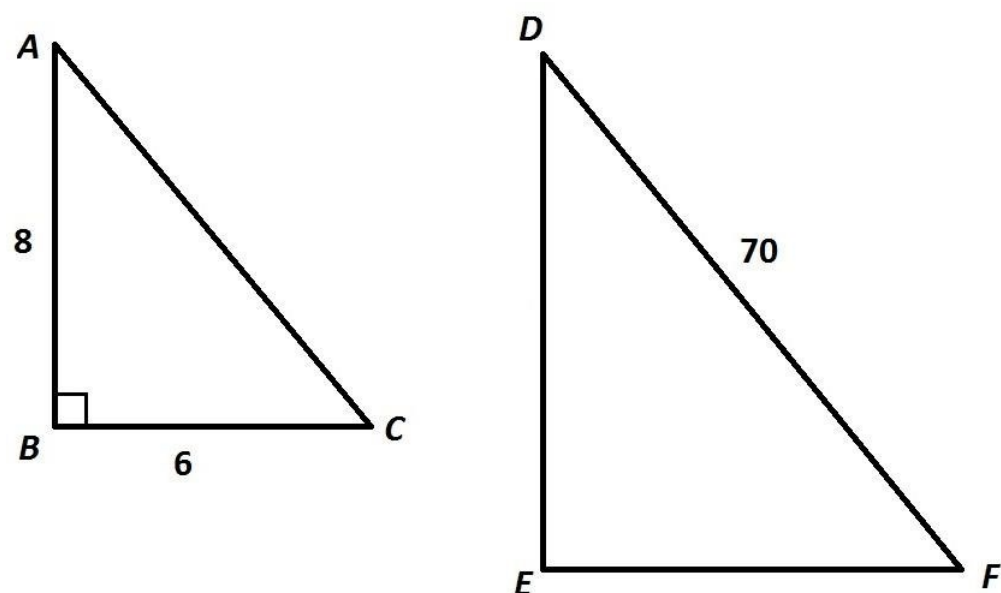
$$\frac{DE}{AB} = 7.5$$

$$\frac{DE}{5} = 7.5$$

The area of  $\triangle DEF$  is therefore

$$\frac{1}{2} \times DE \times EF = \frac{1}{2} \times 37.5 \times 90 = 1,687.5$$

#### QUESTION 249



Note: Figures NOT drawn to scale.

Refer to the above figure. Given that  $\triangle ABC \sim \triangle DEF$ , evaluate DE.

- A. 56
- B.  $62\frac{1}{2}$
- C. 35
- D. 42
- E.  $52\frac{1}{2}$

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

By the Pythagorean Theorem, since AC is the hypotenuse of a right triangle with 6 and 8, its measure is

$$AC = \sqrt{6^2 + 8^2} = \sqrt{36 + 64} = \sqrt{100} = 10.$$

The similarity ratio of  $\triangle DEF$  to  $\triangle ABC$  is

$$\frac{DF}{AC} = \frac{70}{10} = 7.$$

Likewise,

$$\frac{DE}{AB} = 7$$

$$\frac{DE}{8} = 7$$

$$DE = 56$$

#### QUESTION 250

A right triangle has one side equal to 5 and its hypotenuse equal to 14. Its third side is equal to:

- A. 171
- B. 14.87
- C. 12
- D. 9
- E. 13.07

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The Pythagorean Theorem gives us  $a^2 + b^2 = c^2$  for a right triangle, where  $c$  is the hypotenuse and  $a$  and  $b$  are the smaller sides. Here  $a$  is equal to 5 and  $c$  is equal to 14, so  $b^2 = 14^2 - 5^2 = 171$ . Therefore  $b$  is equal to the square root of 171 or approximately 13.07.

**QUESTION 251** Which of the following could NOT be the lengths of the sides of a right triangle?

- A. 5, 12, 13
- B. 8, 15, 17
- C. 12, 16, 20
- D. 14, 48, 50
- E. 5, 7, 10

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

We use the Pythagorean Theorem and we calculate that  $25 + 49$  is not equal to 100. All of the other answer choices observe the theorem  $a^2 + b^2 = c^2$

**QUESTION 252** Which set of sides could make a right triangle?

- A. 4, 6, 9
- B. 10, 12, 16
- C. 6, 7, 8
- D. 9, 12, 15



**Correct Answer:** D

**Section:** Math

**Explanation**

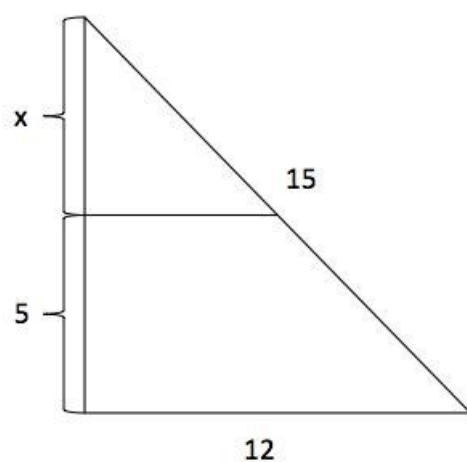
**Explanation/Reference:**

Explanation:

By virtue of the Pythagorean Theorem, in a right triangle the sum of the squares of the smaller two sides equals the square of the largest side. Only 9, 12, and 15 fit this rule.

**QUESTION 253**

A right triangle with a base of 12 and hypotenuse of 15 is shown below. Find  $x$ .



Note: figure not drawn to scale.

- A. 3.5
- B. 5.5
- C. 4.5
- D. 5
- E. 4

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Using the Pythagorean Theorem, the height of the right triangle is found to be  $= \sqrt{[15]^2 - [12]^2} = 9$ , so  $x = 9 - 5 = 4$ .

**QUESTION 254** A right triangle has sides of 36 and 39(hypotenuse). Find the length of the third side

- A.  $12\sqrt{6}$
- B. 15
- C. 42
- D. 33
- E.  $33\sqrt{2}$

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

use the pythagorean theorem:

$$a^2 + b^2 = c^2 ; a \text{ and } b \text{ are sides, } c \text{ is the hypotenuse}$$

$$a^2 + 1296 = 1521$$

$$a^2 = 225$$

$$a = 15$$

**QUESTION 255**

Bob the Helicopter is at 30,000ft. above sea level, and as viewed on a map his airport is 40,000ft. away. If Bob travels in a straight line to his airport at 250 feet per second, how many minutes will it take him to arrive?

- A. 3 minutes and 50 seconds
- B. 3 minutes and 20 seconds
- C. 1 hour and 45 minutes
- D. 4 hours and 0 minutes
- E. 2 hours and 30 minutes

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Draw a right triangle with a height of 30,000ft. and a base of 40,000ft. The hypotenuse, or distance travelled, is then 50,000ft using the Pythagorean Theorem. Then dividing distance by speed will give us time, which is 200 seconds, or 3 minutes and 20 seconds.

**QUESTION 256** A right triangle has two sides, 9 and  $x$ , and a hypotenuse of 15. What is  $x$ ?

- A. 14
- B. 13
- C. 11
- D. 12
- E. 10

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

We can use the Pythagorean Theorem to solve for  $x$ .

$$9^2 + x^2 = 15^2$$

$$81 + x^2 = 225$$

$$x^2 = 144$$

$$x = 12$$

**QUESTION 257**

The area of a right triangle is 42. One of the legs has a length of 12. What is the length of the other leg?

- A. 6
- B. 5
- C.
- D. 7
- E. 11

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:





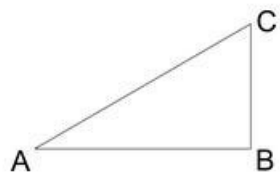
$$\text{Area} = \frac{1}{2} \times \text{base} \times \text{height}$$

$$42 = \frac{1}{2} \times \text{base} \times 12$$

$$42 = 6 \times \text{base}$$

$$\text{base} = 7$$

#### QUESTION 258



( $\triangle ABC$  is a right triangle where angle B is a right angle)

If angle A =  $30^\circ$  and  $\overline{AB} = 4$ , what is the length of  $\overline{BC}$ ?

$$\frac{4}{3}$$

$$\frac{4\sqrt{3}}{3}$$

A.

B.

C. 4

D. 3

**Correct Answer:** B

**Section:** Math

**Explanation**



**Explanation/Reference:**

Explanation:

AB is the leg adjacent to Angle A and BC is the leg opposite Angle A.

Since we have a  $30^\circ$ - $60^\circ$ - $90^\circ$  triangle, the opposites sides of those angles will be in the ratio.  $x - x\sqrt{3} - 2x$

Here, we know the side opposite the sixty degree angles. Thus, we can set that value equal to  $x\sqrt{3}$ .

$$4 = x\sqrt{3}$$

$$\frac{4}{\sqrt{3}} = \frac{x\sqrt{3}}{\sqrt{3}}$$

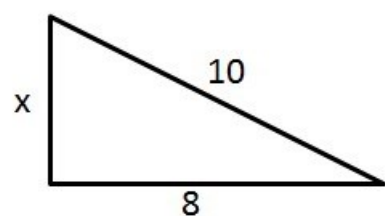
$$\frac{4}{\sqrt{3}} \times \frac{\sqrt{3}}{\sqrt{3}} = x$$

$$x = \frac{4\sqrt{3}}{3}$$

which also means

$$\overline{BC} = \frac{4\sqrt{3}}{3}$$

#### QUESTION 259



Note: figure not drawn to scale

Solve for  $x$ .

- A. 2
- B. 6
- C. 7
- D. 12

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Use the Pythagorean Theorem. Let  $a = 8$  and  $c = 10$  (because it is the hypotenuse)

$$a^2 + x^2 = c^2$$

$$8^2 + x^2 = 10^2 \quad 64 +$$

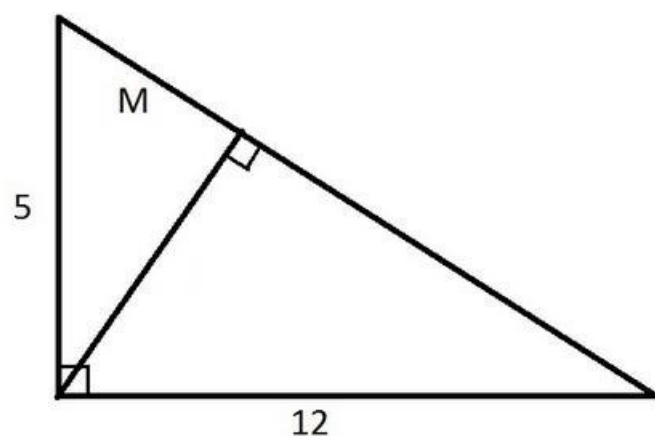
$$x^2 = 100 \quad x^2 = 100$$

$$- 64 = 36$$

$$x = 6$$



#### QUESTION 260



Note: Figure NOT drawn to scale.

Refer to the above diagram. Evaluate  $M$ .

$$M = 2\frac{5}{13}$$

$$M = 1\frac{12}{13}$$

$$M = 1\frac{5}{12}$$

$$M = 2\frac{1}{12}$$

$$M = 1\frac{5}{13}$$

- A.
- B. C.
- D. E.

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The altitude perpendicular to the hypotenuse of a right triangle divides that triangle into two smaller triangles similar to each other and the large triangle. Therefore, the sides are in proportion. The hypotenuse of the triangle is equal to

$$\sqrt{5^2 + 12^2} = \sqrt{25 + 144} = \sqrt{169} = 13$$

Therefore, we can set up, and solve for M in, a proportion statement involving the shorter side and hypotenuse of the large triangle and the larger of the two smaller triangles:

$$\frac{M}{5} = \frac{5}{13}$$

$$\frac{M}{5} \times 5 = \frac{5}{13} \times 5$$

$$M = \frac{25}{13} = 1\frac{12}{13}$$



**QUESTION 261** What is the hypotenuse of a right triangle with sides 5 and 8?

- A. 15
- $5\sqrt{4}$
- $8\sqrt{13}$
- $\sqrt{89}$
- B.
- C.
- D.
- E. 12

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Because this is a right triangle, we can use the Pythagorean Theorem which says  $a^2 + b^2 = c^2$ , or the squares of the two sides of a right triangle must equal the square of the hypotenuse. Here we have  $a = 5$  and  $b = 8$ .

$$a^2 + b^2 = c^2$$

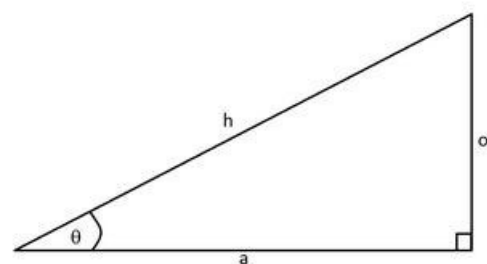
$$5^2 + 8^2 = c^2$$

$$25 + 64 = c^2$$

$$89 = c^2 \quad c =$$

$$\sqrt{89}$$

# QUESTION 262



If  $o = 10\text{ft}$  and  $a = 17\text{ft}$ , how long is side  $h$ ?

- A. 19.7ft
- B. 17.9ft
- C. 18ft
- D. Not enough information to solve
- E. 19.3ft

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

This problem is solved using the Pythagorean theorem ( $a^2 + b^2 = c^2$ ). In this formula  $a$  and  $b$  are the legs of the right triangle while  $c$  is the hypotenuse.

Using the labels of our triangle we have:

$$o^2 + a^2 = h^2$$

$$h^2 = (10\text{ft})^2 + (17\text{ft})^2$$

$$h^2 = 100\text{ft}^2 + 289\text{ft}^2$$

$$h = \sqrt{389\text{ft}^2}$$

$$\rightarrow 19.7\text{ft}$$

**QUESTION 263** If one of the short sides of a 45-45-90 triangle equals 5, how long is the hypotenuse?

- A.  $\pi$
- B.  $5\sqrt{2}$
- C. 5
- D.  $\sqrt{10}$
- E.  $\sqrt{15}$

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Using the Pythagorean theorem,  $x^2 + y^2 = h^2$ . And since it is a 45-45-90 triangle the two short sides are equal. Therefore  $52 + 52 = h^2$ . Multiplied out  $25 + 25 = h^2$ . Therefore  $h^2 = 50$ , so  $h = \sqrt{50} = \sqrt{2} \times \sqrt{25}$  or  $5\sqrt{2}$

**QUESTION 264** The height of a right circular cylinder is 10 inches and the diameter of its base is 6 inches. What is the distance from a point on the edge of the base to the center of the entire cylinder?

- A.  $4\pi/5$
- B.  $\sqrt{34}$
- C. None of the other answers
- D.  $3\pi/4$

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The best thing to do here is to draw diagram and draw the appropriate triangle for what is being asked. It does not matter where you place your point on the base because any point will produce the same result. We know that the center of the base of the cylinder is 3 inches away from the base (6/2). We also know that the center of the cylinder is 5 inches from the base of the cylinder (10/2). So we have a right triangle with a height of 5 inches and a base of 3 inches. So using the Pythagorean Theorem  $3^2 + 5^2 = c^2$ .  $34 = c^2$ ,  $c = \sqrt{34}$ .

**QUESTION 265** A right triangle with sides A, B, C and respective angles  $a$ ,  $b$ ,  $c$  has the following measurements.

Side A = 3in. Side B = 4in. What is the length of side C?

- A. 25
- B. 6C. 7 D. 9
- E. 5

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The correct answer is 5. The pythagorean theorem states that  $a^2 + b^2 = c^2$ . So in this case  $3^2 + 4^2 = C^2$ . So  $C^2 = 25$  and  $C = 5$ . This is also an example of the common 3-4-5 triangle.

**QUESTION 266** The lengths of the three sides of a right triangle form a set of consecutive even integers when arranged from least to greatest. If the second largest side has a length of  $x$ , then which of the following equations could be used to solve for  $x$ ?

- A.  $(x - 2)^2 + x^2 = (x + 2)^2$
- B.  $(x - 2) + x = (x + 2)$
- C.  $(x + 2)^2 + (x - 2)^2 = x^2$
- D.  $(x - 1)^2 + x^2 = (x + 1)^2$
- E.  $x^2 + (x + 2)^2 = (x + 4)^2$

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

We are told that the lengths form a series of consecutive even integers. Because even integers are two units apart, the side lengths must differ by two. In other words, the largest side length is two greater than the second largest, and the second largest length is two greater than the smallest length. The second largest length is equal to  $x$ . The second largest length must thus be two less than the largest length. We could represent the largest length as  $x + 2$ . Similarly, the second largest length is two larger than the smallest length, which we could thus represent as  $x - 2$ .

To summarize, the lengths of the triangle (in terms of  $x$ ) are  $x - 2$ ,  $x$ , and  $x + 2$ .

In order to solve for  $x$ , we can make use of the fact that the triangle is a right triangle. If we apply the Pythagorean Theorem, we can set up an equation that could be used to solve for  $x$ . The Pythagorean Theorem states that if  $a$  and  $b$  are the lengths of the legs of the triangle, and  $c$  is the length of the hypotenuse, then the following is true:

$$a^2 + b^2 = c^2$$

In this particular case, the two legs of our triangle are  $x - 2$  and  $x$ , since the legs are the two smallest sides; therefore, we can say that  $a = x - 2$ , and  $b = x$ . Lastly, we can say  $c = x + 2$ , since  $x + 2$  is the length of the hypotenuse. Substituting these values for  $a$ ,  $b$ , and  $c$  into the Pythagorean Theorem yields the following:  $(x - 2)^2 + x^2 = (x + 2)^2$

The answer is  $(x - 2)^2 + x^2 = (x + 2)^2$ .

**QUESTION 267** What is the hypotenuse of a right triangle with sides 5 and 8?

- A.  $8\sqrt{13}$
- B. 12
- C.  $\sqrt{89}$  D. 15
- E.  $5\sqrt{4}$

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Because this is a right triangle, we can use the Pythagorean Theorem which says  $a^2 + b^2 = c^2$ , or the squares of the two sides of a right triangle must equal the square of the hypotenuse. Here we have  $a = 5$  and  $b = 8$ .

$$a^2 + b^2 = c^2$$

$$5^2 + 8^2 = c^2$$

$$25 + 64 = c^2$$

$$89 = c^2$$

$$c = \sqrt{89}$$



**QUESTION 268** A right triangle has side lengths of 21 and 72. What is the length of the hypotenuse?

- A. 80
- B. 67
- C. 70
- D. 84
- E. 75

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

By the Pythagorean Theorem,  $21^2 + 72^2 = hyp^2$ . Then  $hyp^2 = 5625$ , and the hypotenuse = 75. If you didn't know how to figure out that  $75^2 = 5625$ , that's okay. Look at the answer choices. We could easily have squared them and chosen the answer choice that, when squared, equals 5625.

**QUESTION 269**

Sam and John both start at the same point. Sam walks 30 feet north while John walks 40 feet west. How far apart are they at their new locations?

- A. 35 feet
- B. 60 feet
- C. 10 feet
- D. 70 feet

E. 50 feet

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Sam and John have walked at right angles to each other, so the distance between them is the hypotenuse of a triangle. The distance can be found using the Pythagorean Theorem.

**QUESTION 270**

Daria and Ashley start at the same spot and walk their two dogs to the park, taking different routes. Daria walks 1 mile north and then 1 mile east. Ashley walks her dog on a path going northeast that leads directly to the park. How much further does Daria walk than Ashley?

A. Cannot be determined

B. 1 mile

C.  $2 + \sqrt{2}$  miles

D.  $2 - \sqrt{2}$  miles

E.  $\sqrt{2}$  miles

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

First let's calculate how far Daria walks. This is simply 1 mile north + 1 mile east = 2 miles. Now let's calculate how far Ashley walks. We can think of this problem using a right triangle. The two legs of the triangle are the 1 mile north and 1 mile east, and Ashley's distance is the diagonal. Using the Pythagorean Theorem we calculate the diagonal as  $\sqrt{(1^2 + 1^2)} = \sqrt{2}$ . So Daria walked 2 miles, and Ashley walked  $\sqrt{2}$  miles. Therefore the difference is simply  $2 - \sqrt{2}$  miles.

**QUESTION 271** Which of the following sets of sides cannot belong to a right triangle?

A. 5, 12, 13

B. 2, 2,  $2\sqrt{2}$

C. 3, 4, 5

D. 2,  $2\sqrt{3}$ , 4

E. 6, 7, 8

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

To answer this question without plugging all five answer choices in to the Pythagorean Theorem (which takes too long on the GRE), we can use special triangle formulas. Remember that 45-45-90 triangles have lengths of  $x$ ,  $x$ ,  $x\sqrt{2}$ . Similarly, 30-60-90 triangles have lengths  $x$ ,  $x\sqrt{3}$ ,  $2x$ . We should also recall that 3, 4, 5 and 5, 12, 13 are special right triangles. Therefore the set of sides that doesn't fit any of these rules is 6, 7, 8.

**QUESTION 272**

Max starts at Point A and travels 6 miles north to Point B and then 4 miles east to Point C. What is the shortest distance from Point A to Point C?

A.  $4\sqrt{2}$  miles

B. 5 miles

C. 10 miles

D. 7 miles

E.  $2\sqrt{13}$  miles

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

This can be solved with the Pythagorean Theorem.

$$6^2 + 4^2 = c^2$$

$$52 = c^2$$

$$c = \sqrt{52} = 2\sqrt{13}$$

**QUESTION 273** Which set of side lengths CANNOT correspond to a right triangle?

A. 6, 8, 11

B. 3, 4, 5

C. 5, 12, 13

D. 7, 24, 25

E. 8, 15, 17

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Because we are told this is a right triangle, we can use the Pythagorean Theorem,  $a^2 + b^2 = c^2$ . You may also remember some of these as special right triangles that are good to memorize, such as 3, 4, 5. Here, 6, 8, 11 will not be the sides to a right triangle because  $6^2 + 8^2 \neq 11^2$ .

**QUESTION 274** Angela drives 30 miles north and then 40 miles east. How far is she from where she began?

A. 50 miles

B. 45 miles

C. 35 miles

D. 60 miles

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

By drawing Angela's route, we can connect her end point and her start point with a straight line and will then have a right triangle. The Pythagorean theorem can be used to solve for how far she is from the starting point:  $a^2 + b^2 = c^2$ ,  $30^2 + 40^2 = c^2$ ,  $c = 50$ . It can also be noted that Angela's route represents a multiple of the 3-4-5 Pythagorean triple.

**QUESTION 275** To get from his house to the hardware store, Bob must drive 3 miles to the east and then 4 miles to the north. If Bob was able to drive along a straight line directly connecting his house to the store, how far would he have to travel then?

A. 5 miles

B. 15 miles

C. 25 miles

D. 9 miles

E. 7 miles

**Correct Answer:** A

**Section:** Math

**Explanation**



**Explanation/Reference:**

Explanation:

Since east and north directions are perpendicular, the possible routes Bob can take can be represented by a right triangle with sides  $a$  and  $b$  of length 3 miles and 5 miles, respectively. The hypotenuse  $c$  represents the straight line connecting his house to the store, and its length can be found using the Pythagorean theorem:  $c^2 = 3^2 + 4^2 = 25$ . Since the square root of 25 is 5, the length of the hypotenuse is 5 miles.

**QUESTION 276**

A park is designed to fit within the confines of a triangular lot in the middle of a city. The side that borders Elm street is 15 feet long. The side that borders Broad street is 23 feet long. Elm street and Broad street meet at a right angle. The third side of the park borders Popeye street, what is the length of the side of the park that borders Popeye street?

- A. 27.46 feet
- B. 18.5 feet
- C. 17.44 feet
- D. 16.05 feet
- E. 22.5 feet

**Correct Answer:** A**Section:** Math**Explanation****Explanation/Reference:**

Explanation:

This question requires the use of Pythagorean Theorem. We are given the length of two sides of a triangle and asked to find the third. We are told that the two sides we are given meet at a right angle, this means that the missing side is the hypotenuse. So we use  $a^2 + b^2 = c^2$ , plugging in the two known lengths for  $a$  and  $b$ . This yields an answer of 27.46 feet.

**QUESTION 277** A right triangle has legs of 15m and 20m. What is the length of the hypotenuse?

- A. 40m
- B. 30m
- C. 25m
- D. 45m
- E. 35m

**Correct Answer:** C**Section:** Math**Explanation****Explanation/Reference:**

Explanation:

The Pythagorean theorem is  $a^2 + b^2 = c^2$ , where  $a$  and  $b$  are legs of the right triangle, and  $c$  is the hypotenuse.  $(15)^2 + (20)^2 = c^2$  so  $c^2 = 625$ . Take the square root to get  $c = 25$ m

**QUESTION 278** Paul leaves his home and jogs 3 miles due north and 4 miles due west. If Paul could walk a straight line from his current position back to his house, how far, in miles, is Paul from home?

- A. 7
- B.  $\sqrt{14}$
- C. 5
- D. 25
- E. 4

**Correct Answer:** C**Section:** Math**Explanation**

**Explanation/Reference:**

Explanation:

By using the Pythagorean Theorem, we can solve for the distance “as the crow flies” from Paul to his home:

$$3^2 + 4^2 = x^2$$

$$9 + 16 = x^2$$

$$25 = x^2$$

$$5 = x$$

**QUESTION 279**

Given a right triangle where the two legs have lengths of 3 and 4 respectively, what is the length of the hypotenuse?

- A. 3
- B. 4
- C. 5
- D. 9
- E. 25

**Correct Answer:** C

**Section:** Math

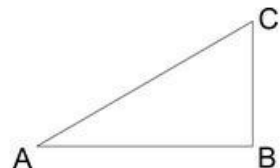
**Explanation**

**Explanation/Reference:**

Explanation:

The hypotenuse can be found using Pythagorean Theorem, which is  $a^2 + b^2 = c^2$ , so we plug in  $a = 3$  and  $b = 4$  to get  $c$ .

$$c^2 = 25, \text{ so } c = 5$$

**QUESTION 280**


Length AB = 4

Length BC = 3

If a similar triangle has a hypotenuse length of 25, what are the lengths of its two legs?

- A. 15 and 25
- B. 15 and 20
- C. 5 and 25
- D. 3 and 4
- E. 20 and 25

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Similar triangles are in proportion.

Use Pythagorean Theorem to solve for AC:

$$\text{Pythagorean Theorem: } AB^2 + BC^2 = AC^2$$

$$4^2 + 3^2 = AC^2$$

$$16 + 9 = AC^2$$

$$25 = AC^2$$

$$AC = 5$$

If the similar triangle's hypotenuse is 25, then the proportion of the sides is  $AC/25$  or  $5/25$  or  $1/5$ .

Two legs then are 5 times longer than  $AB$  or  $BC$ :

$$5 \times (AB) = 5 \times (4) = 20$$

$$5 \times (BC) = 5 \times (3) = 15$$

#### QUESTION 281

If the base of a right triangle is 5cm long and the height of the triangle is 7cm longer than the base, what is the length of the third side of the triangle in cm?

- A. 10
- B. 15
- C. 12
- D. 8
- E. 13

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Find the height of the triangle  $5 + 7 = 12$

Use the Pythagorean Theorem to solve for the length of the third side, or hypotenuse.

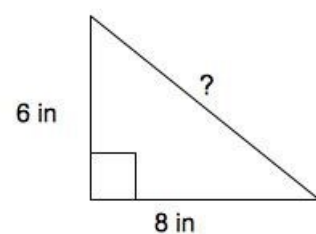
$$c^2 = a^2 + b^2 \quad c^2 = 5^2$$

$$+ 12^2 \quad c^2 = 25 + 144$$

$$= 169 \quad c = 13$$



#### QUESTION 282



Given the right triangle in the diagram, what is the length of the hypotenuse?

- A. 20in
- B. 12in
- C. 14in
- D. 10in
- E. 7in

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

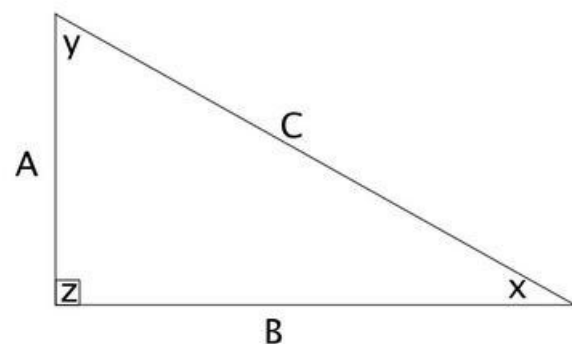
To find the length of the hypotenuse use the Pythagorean Theorem:  $a^2 + b^2 = c^2$

Where  $a$  and  $b$  are the legs of the triangle, and  $c$  is the hypotenuse.  $6^2 + 8^2 = 100$

$$(100)^{\frac{1}{2}} = 10$$

The hypotenuse is 10 inches long.

**QUESTION 283**



Triangle ABC is a right triangle. If the length of side A = 3 inches and C = 5 inches, what is the length of side B?

- A. 4 inches
- B. 6 inches
- C. 1 inches
- D. 1/2 inches
- E. 4.5 inches

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Using the Pythagorean Theorem, we know that  $a^2 + b^2 = c^2$ .

This gives:

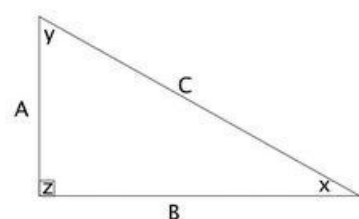
$$3^2 + b^2 = 5^2$$

$$9 + b^2 = 25$$

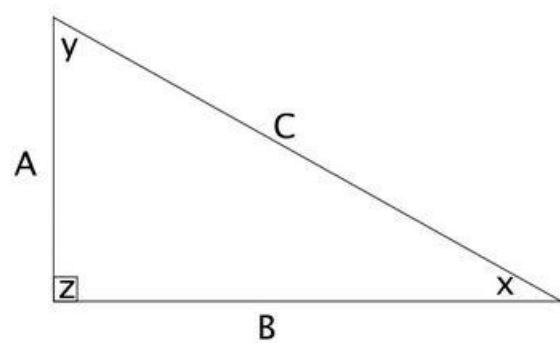
Subtracting 9 from both sides of the equation gives:

$$b^2 = 16$$

$$b = 4 \text{ inches}$$



**QUESTION 284**



Triangle ABC is a right triangle. If the length of side A = 8 inches and B = 11 inches, find the length of the hypotenuse (to the nearest tenth).

- A. 14.2 inches
- B. 13.6 inches
- C. 185 inches
- D. 13.7 inches
- E. 184 inches

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Using the Pythagorean Theorem, we know that  $a^2 + b^2 = c^2$ .

This tells us:

$$8^2 + 11^2 = C^2$$

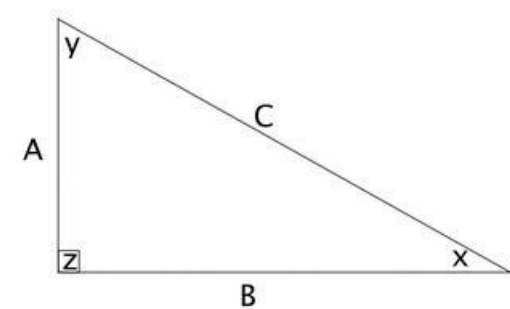
$$64 + 121 = C^2$$

$$185 = C^2$$

Taking the square root of both sides, we find that  $C = 13.6$  inches



#### QUESTION 285



Given:

$$A = 6 \text{ feet}$$

$$B = 9 \text{ feet}$$

What is the length of the hypotenuse of the triangle (to the nearest tenth)?

- A. 10.1 feet
- B. 10.5 feet
- C. 10.6 feet
- D. 10.2 feet
- E. 10.8 feet

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Using the Pythagorean Theorem, we know that  $a^2 + b^2 = c^2$ .

This tells us:

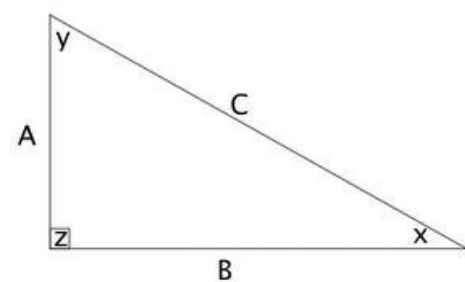
$$6^2 + 9^2 = C^2$$

$$36 + 81 = C^2$$

$$117 = C^2$$

Taking the square root of both sides, we find that  $C = 10.8$

#### QUESTION 286



Given:

$$A = 2 \text{ miles}$$

$$B = 3 \text{ miles}$$

What is the length of the hypotenuse of triangle ABC, to the nearest tenth?

- A. 3.6 miles
- B. 3.5 miles
- C. 3.7 miles
- D. 3.2 miles
- E. 3.4 miles

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Using the Pythagorean Theorem, we know that  $a^2 + b^2 = c^2$ .

This tells us:

$$2^2 + 3^2 = C^2$$

$$4 + 9 = C^2$$

$$13 = C^2$$

Taking the square root of both sides, we find that  $C = 3.6$

#### QUESTION 287

Given that two sides of a right triangle measure 2 feet and 3 feet, respectively, with a hypotenuse of  $x$ , what is the perimeter of this right triangle (to the nearest tenth)?

- A. 9.4 feet
- B. 18 feet
- C. 8.6 feet
- D. 3.6 feet
- E. 6.4 feet

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Using the Pythagorean Theorem, we know that  $a^2 + b^2 = c^2$ .

This tells us:

$$2^2 + 3^2 = C^2$$

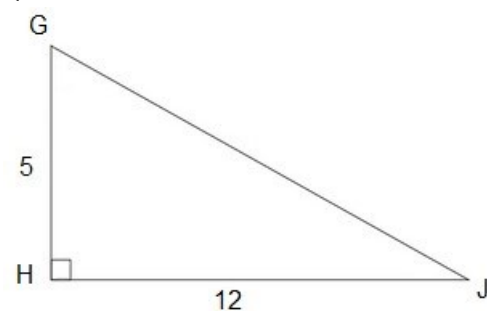
$$4 + 9 = C^2$$

$$13 = C^2$$

Taking the square root of both sides, we find that  $C = 3.6$

To find the perimeter, we add the side lengths together, which gives us that the perimeter is:  $3 + 2 + 3.6 = 8.6$

#### QUESTION 288



In  $\triangle GHI$ , what is the length of  $GJ$ ?

- A. 12
- B. 13
- C. 10
- D. 5

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Use the Pythagorean Theorem:  $A^2 + B^2 = C^2$ , to find  $GJ$ .

$$5^2 + 12^2 = C^2$$

$$25 + 144 = C^2$$

$$169 = C^2$$

$$C = \sqrt{169} = 13$$

**QUESTION 289** Kathy and Jill are traveling from their home to the same destination. Kathy travels due east and then after traveling 6 miles turns and travels 8 miles due north. Jill travels directly from her home to the destination. How miles does Jill travel? A. 14 miles

- B. 12 miles
- C. 16 miles
- D. 10 miles
- E. 8 miles

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Kathy's path traces the outline of a right triangle with legs of 6 and 8. By using the Pythagorean Theorem

$$6^2 + 8^2 = x^2$$

$$36 + 64 = x^2$$

$$x = 10 \text{ miles}$$

#### QUESTION 290

Which of the following is NOT true about the hypotenuse of a triangle?

- A. It is the longest side.
- B. It is always greater than 1.
- C. It is always across from the largest angle in the triangle.
- D. It is across from the right angle.

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The hypotenuse can be between 0 and 1.

**QUESTION 291** In order to get to work, Jeff leaves home and drives 4 miles due north, then 3 miles due east, followed by 6 miles due north and, finally, 7 miles due east. What is the straight line distance from Jeff's work to his home?

- A. 11
- B.  $2\sqrt{5}$
- C. 15
- D.  $10\sqrt{2}$
- E.  $6\sqrt{2}$

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Jeff drives a total of 10 miles north and 10 miles east. Using the Pythagorean theorem ( $a^2 + b^2 = c^2$ ), the direct route from Jeff's home to his work can be calculated.  $10^2 + 10^2 = c^2$ .  $200 = c^2$ .  $\sqrt{100} = c$ .  $\sqrt{100}\sqrt{2} = c$ .  $10\sqrt{2} = c$

#### QUESTION 292

Jim leaves his home and walks 10 minutes due west and 5 minutes due south. If Jim could walk a straight line from his current position back to his house, how far, in minutes, is Jim from home?



- A.  $\sqrt{10}$
- B.  $\sqrt{5}$
- C.  $5\sqrt{5}$
- D.  $6\sqrt{6}$

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

By using Pythagorean Theorem, we can solve for the distance “as the crow flies” from Jim to his home:

$$10^2 + 5^2 = x^2$$

$$100 + 25 = x^2$$

$\sqrt{125} = x$  but we still need to factor the square root

$\sqrt{125} = \sqrt{25 \times 5}$  and since the  $\sqrt{25} = 5$ , we can move that outside of the radical, so  $5\sqrt{5} = x$

#### QUESTION 293

A square enclosure has a total area of 3,600 square feet. What is the length, in feet, of a diagonal across the field rounded to the nearest whole number?

- A. 75
- B. 85
- C. 60
- D. 100
- E. 95

**Correct Answer:** B

**Section:** Math

**Explanation**



**Explanation/Reference:**

Explanation:

In order to find the length of the diagonal across a square, we must first find the lengths of the individual sides.

The area of a square is found by multiply the lengths of 2 sides of a square by itself.

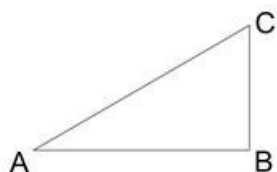
So, the square root of 3,600 comes out to 60 ft.

The diagonal of a square can be found by treating it like a right triangle, and so, we can use the pythagorean theorem for a right triangle.

$$60^2 + 60^2 = C^2 \text{ the square root of } 7,200 \text{ is } 84.8, \text{ which can be}$$

rounded to 85

#### QUESTION 294



If the length of CB is 6 and the angle C measures  $45^\circ$ , what is the length of AC in the given right triangle?

- A.  $6\sqrt{2}$
- B.  $12\sqrt{2}$

C. 72

D. 6E. 9

**Correct Answer:**

**Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Pythagorean Theorem

$$AB^2 + BC^2 = AC^2$$

If C is 45 then A is 45°, therefore AB = BC

$$AB^2 + BC^2 = AC^2$$

$$6^2 + 6^2 = AC^2$$

$$2 \times 6^2 = AC^2$$

$$AC = \sqrt{(2 \times 6^2)} = 6\sqrt{2}$$

#### QUESTION 295

You leave on a road trip driving due North from Savannah, Georgia, at 8am. You drive for 5 hours at 60mph and then head due East for 2 hours at 50mph. After those 7 hours, how far are you Northeast from Savannah as the crow flies (in miles)?

A.  $\sqrt{10000}$

B.  $\sqrt{80000}$

C.  $\sqrt{100000}$

D.  $\sqrt{90000}$

E.  $\sqrt{70000}$

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Distance = hours  $\times$  mph

North Distance = 5 hours  $\times$  60mph = 300 miles

East Distance = 2 hours  $\times$  50mph = 100 miles

Use Pythagorean Theorem to determine Northeast Distance

$$300^2 + 100^2 = NE^2$$

$$90000 + 10000 = 100000 = NE^2$$

$$NE = \sqrt{100000}$$

#### QUESTION 296

A square garden has an area of 49 ft<sup>2</sup>. To the nearest foot, what is the diagonal distance across the garden?

A. 8

B. 7

C. 10

D. 9

E. 11

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Since the garden is square, the two sides are equal to the square root of the area, making each side 7 feet. Then, using the Pythagorean Theorem, set up the equation  $7^2 + 7^2 =$  the length of the diagonal squared. The length of the diagonal is the square root of 98, which is closest to 10.

**QUESTION 297**

A man at the top of a lighthouse is watching birds through a telescope. He spots a pelican 5 miles due north of the lighthouse. The pelican flies due west for 12 miles before resting on a buoy. What is the distance, in miles, from the pelican's current resting spot to the lighthouse?

- A. 10.91
- B. 169
- C. 17
- D. 13
- E. 7

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

We look at the 3 points of interest: the lighthouse, where the pelican started, and where the pelican ended. We can see that if we connect these 3 points with lines, they form a right triangle. (From due north, flying exactly west creates a 90 degree angle.) The three sides of the triangle are 5 miles, 13 miles and an unknown distance. Using the Pythagorean Theorem we get:

$$\begin{aligned} a^2 + b^2 &= c^2 \\ 5^2 + 12^2 &= c^2 \\ 25 + 144 &= c^2 \\ 169 &= c^2 \\ c &= \sqrt{169} \\ c &= 13 \end{aligned}$$

**QUESTION 298**

An airplane is 8 miles west and 15 miles south of its destination. Approximately how far is the plane from its destination, in miles?

- A. 30 miles
- B. 17 miles
- C. 7 miles
- D. 23 miles

**Correct Answer:** B

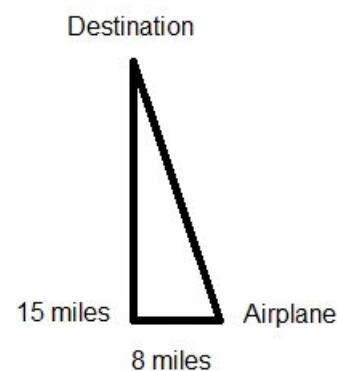
**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

A right triangle can be drawn between the airplane and its destination.



We can solve for the hypotenuse,  $x$ , of the triangle:

$$8^2 + 15^2 = x^2$$

$$64 + 225 = x^2$$

$$289 = x^2$$

$$x = 17 \text{ miles}$$

# **QUESTION 299**

An 8-foot-tall tree is perpendicular to the ground and casts a 6-foot shadow. What is the distance, to the nearest foot, from the top of the tree to the end of the shadow?

- A. 4
- B. 8
- C. 6
- D. 5
- E. 10

**Correct Answer:** E

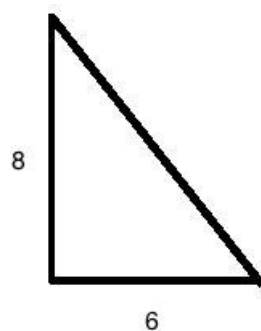
**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

In order to find the distance from the top of the tree to the end of the shadow, draw a right triangle with the height (tree) labeled as 8 and base (shadow) labeled as 6:



From this diagram, you can see that the distance being asked for is the hypotenuse. From here, you can either use the Pythagorean Theorem:  $a^2$

$$+ b^2 = c^2$$

or you can notice that this is similar to a 3-4-5 triangle. Since the lengths are just increased by a factor of 2, the hypotenuse that is normally 5 would be 10.

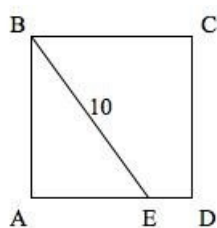
$$8^2 + 6^2 = c^2$$

$$64 + 36 = c^2$$

$$100 = c^2$$

$$10 = c$$

# **QUESTION 300**



In the figure above, ABCD is a square and AE is three times the length of ED. What is the area of ABCD?

- A. 10
- B. 25
- C. 64
- D. 100

E. 36

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Assigning the length of ED the value of  $x$ , the value of AE will be  $3x$ . That makes the entire side AD equal to  $4x$ . Since the figure is a square, all four sides will be equal to  $4x$ . Also, since the figure is a square, then angle A of triangle ABE is a right angle. That gives triangle ABE sides of  $3x$ ,  $4x$  and 10. Using the Pythagorean theorem:  $(3x)^2 + (4x)^2 = 10^2$

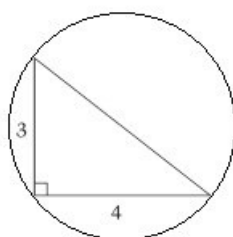
$$9x^2 + 16x^2 = 100$$

$$25x^2 = 100 \quad x^2 =$$

$$4 \quad x = 2$$

With  $x = 2$ , each side of the square is  $4x$ , or 8. The area of a square is length time's width. In this case, that's  $8 \times 8$ , which is 64.

### QUESTION 301



The hypotenuse is the diameter of the circle. Find the area of the circle above.

- A.  $5\pi$
- B.  $6.25\pi$
- C.  $6.75\pi$
- D.  $5.5\pi$
- E.  $6.5\pi$



**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Using the Pythagorean Theorem, we can find the length of the hypotenuse:

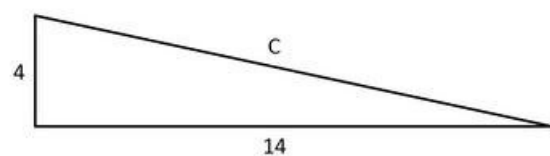
$$3^2 + 4^2 = 5^2$$

Therefore the hypotenuse has length 5.

The area of the circle is  $\pi r^2 = \pi \times 2.5^2 = 6.25\pi$

### QUESTION 302

Find the length of the hypotenuse.



Note: This is a right triangle.

- A. 29
- B. 35

- C.  $2\sqrt{53}$   
 D.  $\sqrt{91}$   
 E.  $4\sqrt{53}$

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

To find the length of this hypotenuse, we need to use the Pythagorean Theorem:

$c^2 = a^2 + b^2$ , where  $a$  and  $b$  are the legs and  $c$  is the hypotenuse.

Here,  $c$  is our missing hypotenuse length,  $a = 4$ , and  $b = 14$ .

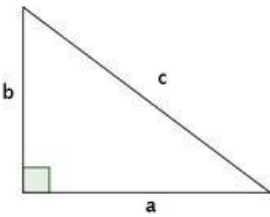
Plug these values in and solve for  $c$ :

$$c^2 = 4^2 + 14^2 = 16 + 196 = 212$$

$$c = \sqrt{212} = \sqrt{4 \times 53} = \sqrt{4}\sqrt{53} = 2\sqrt{53}$$

### QUESTION 303

Side  $a$  in the triangle below (not to scale) is equal to 5. Side  $b$  is equal to 11. What is the length of side  $c$ ?



- A. 146  
 B. 12  
 C.  $\sqrt{135}$   
 D.  $\sqrt{146}$   
 E. 16



**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Use the Pythagorean Theorem:  $a^2 + b^2 = c^2$ , where  $a$  and  $b$  are the legs and  $c$  is the hypotenuse.

We know  $a$  and  $b$ , so we can plug them in to solve for  $c$ :

$$5^2 + 11^2 = c^2$$

$$25 + 121 = c^2$$

$$146 = c^2 \quad c =$$

$$\sqrt{146}$$

**QUESTION 304** Dan drives 5 miles north and then 8 miles west to get to school. If he walks, he can take a direct path from his house to the school, cutting down the distance. How long is the path from Dan's house to his school?

- A. 19 miles  
 B. 9.43 miles  
 C. 89 miles  
 D. 4.36 miles  
 E. 13 miles

**Correct Answer:** B

**Section: Math****Explanation****Explanation/Reference:**

Explanation:

We are really looking for the hypotenuse of a triangle that has legs of 5 miles and 8 miles.  
Apply the Pythagorean Theorem:  $a^2 + b^2 = c^2$   $25 + 64 = c^2$   $89 = c^2$   $c = 9.43$  miles

**QUESTION 305** What is the hypotenuse of a right triangle with side lengths 12 and 16?

- A. 18
- B. 20
- C. 14
- D. 22
- E. 28

**Correct Answer:** B

**Section:** Math

**Explanation****Explanation/Reference:**

Explanation:

The Pythagorean Theorem states that  $a^2 + b^2 = c^2$ . This question gives us the values of  $a$  and  $b$ , and asks us to solve for  $c$ .

Take 12 and 16 and plug them into the equation as  $a$  and  $b$ :

$$12^2 + 16^2 = c^2$$

Now we can start solving for  $c$ :

$$144 + 256 = c^2$$

$$400 = c^2$$

$$\sqrt{400} = \sqrt{c^2}$$

$$20 = c$$

The length of the hypotenuse is 20.

**QUESTION 306** One leg of a triangle measures 12 inches. Which of the following could be the length of the other leg if the hypotenuse is an integer length?

- A. 12 inches
- B. 20 inches
- C. 15 inches
- D. 16 inches
- E. 4 inches

**Correct Answer:** D

**Section:** Math

**Explanation****Explanation/Reference:**

Explanation:



By the Pythagorean Theorem, if  $c$  is the hypotenuse and  $a$  and  $b$  are the legs,  $c = \sqrt{a^2 + b^2}$ . Set

$a = 12$ , the known leg, and rewrite the above as:

$$c = \sqrt{12^2 + b^2}$$

$$c = \sqrt{144 + b^2}$$

We can now substitute each of the five choices for  $b$ ; the one which yields a whole number for  $c$  is the correct answer choice. **b**

**= 4:**

$$c = \sqrt{144 + 4^2} = \sqrt{144 + 16} = \sqrt{160} = 12.64 \dots$$

**b = 12:**

$$c = \sqrt{144 + 12^2} = \sqrt{144 + 144} = \sqrt{288} = 16.97 \dots$$

**b = 15:**

$$c = \sqrt{144 + 15^2} = \sqrt{144 + 225} = \sqrt{369} = 19.20 \dots$$

**b = 16:**

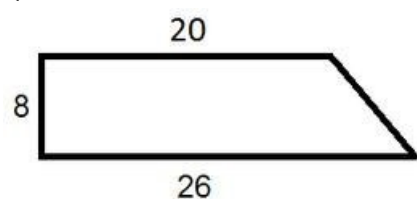
$$c = \sqrt{144 + 16^2} = \sqrt{144 + 256} = \sqrt{400} = 20$$

**b = 20:**

$$c = \sqrt{144 + 20^2} = \sqrt{144 + 400} = \sqrt{544} = 23.32 \dots$$

The only value of  $b$  which yields a whole number for the hypotenuse  $c$  is 16, so this is the one we choose.

#### QUESTION 307



Find the perimeter of the polygon.

- A. 64
- B. 62
- C. 70
- D. 54
- E. 68

**Correct Answer: A**

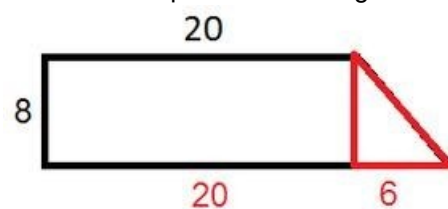
**Section: Math**

**Explanation**

**Explanation/Reference:**

Explanation:

Divide the shape into a rectangle and a right triangle as indicated below.



Find the hypotenuse of the right triangle with the Pythagorean Theorem,  $a^2 + b^2 = c^2$ , where  $a$  and  $b$  are the legs of the triangle and  $c$  is its hypotenuse.

$$(8)^2 + (6)^2 = c^2$$

$$100 = c^2$$



$$\sqrt{100} = \sqrt{c^2}$$

$$c = 10$$

This is our missing length.

Now add the sides of the polygon together to find the perimeter:

$$20 + 10 + 26 + 8 = 64$$

**QUESTION 308** The lengths of the sides of a right triangle are consecutive integers, and the length of the shortest side is  $x$ . Which of the following expressions could be used to solve for  $x$ ?

- A.  $x^2 + (x + 1)^2 = (x + 2)^2$
- B.  $x^2 + (x + 2)^2 = (x + 4)^2$
- C.  $(x)(x + 1) = (x + 2)^2$
- D.  $(x + 2) - (x + 1) = x$
- E.  $x + x - 3 = x$

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Since the lengths of the sides are consecutive integers and the shortest side is  $x$ , the three sides are  $x$ ,  $(x + 1)$ , and  $(x + 2)$ .

We then use the Pythagorean Theorem:  $a^2 + b^2 = c^2$

$$x^2 + (x + 1)^2 = (x + 2)^2$$

**QUESTION 309**

Square PQRS is on the coordinate plane, and each side of the square is parallel to either the  $x$ -axis or  $y$ -axis. Point P has coordinates  $(-2, -1)$  and point R has the coordinates  $(3, 4)$ . Quantity

A:  $5\sqrt{2}$

Quantity B: The distance between points P and R

- A. The two quantities are equal.
- B. The relationship cannot be determined from the information provided.
- C. Quantity B is greater.
- D. Quantity A is greater.

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

To find the distance between points P and R, split the square into two 45-45-90 triangles and find the hypotenuse. The side ratio of the 45-45-90 triangle is  $s : s : s\sqrt{2}$ , so if the sides have a length of 5, the hypotenuse must be  $5\sqrt{2}$ .

**QUESTION 310**

Justin travels 15 feet to the east and 20 feet to the north. How far away from his starting point is he now?

- A. 45ft
- B. 30ft
- C. 35ft
- D. 22ft
- E. 25ft

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

This is solving for the hypotenuse of a triangle. Using the Pythagorean Theorem, which says that  $a^2 + b^2 = c^2$

$$15^2 + 20^2 = c^2$$

$$225 + 400 = c^2$$

$$625 = c^2$$

$$25 = c$$

#### QUESTION 311

Susie walks north from her house to a park that is 30 meters away. Once she arrives at the park, she turns and walks west for 80 meters to a bench to feed some pigeons. She then walks north for another 30 meters to a concession stand. If Susie returns home in a straight line from the concession stand, how far will she walk from the concession stand to her house, in meters?

- A. 100
- B. 200
- C. 25D. 70
- E. 50

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Susie walks 30 meters north, then 80 meters west, then 30 meters north again. Thus, she walks 60 meters north and 80 meters west. These two directions are 90 degrees away from one another.

At this point, construct a right triangle with one leg that measures 60 meters and a second leg that is 80 meters.

You can save time by using the 3:4:5 common triangle. 60 and 80 are  $3 \times 20$  and  $4 \times 20$ , respectively, making the hypotenuse equal to  $5 \times 20 = 100$ . We can solve for the length of the missing hypotenuse by applying the Pythagorean theorem:

$$a^2 + b^2 = c^2$$

Substitute the following known values into the formula and solve for the missing hypotenuse: side  $c$ .  $a$

$$= 60, b = 80, c = ?$$

$$(60)^2 + (80)^2 = c^2$$

$$3600 + 6400 = c^2$$

$$10,000 = c^2$$

$$c = 100$$

Susie will walk 100 meters to reach her house.

#### QUESTION 312

The lengths of the sides of a triangle are consecutive odd numbers and the triangle's perimeter is 57 centimeters. What is the length, in centimeters, of its longest side?

- A. 25
- B. 23
- C. 19
- D. 21
- E. 17

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

First, define the sides of the triangle. Because the side lengths are consecutive odd numbers, if we define the shortest side will be as  $x$ , the next side will be defined as  $x + 2$ , and the longest side will be defined as  $x + 4$ . We can then find the perimeter of a triangle using the following formula:

Perimeter = side + side + side

Substitute in the known values and variables.

Perimeter =  $x + (x + 2) + (x + 4)$

$57 = 3x + 6$

Subtract 6 from both sides of the equation.

$57 - 6 = 3x + 6 - 6$

$51 = 3x$

Divide both sides of the equation by 3.

$\frac{51}{3} = \frac{3x}{3}$

Solve.

$x = 17$

This is not the answer; we need to find the length of the longest side, or  $x + 4$ .

Longest side =  $x + 4$

Substitute in the calculated value for  $x$  and solve.

Longest side =  $17 + 4$ .

Longest side = 21

The longest side of the triangle is 21 centimeters long.

### QUESTION 313

Each of the following answer choices lists the side lengths of a different triangle. Which of these triangles does not have a right angle?

A. 2, 2,  $2\sqrt{2}$

B. 9, 12, 15

C. 6, 7, 12

D. 5, 12, 13

**Correct Answer:** C

**Section:** Math

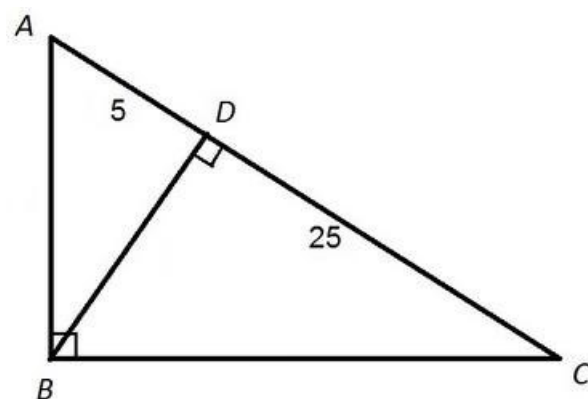
**Explanation**

**Explanation/Reference:**

Explanation:

6, 7, 12 cannot be the side lengths of a right triangle.  $6^2 + 7^2$  does not equal  $12^2$ . Also, special right triangle 3 – 4 – 5, 5 – 12 – 13, and 45–45–90 rules can eliminate all the other choices.

### QUESTION 314



Note: Figure NOT drawn to scale.

Refer to the above diagram. Give the ratio of the perimeter of  $\triangle BDC$  to that of  $\triangle ADB$ .

A.  $5 \div 1$

B.  $\sqrt{6} \div 1$

C.  $\sqrt{5} \div 1$

D.  $2 \div 1$

E.  $4 \div 1$

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The altitude of a right triangle from the vertex of its right triangle to its hypotenuse divides it into two similar triangles.

BD, as the length of the altitude corresponding to the hypotenuse, is the geometric mean of the lengths of the parts of the hypotenuse it forms; that is, it is the square root of the product of the two:

$$BD = \sqrt{(AD)(DC)} = \sqrt{5 \times 25} = \sqrt{125} = 5\sqrt{5}$$

The ratio of the smaller sides of these similar triangles is

The ratio of the smaller side of  $\triangle BDC$  to that of  $\triangle ADB$  is

$$\frac{BD}{AD} = \frac{5\sqrt{5}}{5} = \frac{\sqrt{5}}{1} \text{ or } 5:1,$$

so this is also the ratio of the perimeter of  $\triangle BDC$  to that of  $\triangle ADB$ .

### QUESTION 315

The perimeter of a right triangle is 40 units. If the lengths of the sides are  $x$ ,  $2x - 1$ , and  $x + 9$  units, then what is the area of the triangle?

A. 136 units<sup>2</sup>

B. 255 units<sup>2</sup>

C. 215 units<sup>2</sup>

D. 60 units<sup>2</sup>

E. 68 units<sup>2</sup>

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Because the perimeter is equal to the sum of the lengths of the three sides of a triangle, we can add the three expressions for the lengths and set them equal to 40. Perimeter:

$$P = x + (2x - 1) + (x + 9) = 40 \text{ Simplify}$$

the  $x$  terms.

$$4x - 1 + 9 = 40$$

Simplify the constants.

$$4x + 8 = 40$$

Subtract 8 from both sides.

$$4x = 32$$

Divide by 4

$$x = 8$$

One side is 8.

The second side is

$$2x - 1 = 2(8) - 1 = 15.$$

The third side is  $x + 9$

$$= 8 + 9 = 17.$$

Thus, the sides of the triangle are 8, 15, and 17.

The question asks us for the area of the triangle, which is given by the formula  $(1/2)bh$ . We are told it is a right triangle, so we can use one of the legs as the base, and the other leg as the height, since the legs will intersect at right angles.

The legs of the right triangle must be the smallest sides (the longest must be the hypotenuse), which in this case are 8 and 15. So, let's assume that 8 is the base and 15 is the height. The area of a triangle is  $(1/2)bh$ . We can substitute 8 and 15 for  $b$  and  $h$ .

$$\text{Area} = \frac{1}{2}(8)(15) = 4(15) = 60.$$

The answer is 60 units squared.

# QUESTION 316

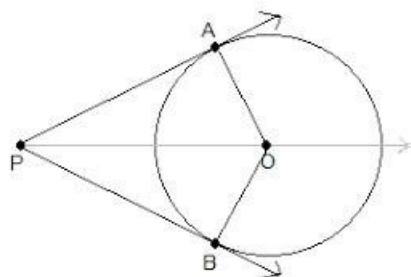


Figure not drawn to scale.

In the figure above, rays PA and PB are tangent to circle O at points A and B, respectively. If the diameter of circle O is 16 units and the length of line segment PO is 17 units, what is the area, in square units, of the quadrilateral PAOB?

- A. 60
- B. 120
- C. 68
- D. 240
- E. 136

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Because PA and PB are tangent to circle O, angles PAO and PBO must be right angles; therefore, triangles PAO and PBO are both right triangles.

Since AO and OB are both radii of circle O, they are congruent. Furthermore, because PA and PB are external tangents originating from the same point, they must also be congruent.

So, in triangles PAO and PBO, we have two sides that are congruent, and we have a congruent angle (all right angles are congruent) between them. Therefore, by the Side-Angle-Side (SAS) Theorem of congruency, triangles PAO and PBO are congruent.

Notice that quadrilateral PAOB can be broken up into triangles PAO and PBO. Since those triangles are congruent, each must comprise one half of the area of quadrilateral PAOB. As a result, if we find the area of one of the triangles, we can double it in order to find the area of the quadrilateral.

Let's determine the area of triangle PAO. We have already established that it is a right triangle. We are told that PO, which is the hypotenuse of the triangle, is equal to 17. We are also told that the diameter of circle O is 16, which means that every radius of the circle is 8, because a radius is half the size of a diameter. Since segment AO is a radius, its length must be 8.

So, triangle PAO is a right triangle with a hypotenuse of 17 and a leg of 8. We can use the Pythagorean Theorem in order to find the other leg. According to the Pythagorean Theorem, if a and b are the lengths of the legs of a right triangle, and c is the length of the hypotenuse, then:

$$a^2 + b^2 = c^2$$

Let us let b represent the length of PA.

$$8^2 + b^2 = 17^2$$

$$64 + b^2 = 289$$

Subtract 64 from both sides.

$$b^2 = 225$$

Take the square root of both sides.

$$b = 15$$

This means that the length of PA is 15.

Now let's apply the formula for the area of a right triangle. Because the legs of a right triangle are perpendicular, one can be considered the base, and the other can be considered the height of the triangle. area

of triangle PAO =  $(\frac{1}{2})bh$

$$= (\frac{1}{2})(8)(15) = 60$$

Ultimately, we must find the area of quadrilateral PAOB; however, we previously determined that triangles PAO and PBO each comprise half of the quadrilateral. Thus, if we double the area of PAO, we would get the area of quadrilateral PAOB.

Area of PAOB = 2(area of PAO)

$$= 2(60) = 120 \text{ square units}$$

The answer is 120.

# QUESTION 317

If the hypotenuse of a triangle is 5 meters, which of the following is the closest value to the area of the triangle?

- A. 45
- B. 5
- C. 12
- D. 26 E. 54

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The answer is 12. In this circumstance, the area of the triangle cannot be smaller than its hypotenuse length, and cannot be bigger than its hypotenuse squared (that would be the area of a square).

**QUESTION 318** Triangle ABC is drawn between the points A(4, 3), B(4, 8), and C(7, 3). What is the area of ABC?

- A.  $\frac{15}{2}$
- B. 12
- C. 20
- D. 40
- E. 32

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Drawing a quick sketch of this triangle will reveal that it is a right triangle. The lines AB and AC form the height and base of this triangle interchangeably, depending on how you look at it.

Either way the formula for the area of the triangle is the distance from A to B multiplied by the distance from A to C, divided by 2. This is  $\frac{5 \times 3}{2} = \frac{15}{2}$

**QUESTION 319**

A right triangle has a total perimeter of 12, and the length of its hypotenuse is 5. What is the area of this triangle?

- A. 12
- B. 6
- C. 15
- D. 10
- E. 3

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The area of a triangle is denoted by the equation  $\frac{1}{2}b \times h$ .

$b$  stands for the length of the base, and  $h$  stands for the height.

Here we are told that the perimeter (total length of all three sides) is 12, and the hypotenuse (the side that is neither the height nor the base) is 5 units long.

So,  $12 - 5 = 7$  for the total perimeter of the base and height.

7 does not divide cleanly by two, but it does break down into 3 and 4,  
and  $1/2 (3 \times 4)$  yields 6.

Another way to solve this would be if you recall your rules for right triangles, one of the very basic ones is the 3,4,5 triangle, which is exactly what we have here.

#### QUESTION 320

The ratio for the side lengths of a right triangle is 3:4:5. If the perimeter is 48, what is the area of the triangle?

- A. 240
- B. 48
- C. 50
- D. 108
- E. 96

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

We can model the side lengths of the triangle as  $3x$ ,  $4x$ , and  $5x$ . We know that perimeter is  $3x + 4x + 5x = 48$ , which implies that  $x = 4$ . This tells us that the legs of the right triangle are  $3x = 12$  and  $4x = 16$ , therefore the area is  $A = 1/2bh = (1/2)(12)(16) = 96$ .

**QUESTION 321** The length of one leg of an equilateral triangle is 6. What is the area of the triangle?

- A. 30
- B. 36
- C. 24
- D. 12
- E.  $9\sqrt{3}$

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

$$A = \frac{1}{2}(B)(H)$$

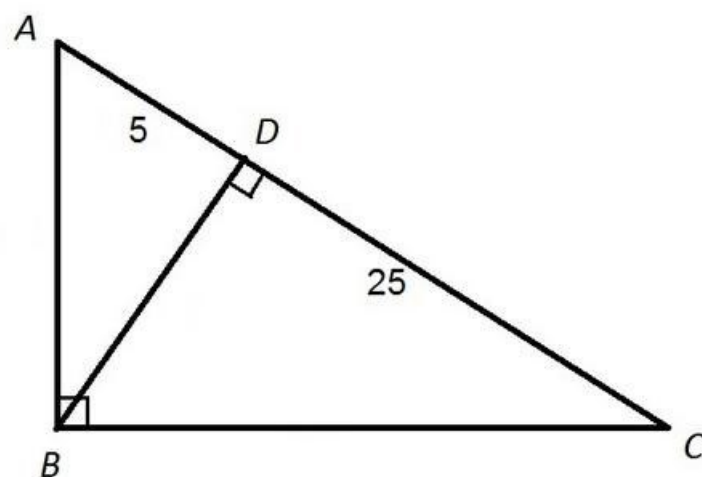
The base is equal to 6.

The height of an equilateral triangle is equal to  $\frac{B\sqrt{3}}{2}$ , where B is the length of the base.

$$A = \frac{1}{2}(6)\left(\frac{6\sqrt{3}}{2}\right) = \frac{1}{2}(6)(3\sqrt{3}) = 9\sqrt{3}$$

#### QUESTION 322





Note: Figure NOT drawn to scale.

Refer to the above diagram. In terms of area,  $\triangle ADB$  is what fraction of  $\triangle ABC$ ?

- A.  $\frac{1}{4}$
- B. Insufficient information is given to answer the question.
- C.  $\frac{1}{6}$
- D.  $\frac{1}{5}$
- E.  $\frac{2}{5}$



**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The area of a triangle is half the product of its base and its height.

The area of  $\triangle ADB$  is

$$\frac{1}{2}(AD)(DB) = \frac{1}{2} \times 5(DB) = 2.5(DB)$$

The area of  $\triangle ABC$  is

$$\frac{1}{2}(AC)(DB) = \frac{1}{2} \times 30(DB) = 15(DB)$$

$$\text{Therefore, } \triangle ADB \text{ is } \frac{2.5 \times DB}{15 \times DB} = \frac{2.5}{15} = \frac{2.5 \div 2.5}{15 \div 2.5} = \frac{1}{6} \text{ of } \triangle ABC$$

Note that actually finding the measure of DB is not necessary.

### QUESTION 323

You are given triangles  $\triangle MNO$  and  $\triangle PQR$ , with angle N and angle Q both right angles, and  $MN = PQ$ . Which of these statements, along with what you are given, is not enough to prove that  $\triangle MNO \cong \triangle PQR$ ??

- I)  $MO = PR$
- II)  $\angle O \cong \angle R$
- III)  $\triangle MNO$  and  $\triangle PQR$  have the same area.

A. None of the three statements is enough to prove congruence.



- B. Statement I only  
 C. Any of the three statements is enough to prove congruence.  
 D. Statement II only  
 E. Statement III only

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

MN = PQ, and the right angles are angle N and angle Q, so we have two right triangles with congruent legs.

If we also know that MO = PR, then the hypotenuses of the right triangles are also congruent, and this sets up the conditions of the Hypotenuse-Leg Theorem.

If we also know that  $\angle O \cong \angle R$ , then, along with the fact that  $\angle N \cong \angle Q$  (both being right angles) and nonincluded sides MN = PQ, the conditions of the Angle-Angle-Side Theorem are set up.

If we also know  $\triangle MNO$  and  $\triangle PQR$  have the same area, we can demonstrate that the other legs are congruent. The area of a right triangle is half the product of its legs, and since we have the same areas,

$$\frac{1}{2}(MN)(NO) = \frac{1}{2}(PQ)(QR)$$

$$2 \times \frac{1}{2}(MN)(NO) = 2 \times \frac{1}{2}(PQ)(QR)$$

$$(MN)(NO) = (PQ)(QR)$$

Since MN = PQ,

$$\frac{(MN)(NO)}{MN} = \frac{(PQ)(QR)}{PQ}$$

$$NO = QR$$

The legs and the included angles (the right angles) are congruent, thus setting up the conditions for the Angle-Side-Angle Postulate.

In all three cases, congruence follows, so the correct response is "Any of the three statements is enough to prove congruence."

**QUESTION 324** Acute angles x and y are inside a right triangle. If x is four less than one third of 21, what is y?

- A. 18  
 B. 3  
 C. 87  
 D. 7  
 E. 90

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

We know that the sum of all the angles must be 180 and we already know one angle is 90, leaving the sum of x and y to be 90. Solve for x to find y. One third of 21 is 7. Four less than 7 is 3. So if angle x is 3 then that leaves 87 for angle y.

**QUESTION 325** If a right triangle has one leg with a length of 4 and a hypotenuse with a length of 8, what is the measure of the angle between the hypotenuse and its other leg?

- A. 90  
 B. 45  
 C. 65  
 D. 30  
 E. 60

**Correct Answer:** D

**Section:** Math

**Explanation**

# Explanation/Reference:

Explanation:

The first thing to notice is that this is a  $30^\circ:60^\circ:90^\circ$  triangle. If you draw a diagram, it is easier to see that the angle that is asked for corresponds to the side with a length of 4. This will be the smallest angle. The correct answer is 30.

## QUESTION 326

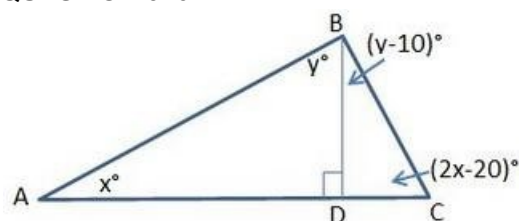


Figure not drawn to scale.

In the figure above, what is the positive difference, in degrees, between the measures of angle ACB and angle CBD?

- A. 20
- B. 50
- C. 40
- D. 30
- E. 10

**Correct Answer:** E

**Section:** Math

**Explanation**

# Explanation/Reference:

Explanation:

In the figure above, angle ADB is a right angle. Because side AC is a straight line, angle CDB must also be a right angle.

Let's examine triangle ADB. The sum of the measures of the three angles must be 180 degrees, and we know that angle ADB must be 90 degrees, since it is a right angle. We can now set up the following equation.  $x$

$$x + y + 90 = 180$$

Subtract 90 from both sides.

$$x + y = 90$$

Next, we will look at triangle CBD. We know that angle CDB is also 90 degrees, so we will write the following equation:

$$y - 10 + 2x - 20 + 90 = 180$$

$$y + 2x + 60 = 180$$

Subtract 60 from both sides.

$$y + 2x = 120$$

We have a system of equations consisting of  $x + y = 90$  and  $y + 2x = 120$ . We can solve this system by solving one equation in terms of  $x$  and then substituting this value into the second equation. Let's solve for  $y$  in the equation  $x + y = 90$ .

$$x + y = 90$$

Subtract  $x$  from both sides.

$$y = 90 - x$$

Next, we can substitute  $90 - x$  into the equation  $y + 2x = 120$ .

$$(90 - x) + 2x = 120$$

$$90 + x = 120$$

$$120 - 90 = 30$$

$$x = 30$$

Since  $y = 90 - x$ ,  $y = 90 - 30 = 60$ .

The question ultimately asks us to find the positive difference between the measures of ACB and CBD. The measure of ACB =  $2x - 20 = 2(30) - 20 = 40$  degrees. The measure of CBD =  $y - 10 = 60 - 10 = 50$  degrees. The positive difference between 50 degrees and 40 degrees is 10. The answer is 10.

## QUESTION 327

Which of the following sets of line-segment lengths can form a triangle?

- A. 7,9,16

- B. 5,12,17
- C. 5,12,13
- D. 2,3,5
- E. 10,15,25

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

In any given triangle, the sum of any two sides is greater than the third. The incorrect answers have the sum of two sides equal to the third.

#### QUESTION 328

In right  $\triangle ABC$ , angle  $ABC = 2x$  and  $\angle BCA = \frac{x}{2}$ . What is the value of  $x$ ?

- A. 30
- B. 32
- C. 24
- D. 48
- E. 36

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

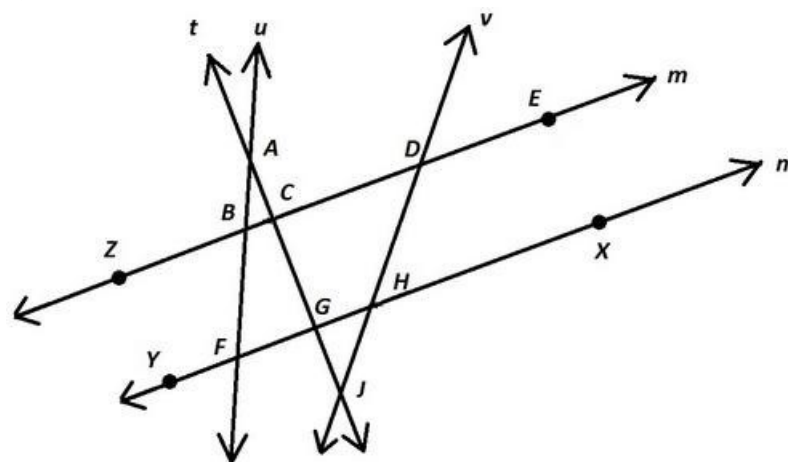
Explanation:

There are 180 degrees in every triangle. Since this triangle is a right triangle, one of the angles measures 90 degrees.

Therefore,  $90 + 2x + \frac{x}{2} = 180$ .

$90 = 2.5x$   $x = 36$

#### QUESTION 329



Refer to the above diagram. Which of the following gives a valid alternative name for  $\triangle AGF$ ?

- A. All four of the other choices gives a valid alternative name for the triangle.
- B.  $\triangle GAF$
- C.  $\triangle GFA$  D.  $\triangle FGA$  E.  $\triangle AFG$

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

A triangle can be named after its three vertices in any order, so all of the choices given are valid.

**QUESTION 330** Which of the following describes a triangle with sides of length one meter, 100 centimeters, and 10 decimeters?

- A. The triangle is equilateral and acute.
- B. The triangle cannot exist.
- C. The triangle is scalene and acute.
- D. The triangle is scalene and right.
- E. The triangle is scalene and obtuse.

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

One meter, 100 centimeters, and 10 decimeters are all equal to the same quantity. This makes the triangle equilateral and, subsequently, acute.

**QUESTION 331** Two triangles have the same area. One is an equilateral triangle. The other is a right triangle with hypotenuse 12 and one leg of length 8. Give the sidelength of the equilateral triangle to the nearest tenth.

- A. 12.9
- B. 27.2
- C. 10.5
- D. 10.1
- E. 9.1

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

A right triangle with hypotenuse 12 and leg 8 also has leg

$$a = \sqrt{12^2 - 8^2} = \sqrt{144 - 64} = \sqrt{80} \approx 8.944$$

The area of a right triangle is half the product of its legs, so this right triangle has area

$$A \approx \frac{1}{2} \times 8 \times 8.944 \approx 35.777,$$

which is also the area of the given equilateral triangle.

The area of an equilateral triangle is given by the formula

$$A = \frac{s^2\sqrt{3}}{4}$$

so if we set  $A \approx 35.777$ , we can solve for  $s$ :

$$\frac{s^2\sqrt{3}}{4} \approx 35.777$$

$$s^2 \approx 35.777 \times \frac{4}{\sqrt{3}} \approx 35.777 \times \frac{4}{1.732} \approx 82.623$$

$s \approx \sqrt{82.623} \approx 9.090$  The correct choice is 9.1.

### QUESTION 332

An equilateral triangle has the same area as a circle with circumference 100. To the nearest tenth, give the sidelength of the triangle. A.

42.9

B. 60.6

C. 269.4

D. 47.4

E. 67.1

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The circle with circumference 100 has radius

$$r = \frac{C}{2\pi} = \frac{100}{2\pi} = \frac{50}{\pi}$$

Its area is

$$A = \pi r^2 = \pi \left(\frac{50}{\pi}\right)^2$$

$$A = \pi \times \frac{2,500}{\pi^2}$$

$$A = \frac{2,500}{\pi}$$

$$= \pi \times$$

We can substitute this for  $A$  in the equation for the area of an equilateral triangle, and solve for  $s$ :

$$\frac{s^2\sqrt{3}}{4} = A$$

$$\frac{s^2\sqrt{3}}{4} = \frac{2,500}{\pi}$$

$$\frac{s^2\sqrt{3}}{4} \times \frac{4}{\sqrt{3}} = \frac{2,500}{\pi} \times \frac{4}{\sqrt{3}}$$

$$s^2 = \frac{2,500}{\pi} \times \frac{4}{\sqrt{3}} \approx \frac{10,000}{3.14159 \times 1.732} \approx 1,837.76$$

$$s \approx \sqrt{1,837.76} \approx 42.9$$

The correct response is 42.9.

**QUESTION 333** Two triangles have the same area. One is an equilateral triangle. The other is an isosceles right triangle with hypotenuse  $x$ . Give the sidelength of the equilateral triangle in terms of  $x$ .

$$\frac{x}{\sqrt{2}}$$

$$\frac{x}{\sqrt{3}}$$

$$\frac{x}{\sqrt{3}}$$

$$\frac{x}{\sqrt{2}}$$

$$\frac{x}{3}$$

A.

B.

C.



D.

E.

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

An isosceles right triangle is also a  $45^\circ-45^\circ-90^\circ$  triangle, whose legs each measure the length of the hypotenuse divided by  $\sqrt{2}$ . Therefore, since the hypotenuse measures  $x$ , each leg measures  $\frac{x}{\sqrt{2}}$ . The area of a right triangle is half the product of its legs, so this right triangle has area

$$A = \frac{1}{2} \times \frac{x}{\sqrt{2}} \times \frac{x}{\sqrt{2}} = \frac{x^2}{4}$$

The area of an equilateral triangle is given by the formula

$$A = \frac{s^2\sqrt{3}}{4},$$

$$\text{so set } A = \frac{x^2}{4}$$

$$\frac{s^2\sqrt{3}}{4} = \frac{x^2}{4}$$

$$\frac{s^2\sqrt{3}}{4} \times \frac{4}{\sqrt{3}} = \frac{x^2}{4} \times \frac{4}{\sqrt{3}}$$

$$s^2 = \frac{x^2}{\sqrt{3}}$$

$$s = \sqrt{\frac{x^2}{\sqrt{3}}}$$

$$s = \frac{x}{\sqrt[4]{3}}$$

and solve for  $s$ :



**QUESTION 334** Two triangles have the same area. One is an equilateral triangle. The other is a  $30^\circ-60^\circ-90^\circ$  right triangle with hypotenuse  $x$ . Give the sidelength of the equilateral triangle in terms of  $x$ .

$$\frac{x\sqrt{2}}{2}$$

$$\frac{x}{2}$$

$$\frac{x}{3}$$

$$\frac{x\sqrt{3}}{3}$$

$$\frac{x\sqrt{6}}{2}$$

A.

B.

C.

D.

E.

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

A 30°–60°–90° right triangle has a short leg half as long as its hypotenuse  $x$ , which is  $\frac{x}{2}$ . Its long leg is  $\sqrt{3}$  times as long as its short leg, which will be  $\frac{x\sqrt{3}}{2}$ . Its area is half the product of its legs, so the area will be  $A = \frac{1}{2} \times \frac{x}{2} \times \frac{x\sqrt{3}}{2} = \frac{x^2\sqrt{3}}{8}$ . The area of an equilateral triangle is given by the formula

$$A = \frac{s^2\sqrt{3}}{4}$$

$$A = \frac{x^2\sqrt{3}}{8}$$

so set

$$\frac{s^2\sqrt{3}}{4} = \frac{x^2\sqrt{3}}{8}$$

$$\frac{s^2\sqrt{3}}{4} \times \frac{4}{\sqrt{3}} = \frac{x^2\sqrt{3}}{8} \times \frac{4}{\sqrt{3}}$$

$$s^2 = \frac{x^2}{2}$$

$$s = \sqrt{\frac{x^2}{2}}$$

$$s = \frac{x}{\sqrt{2}} = \frac{x\sqrt{2}}{2}$$

and solve for  $s$ :

**QUESTION 335**

A square and an equilateral triangle have the same area. Call the side length of the square  $x$ . Give the side length of the equilateral triangle in terms of  $x$ .

A.  $2x\sqrt{3}$

B.  $\frac{4x}{\sqrt{3}}$

$\frac{4x}{\sqrt{3}}$

$\frac{2x}{\sqrt{3}}$

$\frac{2x}{\sqrt{3}}$

C.

D.

E.

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The area of a square is  $A = s^2$  where  $s$  represents the side length. In our case the side length is  $x$  therefore, the area of the square is  $x^2$ ; this will also be the area of the equilateral triangle. The formula for the area of an equilateral triangle with sidelength  $s$  is

$$A = \frac{s^2\sqrt{3}}{4}$$

If we let  $A = x^2$ , we can solve for  $s$  in the equation:

$$\frac{s^2\sqrt{3}}{4} = x^2$$

$$s^2 = \frac{4x^2}{\sqrt{3}}$$

$$s = \sqrt{\frac{4x^2}{\sqrt{3}}}$$

$$s = \frac{\sqrt{4x^2}}{\sqrt{\sqrt{3}}}$$

$$s = \frac{2x}{\sqrt[4]{3}}$$

which is the correct response.

### QUESTION 336

A regular hexagon and an equilateral triangle have the same area. Call the side length of the hexagon  $x$ . Give the side length of the equilateral triangle in terms of  $x$ .

- A.  $x\sqrt{3}$
- B.  $6x$
- C.  $2x$
- D.  $x\sqrt{6}$
- E.  $3x$

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

A regular hexagon can be divided by its three diameters into six congruent equilateral triangles. Since each triangle will have sidelength  $x$ , each will have area equal to

$$A' = \frac{x^2\sqrt{3}}{4}$$

Multiply by 6 to get the area of the hexagon:

$$A = 6A' = 6 \times \frac{x^2\sqrt{3}}{4} = \frac{3x^2\sqrt{3}}{2}$$

We can substitute this for  $A$  in the equation for the area of an equilateral triangle, and solve for  $s$ :

$$\frac{s^2\sqrt{3}}{4} = A$$

$$\frac{s^2\sqrt{3}}{4} = \frac{3x^2\sqrt{3}}{2}$$

$$\frac{s^2\sqrt{3}}{4} \times \frac{4}{\sqrt{3}} = \frac{3x^2\sqrt{3}}{2} \times \frac{4}{\sqrt{3}}$$

$$s^2 = 6x^2$$

$$s = \sqrt{6x^2} = x\sqrt{6}, \text{ the correct response.}$$

**QUESTION 337** The area of square ABCD is 50% greater than the perimeter of the equilateral triangle EFG. If the area of square ABCD is equal to 45, then what is the area of EFG?

- A.  $50\sqrt{3}$
- B. 30
- C. 25
- D. 50
- E.  $25\sqrt{3}$

**Correct Answer:** E

**Section:** Math

**Explanation**



**Explanation/Reference:**

Explanation:

If the area of ABCD is equal to 45, then the perimeter of EFG is equal to  $x \times 1.5 = 45$ .  $45/1.5 = 30$ , so the perimeter of EFG is equal to 30. This means that each side is equal to 10.

The height of the equilateral triangle EFG creates two 30–60–90 triangles, each with a hypotenuse of 10 and a short side equal to 5. We know that the long side of 30–60–90 triangle (here the height of EFG) is equal to  $\sqrt{3}$  times the short side, or  $5\sqrt{3}$ .

We then apply the formula for the area of a triangle, which is  $\frac{1}{2} \times b \times h$ . We get  $\frac{1}{2} \times 10 \times 5\sqrt{3} = 5 \times 5\sqrt{3} = 25\sqrt{3}$

In general, the height of an equilateral triangle is equal to  $\sqrt{3}/2$  times a side of the equilateral triangle. The area of an equilateral triangle is equal to  $\frac{1}{2} \times \sqrt{3}s/2 \times s = \sqrt{3}s^2/4$ .

**QUESTION 338** What is the area of an equilateral triangle with sides 12cm?

- A.  $18\sqrt{3}$
- B.  $36\sqrt{3}$
- C.  $72\sqrt{3}$
- D.  $12\sqrt{2}$
- E.  $54\sqrt{2}$

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

An equilateral triangle has three congruent sides and results in three congruent angles. This figure results in two special right triangles back to back: 30°–60°–90° giving sides of  $x - x\sqrt{3} - 2x$  in general. The height of the triangle is the  $x\sqrt{3}$  side. So  $A_{\text{triangle}} = \frac{1}{2}bh = \frac{1}{2} \times 12 \times 6\sqrt{3} = 36\sqrt{3} \text{ cm}^2$ .

**QUESTION 339** An equilateral triangle has a perimeter of 18. What is its area?

- A. 36
- B.  $9\sqrt{2}$
- C.  $9\sqrt{3}$
- D. 18
- E.  $18\sqrt{3}$

**Correct Answer:** C

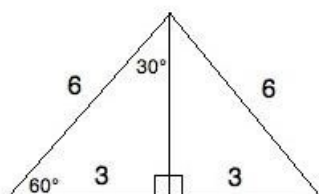
**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Recall that an equilateral triangle also obeys the rules of isosceles triangles. That means that our triangle can be represented as having a height that bisects both the opposite side and the angle from which the height is "dropped." For our triangle, this can be represented as:



Now, although we do not yet know the height, we do know from our 30–60–90 regular triangle that the side opposite the 60° angle is  $\sqrt{3}$  times the length of the side across from the 30° angle. Therefore, we know that the height is  $3\sqrt{3}$ .

Now, the area of a triangle is  $(\frac{1}{2})bh$ . If the height is  $3\sqrt{3}$  and the base is 6, then the area is  $(\frac{1}{2}) \times 6 \times 3\sqrt{3} = 3 \times 3\sqrt{3} = 9\sqrt{3}$

**QUESTION 340** What is the area of an equilateral triangle with sides each length 10?

- A.  $25\sqrt{2}$

- B. 25
- C.  $50\sqrt{3}$
- D.  $25\sqrt{3}$
- E. 50

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Vertical height line will divide the triangle into two congruent 30–60–90 triangles with hyp = 10 and short leg = 5. Use reference table or Pythagorean theorem to find height =  $5\sqrt{3}$

$$A = \frac{1}{2}bh, b = 10, h = 5\sqrt{3}$$

$$A = \frac{1}{2}(10)5\sqrt{3} = 25\sqrt{3}$$

**QUESTION 341** A triangle has a base of 5cm and an area of 15cm. What is the height of the triangle?

- A. 5cm
- B. None of the above
- C. 6cm
- D. 3cm
- E. 1.5cm

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The area of a triangle is  $(1/2) \times \text{base} \times \text{height}$ . We know that the area = 15cm, and the base is 5cm, so:

$$15 = 1/2 \times 5 \times \text{height}$$

$$3 = 1/2 \times \text{height}$$

$$6 = \text{height}$$

**QUESTION 342**

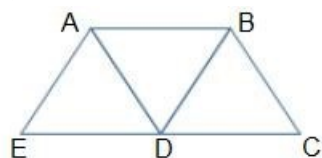


Figure not to scale.

In the figure above,  $AB = AD = AE = BD = BC = CD = DE = 1$ . What is the distance from A to C?

- A. 2
- B.  $\sqrt{3}$
- C.  $\sqrt{2}$
- D.  $\frac{1}{2}$
- E. 1

**Correct Answer:** B

**Section:** Math

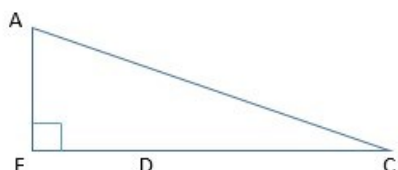
**Explanation**

**Explanation/Reference:**

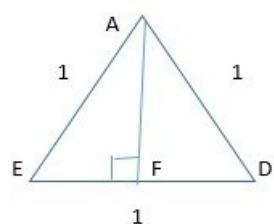
Explanation:

Since all AB, AD, AE, BD, BC, CD, and DE are all equal in length, triangles ADE, ADB, and BDC must all be equilateral.

In order to find the length from A to C, it will help use to construct a right triangle with hypotenuse AC. In order to make a right angle, we can draw a line from A that is perpendicular to ED and intersects ED at F. Thus, triangle AFC will look like the figure below. Keep in mind that D is in between F and C.

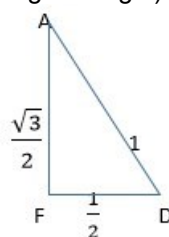


In order to find AC, we can find the lengths of AF and FC, and then apply the Pythagorean Theorem. Let's look at triangle AED. We will draw the segment AF, which is perpendicular to ED.

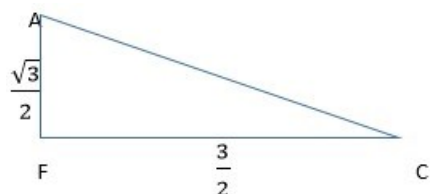


Since triangle AED is equilateral, each of its angles is 60 degrees, and each of its side has a length of 1. In addition, because AF is perpendicular to ED, it both bisects angle EAD and segment ED. In any isosceles triangle, the angle bisector between two congruent sides is both perpendicular to the opposite side and cuts it in half.

Because AF is an angle bisector, this means angle FAD must be 30 degrees. We know that AFD is a right angle, so this means triangle AFD is a special 30–60–90 degree triangle. In a 30–60–90 triangle, the shortest leg (across from the thirty degree angle) is one-half the hypotenuse, and the other leg is equal to the length of the smaller leg times the square root of three. We will depict this relationship below:



We now know that the length of AF is  $\frac{\sqrt{3}}{2}$ . The length of FD is  $\frac{1}{2}$ , which means that the length of FC is  $\frac{3}{2}$ , because we must add the lengths of FD and DC, whose length is 1, in order to get the length of FC. We can now draw the triangle AFC again.



Finally, we will use the Pythagorean Theorem in order to find the length of AC. The Pythagorean Theorem states that, if  $a$  and  $b$  are the lengths of the legs of a right triangle, and  $c$  is the length of its hypotenuse, then  $a^2 + b^2 = c^2$ . We will apply this formula to the lengths of AF, FC, and AC.

$$(AF)^2 + (FC)^2 = (AC)^2$$

$$\left(\frac{\sqrt{3}}{2}\right)^2 + \left(\frac{3}{2}\right)^2 = (AC)^2$$

$$\frac{3}{4} + \frac{9}{4} = (AC)^2$$

$$\frac{12}{4} = 3 = (AC)^2$$

$$AC = \sqrt{3}$$

The answer is  $\sqrt{3}$ .

**QUESTION 343** A triangle has sides of 5, 9, and  $x$ . Which of the following CANNOT be a possible value of  $x$ ?

- A. 5
- B. 6
- C. 7
- D. 3
- E. 4

**Correct Answer:** D

**Section:** Math

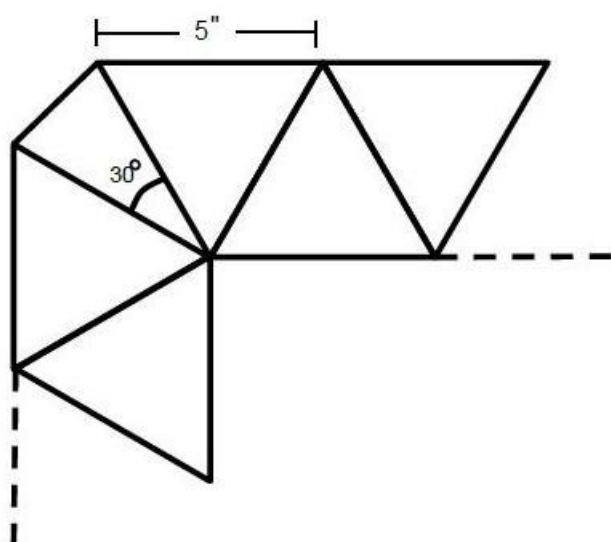
**Explanation**

**Explanation/Reference:**

Explanation:

The sum of the lengths of the shortest sides of a triangle cannot be less than the third side.  
 $3 + 5 = 8 < 9$ , so 3 can't be a value of  $x$ .

**QUESTION 344**



A square rug border consists of a continuous pattern of equilateral triangles, with isosceles triangles as corners, one of which is shown above. If the length of each equilateral triangle side is 5 inches, and there are 40 triangles in total, what is the total perimeter of the rug?

The inner angle of the corner triangles is  $30^\circ$ .

- A. 188
- B. 124
- C. 180
- D. 208
- E. 200

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

There are 2 components to this problem. The first, and easier one, is recognizing how much of the perimeter the equilateral triangles take up – since there are 40 triangles in total, there must be  $40 - 4 = 36$  of these triangles. By observation, each contributes only 1 side to the overall perimeter, thus we can simply multiply  $36(5) = 180$ " contribution.

The second component is the corner triangles – recognizing that the congruent sides are adjacent to the 5-inch equilateral triangles, and the congruent angles can be found by  $180 = 30 + 2x \rightarrow x = 75^\circ$   
 We can use ratios to find the unknown side:  
 $75/5 = 30/y \rightarrow 75y = 150 \rightarrow y = 2''$ .  
 Since there are 4 corners to the square rug,  $2(4) = 8''$  contribution to the total perimeter. Adding the 2 components, we get  $180 + 8 = 188$  inch perimeter.

#### QUESTION 345

The height of an equilateral triangle is  $2\sqrt{3}$ .  
 What is the triangle's perimeter?

- A. 8
- B. 24
- C. 12
- D. 6
- E.  $2\sqrt{3}$

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

An altitude drawn in an equilateral triangle will form two 30–60–90 triangles. The height of equilateral triangle is the length of the longer leg of the 30–60–90 triangle. The length of the equilateral triangle's side is the length of the hypotenuse of the 30–60–90.

The ratio of the length of the hypotenuse to the length of the longer leg of a 30–60–90 triangle is  $2\sqrt{3}$ .

The length of the longer leg of the 30–60–90 triangle in this problem is  $2\sqrt{3}$ .

Using this ratio, we find that the length of this triangle's hypotenuse is 4. Thus the perimeter of the equilateral triangle will be 4 multiplied by 3, which is 12.

#### QUESTION 346

You are given triangles  $\triangle MNO$  and  $\triangle PQR$ , with  $MN = PQ$  and  $NO = QR$ . Which of these statements, along with what you are given, is not enough to prove that  $\triangle MNO \cong \triangle PQR$ ?

I)  $\triangle MNO$  and  $\triangle PQR$  have the same perimeter

$$m\angle M + m\angle O = m\angle P + m\angle R$$

$$m\angle M + m\angle N = m\angle P + m\angle Q$$

II)

III)

- A. Statement I only
- B. Statement III only
- C. None of these statements is enough to prove congruence.
- D. Statement II only
- E. Any of the three statements is enough to prove congruence.

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

If  $\triangle MNO$  and  $\triangle PQR$  have the same perimeter,  $MN = PQ$ , and  $NO = QR$ , it follows that  $MO = PR$ . The three triangles have the same sidelengths, setting the conditions for the Side-Side-Side Congruence Postulate.

If  $m\angle M + m\angle O = m\angle P + m\angle R$ , then, since the sum of the degree measures of both triangles is the same (180 degrees), it follows that  $m\angle N = m\angle Q$ . Since angle N and angle Q are congruent included angles of congruent sides, this sets the conditions for the SAS Congruence Postulate.

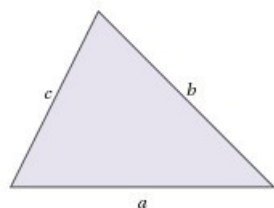
In both of the above cases, it follows  $\triangle MNO \cong \triangle PQR$ .

that  $m\angle M + m\angle N = m\angle P + m\angle Q$

However, similarly to the previous situation, if , then it follows that  $m\angle O = m\angle R$ , meaning that we have congruent sides and congruent nonincluded angles. However, this is not sufficient to prove congruence. "Statement III" is the correct response.

### QUESTION 347

If  $a = 7$  and  $b = 4$ , which of the following could be the perimeter of the triangle?



- I. 11
  - II. 15
  - III. 25
- A. I, II and III
  - B. II and III Only
  - C. I and II Only
  - D. I Only
  - E. II Only

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Consider the perimeter of a triangle:

$$P = a + b + c$$

Since we know  $a$  and  $b$ , we can find  $c$ .

In I:

$$11 = 7 + 4 + c$$

$$11 = 11 + c$$

$$c = 0$$

Note that if  $c = 0$ , the shape is no longer a triangle. Thus, we can eliminate I.

In II:

$$15 = 7 + 4 + c$$

$$15 = 11 + c$$

$$c = 4$$

This is plausible given that the other sides are 7 and 4.

In III:

$$25 = 7 + 4 + c$$

$$25 = 11 + c$$

$$c = 14$$

It is not possible for one side of a triangle to be greater than the sum of both of the other sides, so eliminate III. Thus we are left with only II.

### QUESTION 348

If the average of the measures of two angles in a triangle is  $75^\circ$ , what is the measure of the third angle in this triangle?

- A.  $40^\circ$
- B.  $75^\circ$
- C.  $50^\circ$
- D.  $30^\circ$
- E.  $65^\circ$

**Correct Answer:** D

**Section:** Math

**Explanation**



**Explanation/Reference:**

Explanation:

The sum of the angles in a triangle is  $180^\circ$ :  $a + b + c = 180$  In this case, the average of  $a$  and  $b$  is 75:

$(a + b)/2 = 75$ , then multiply both sides by 2

$(a + b) = 150$ , then substitute into first equation

$150 + c = 180$

$c = 30$

**QUESTION 349**

Which of the following can NOT be the angles of a triangle?

- A. 30, 60, 90
- B. 45, 45, 90
- C. 45, 90, 100
- D. 30.5, 40.1, 109.4
- E. 1, 2, 177

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

In a triangle, there can only be one obtuse angle. Additionally, all the angle measures must add up to 180.

**QUESTION 350** Let the measures, in degrees, of the three angles of a triangle be  $x$ ,  $y$ , and  $z$ . If  $y = 2z$ , and  $z = 0.5x - 30$ , then what is the measure, in degrees, of the largest angle in the triangle?

- A. 60
- B. 108
- C. 30
- D. 48
- E. 96

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The measures of the three angles are  $x$ ,  $y$ , and  $z$ . Because the sum of the measures of the angles in any triangle must be 180 degrees, we know that  $x + y + z = 180$ . We can use this equation, along with the other two equations given, to form this system of equations:

$$x + y + z = 180$$

$$y = 2z$$

$$z = 0.5x - 30$$

If we can solve for both  $y$  and  $x$  in terms of  $z$ , then we can substitute these values into the first equation and create an equation with only one variable. Because we are told already that  $y = 2z$ , we already have the value of  $y$  in terms of  $z$ .

We must solve the equation  $z = 0.5x - 30$  for  $x$  in terms of  $z$ .

Add thirty to both sides.

$$z + 30 = 0.5x$$

Multiply both sides by 2

$$2(z + 30) = 2(0.5x)$$

$$2z + 60 = x$$

Now we have the values of  $x$  and  $y$  in terms of  $z$ . Let's substitute these values for  $x$  and  $y$  into the equation  $x + y + z = 180$ . ( $2z$

$$+ 60) + 2z + z = 180$$

$$5z + 60 = 180$$

$$5z = 120$$

$$z = 24$$

Because  $y = 2z$ , we know that  $y = 2(24) = 48$ . We also determined earlier that  $x = 2z + 60$ , so  $x = 2(24) + 60 = 108$ .

Thus, the measures of the three angles of the triangle are 24, 48, and 108. The question asks for the largest of these measures, which is 108. The answer is 108.

#### QUESTION 351

Angles  $x$ ,  $y$ , and  $z$  make up the interior angles of a scalene triangle. Angle  $x$  is three times the size of  $y$  and  $1/2$  the size of  $z$ . How big is angle  $y$ ?

- A. 108  
B. 42 C. 36 D. 18  
E. 54

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The answer is 18. We know that the sum of all the angles is 180. Using the rest of the information given we can write the other two equations:

$$x + y + z = 180$$

$$x = 3y \quad 2x = z$$

$z$

We can solve for  $y$  and  $z$  in the second and third equations and then plug into the first to solve.  $x + (1/3)x + 2x = 180$   $3[x + (1/3)x + 2x = 180]$

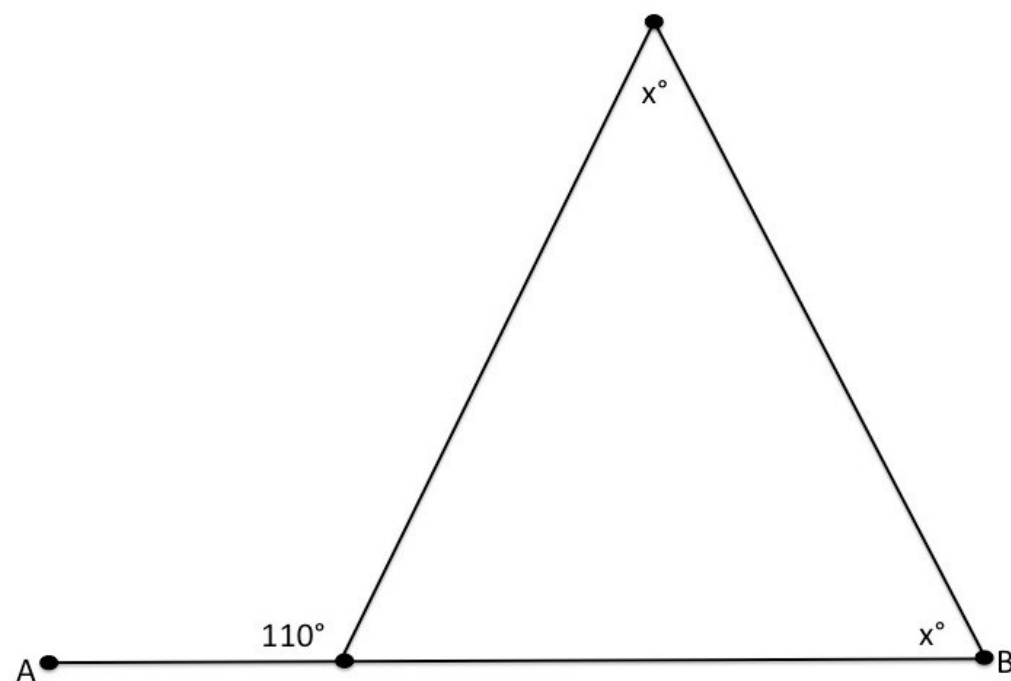
$$3x + x + 6x = 540$$

$$10x = 540 \quad x = 54$$

$$y = 18$$

$$z = 108$$

#### QUESTION 352



In the picture above, AB is a straight line segment. Find the value of  $x$ .



- A. 60
- B. 50
- C. 65
- D. 55
- E. 70

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

A straight line segment has 180 degrees. Therefore, the angle that is not labelled must have:

$$180 - 110 = 70^\circ$$

We know that the sum of the angles in a triangle is 180 degrees. As a result, we can set up the following algebraic equation:

$$70 + x + x = 180$$

Subtract 70 from both sides:

$$2x = 110$$

Divide by 2:

$$x = 55$$

#### QUESTION 353

An exterior angle of an isosceles triangle measures  $110^\circ$ . What is the least measure of any of the three interior angles of the triangle?

- A. Insufficient information is given to answer this question.
- B.  $20^\circ$  C.  $40^\circ$  D.  $55^\circ$
- E.  $70^\circ$



**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The triangle has an exterior angle of  $110^\circ$ , so it has an interior angle of  $(180 - 110)^\circ = 70^\circ$ . By the Isosceles Triangle Theorem, an isosceles triangle must have two congruent angles; there are two possible scenarios that fit this criterion:

I: One of the other angles also has measure  $70^\circ$ .

In this case, since the angles' measures must total  $180^\circ$  the third angle has measure

$$180^\circ - (70^\circ + 70^\circ) = 180^\circ - 140^\circ = 40^\circ$$

In this case, the least measure is  $40^\circ$ .

II: The other two angles are the congruent angles.

In this case, the other two angles have measures totaling

$$180^\circ - (70^\circ) = 110^\circ.$$

They have the same measure, so each has measure half this, or

$$\frac{1}{2} \times 110^\circ = 55^\circ.$$

In this case, the least measure is  $55^\circ$ .

Therefore, insufficient information is given to answer this question.

#### QUESTION 354

An exterior angle of an isosceles triangle measures  $44^\circ$ . What is the greatest measure of any of the three angles of the triangle?

- A.  $68^\circ$
- B.  $72^\circ$
- C.  $112^\circ$
- D.  $136^\circ$

E. Insufficient information is given to answer this question.

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The triangle has an exterior angle of  $44^\circ$ , so it has an interior angle of  $(180 - 44) = 136^\circ$ . This is an obtuse angle; the other two angles must be acute, and therefore, they will have measure less than  $90^\circ$  – and, subsequently, the  $136^\circ$  angle will be the one of greatest measure.

**QUESTION 355**

If the average of two angles of a triangle is equal to 50 degrees, what must be the measure of one of the angles in the triangle?

- A. 80
- B. 100
- C. 130
- D. 50
- E. 65

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Interior angles must add up to 180 degrees.  $\frac{a+b}{2} = 50$

$a + b = 100$ . Therefore, the third angle must = 80 degrees.



**QUESTION 356**

A triangle has sides of length 8, 13, and  $L$ . Which of the following cannot equal  $L$ ?

- A. 15
- B. 9C. 7 D. 4 E. 6

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The sum of the lengths of two sides of a triangle cannot be less than the length of the third side.  $8 + 4 = 12$ , which is less than 13.

**QUESTION 357**

Two sides of a triangle are 20 and 32. Which of the following CANNOT be the third side of this triangle?

- A. 10
- B. 13
- C. 20
- D. 15
- E. 17

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Please remember the Triangle Inequality Theorem, which states that the sum of any two sides of a triangle must be greater than the third side. Therefore, the correct answer is 10 because the sum of 10 and 20 would not be greater than the third side 32.

**QUESTION 358** A triangle has sides of length 5, 7, and  $x$ . Which of the following can NOT be a value of  $x$ ?

- A. 13
- B. 7
- C. 3
- D. 11
- E. 5

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The sum of the lengths of any two sides of a triangle must exceed the length of the third side; therefore,  $5 + 7 > x$ , which cannot happen if  $x = 13$ .

**QUESTION 359**

The lengths of two sides of a triangle are 9 and 7. Which of the following could be the length of the third side?

- A. 12
- B. 2
- C. 17
- D. 16
- E. 1



**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Let us call the third side  $x$ . According to the Triangle Inequality Theorem, the sum of any two sides of a triangle must be larger than the other two sides. Thus, all of the following must be true:

$$x + 7 > 9 \quad x + 9 > 7 \quad 7 + 9 > x$$

We can solve these three inequalities to determine the possible values of  $x$ .

$$x + 7 > 9$$

Subtract 7 from both sides.

$$x > 2$$

Now, we can look at  $x + 9 > 7$ . Subtracting 9 from both sides, we obtain

$$x > -2$$

Finally,  $7 + 9 > x$ , which means that  $16 > x$ .

Therefore,  $x$  must be greater than 2, greater than  $-2$ , but also less than 16. The only number that satisfies all of these requirements is 12. The answer is 12.

**QUESTION 360**

The lengths of a triangle are 8, 12, and  $x$ . Which of the following inequalities shows all of the possible values of  $x$ ?

- A.  $4 < x < 12$
- B.  $4 \leq x \leq 12$
- C.  $4 \leq x \leq 20$
- D.  $4 < x < 20$
- E.  $8 < x < 12$

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

According to the Triangle Inequality Theorem, the sum of any two sides of a triangle must be greater (not greater than or equal) than the remaining side. Thus, the following inequalities must all be true:

$$x + 8 > 12$$

$$x + 12 > 8$$

$$8 + 12 > x$$

Let's solve each inequality.

$$x + 8 > 12$$

Subtract 8 from both sides.

$$x > 4$$

Next, let's look at the inequality  $x + 12 > 8$

$$x + 12 > 8$$

Subtract 12 from both sides.

$$x > -4$$

Lastly,  $8 + 12 > x$ , which means that  $x < 20$ .

This means that  $x$  must be less than twenty, but greater than 4 and greater than  $-4$ . Since any number greater than 4 is also greater than  $-4$ , we can exclude the inequality  $x > -4$ .

To summarize,  $x$  must be greater than 4 and less than 20. We can write this as  $4 < x < 20$ . The answer is  $4 < x < 20$ .

#### QUESTION 361

If 2 sides of the triangle are have lengths equal to 8 and 14, what is one possible length of the third side?

- A. 20
- B. Not enough information
- C. 4
- D. 6
- E. 22



**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The sum of the lengths of 2 sides of a triangle must be greater than – but not equal to – the length of the third side. Further, the third side must be longer than the difference between the greater and the lesser of the other two sides; therefore, 20 is the only possible answer.

$$4 + 8 < 14$$

$$6 + 8 = 14$$

$$8 + 14 > 20$$

$$8 + 14 = 22$$

#### QUESTION 362

In  $\triangle ABC$  the length of AB is 15 and the length of side AC is 5. What is the least possible integer length of side BC?

- A. 9
- B. 11
- C. 10
- D. 13
- E. 17

**Correct Answer:** B

**Section:** Math  
**Explanation**

**Explanation/Reference:**

Explanation:

Rule – the length of one side of a triangle must be greater than the difference and less than the sum of the lengths of the other two sides.

Given lengths of two of the sides of the  $\triangle ABC$  are 15 and 5. The length of the third side must be greater than  $15 - 5$  or 10 and less than  $15 + 5$  or 20. The question asks what is the least possible integer length of BC, which would be 11.

**QUESTION 363**

Two sides of a triangle have lengths 4 and 7. Which of the following represents the set of all possible lengths of the third side,  $x$ ?

- A.  $2 < x < 12$
- B.  $4 < x < 7$
- C.  $4 < x < 11$
- D.  $3 < x < 11$
- E.  $3 < x < 7$

**Correct Answer:** D

**Section:** Math  
**Explanation**

**Explanation/Reference:**

Explanation:

The set of possible lengths is:  $7 - 4 < x < 7 + 4$ , or  $3 < X < 11$ .

**QUESTION 364**

If two sides of a triangle have lengths 8 and 10, what could the length of the third side NOT be?

- A. 5
- B. 8
- C. 19
- D. 14
- E. 10

**Correct Answer:** C

**Section:** Math  
**Explanation**

**Explanation/Reference:**

Explanation:

According to the Triangle Inequality Theorem, the sums of the lengths of any two sides of a triangle must be greater than the length of the third side. Since  $10 + 8$  is 18, the only length out of the answer choices that is not possible is 19.

**QUESTION 365** Which of the following describes a triangle with sides of length 14 inches, 18 inches, and 2 feet?

- A. The triangle is scalene and obtuse.
- B. The triangle is scalene and acute.
- C. The triangle is isosceles and obtuse.
- D. The triangle is isosceles and acute.
- E. The triangle cannot exist.

**Correct Answer:** A

**Section:** Math  
**Explanation**



**Explanation/Reference:**

Explanation:

2 feet is equal to 24 inches, so the sides of the triangle measure 14, 18, and 24.

First, we test to make sure the triangle exists. By the Triangle Inequality, for this to exist, the sum of the two smaller sidelengths must exceed the third, which we can see is the case:  $14 + 18 = 32 > 24$

The three sidelengths are all unequal, so the triangle is scalene.

Finally, we compare the sum of the squares of the smaller sidelengths to the square of the third:

$$14^2 + 18^2 = 196 + 324 = 520 < 576 = 24^2$$

Since

$$14^2 + 18^2 < 24^2, \text{ the}$$

triangle is obtuse.

The correct response is that the triangle is scalene and obtuse.

**QUESTION 366** All of the following could be the possible side lengths of a triangle EXCEPT:

- A. 2,6,7
- B. 5,7,12
- C. 6,7,9
- D. 3,4,5
- E. 5,10,14

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The length of the third side of a triangle must always be between (but not equal to) the *sum* and the *difference* of the other two sides.

For instance, take the example of 2, 6, and 7.

$6 + 2 = 8$  and  $6 - 2 = 4$ . Therefore, the third side length must be greater than 4 and less than 8. Because 7 is greater than 4 and less than 8, it is possible for these to be the side lengths of a triangle.

The 5, 7, 12 answer choice is the only option for which this is not the case.

$7 + 5 = 12$  and  $7 - 5 = 2$ . Therefore, the third side length must be between 2 and 12. Because it is equal to the sum, not less than the sum, it is not possible that these could be the side lengths of a triangle.

**QUESTION 367** Find the height of a triangle if the area of the triangle = 18 and the base = 4.

- A. 6
- B. 1
- C. 4
- D. 9

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The area of a triangle =  $(1/2)bh$  where b is base and h is height.  $18 = (1/2)4h$  which gives us  $36 = 4h$  so  $h = 9$ .

**QUESTION 368** If triangle ABC has vertices (0, 0), (6, 0), and (2, 3) in the xy-plane, what is the area of ABC?

- A. 20
- B. 9
- C. 18

- D. 10  
E. 12

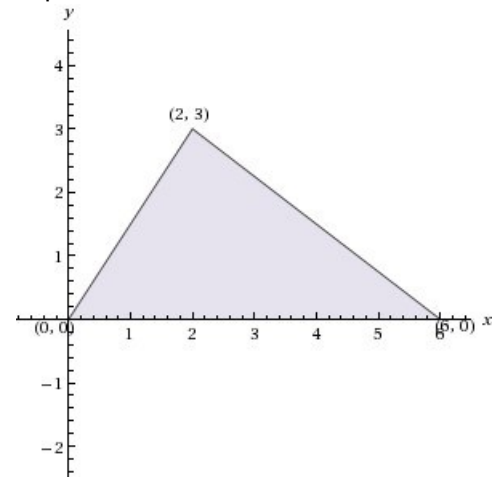
**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

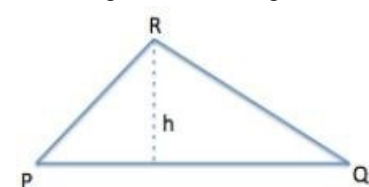
Explanation:



Sketching ABC in the  $xy$ -plane, as pictured here, we see that it has base 6 and height 3. Since the formula for the area of a triangle is  $\frac{1}{2} \times \text{base} \times \text{height}$ , the area of ABC is  $\frac{1}{2} \times 6 \times 3 = 9$ .

#### QUESTION 369

The height,  $h$ , of triangle PQR in the figure is one-fourth the length of PQ. In terms of  $h$ , what is the area of triangle PQR?



- A.  $\frac{1}{2}h^2$   
B.  $h^2$   
C.  $3h^2$   
D.  $2h^2$

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

If  $h = \frac{1}{4} \times \overline{PQ}$ , then the length of PQ must be  $4h$ .

Using the formula for the area of triangle  $(\frac{1}{2}bh)$ , with  $b = 4h$ , the area of the triangle must be  $2h^2$ .

#### QUESTION 370

Regular Hexagon ABCDEF has a diagonal AE with length 1.

Give the length of a diagonal AD.

- A.  $\frac{2\sqrt{3}}{3}$

- B. 2
- C.  $\sqrt{2}$
- D.  $\frac{3\sqrt{2}}{2}$
- E.  $\sqrt{3}$

**Correct Answer:** A

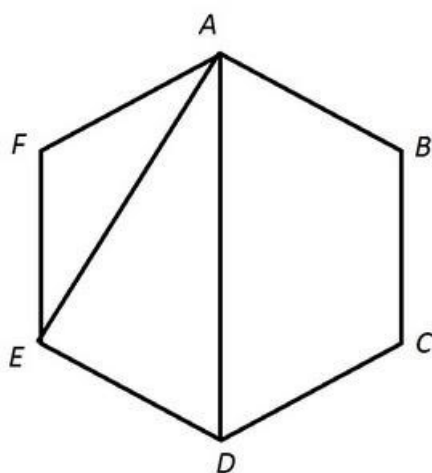
**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The key is to examine  $\triangle AED$  in the figure below:



Each interior angle of a regular hexagon, including angle F, measures  $120^\circ$ , so it can be easily deduced by way of the Isosceles Triangle Theorem that  $m\angle FEA = 30^\circ$  .  $m\angle FED = 120^\circ$  , so by angle addition,  $m\angle AED = 90^\circ$

Also, by symmetry,

$$m\angle EDA = 120^\circ - 60^\circ = 60^\circ,$$

$$\text{so } m\angle EAD = 30^\circ$$

and  $\triangle AED$  is a  $30^\circ$ – $60^\circ$ – $90^\circ$  triangle whose long leg AE has length  $AE = 1$ .

By the  $30^\circ$  –  $60^\circ$  –  $90^\circ$  Theorem, AD, which is the hypotenuse of  $\triangle AED$ , has length  $\frac{2\sqrt{3}}{3}$  times that of the long leg,

$$\text{so } AD = \frac{2\sqrt{3}}{3}.$$

#### QUESTION 371

Regular Hexagon ABCDEF has a diagonal AD with length 1.

Give the length of diagonal AE.

- A.  $\frac{\sqrt{3}}{2}$
- B.  $\frac{2}{3}$
- C.  $\frac{3\sqrt{2}}{4}$
- D.  $\frac{\sqrt{3}}{3}$
- E.  $\frac{\sqrt{2}}{2}$

- A.
- B.
- C.



D.

E.

**Correct Answer:** A

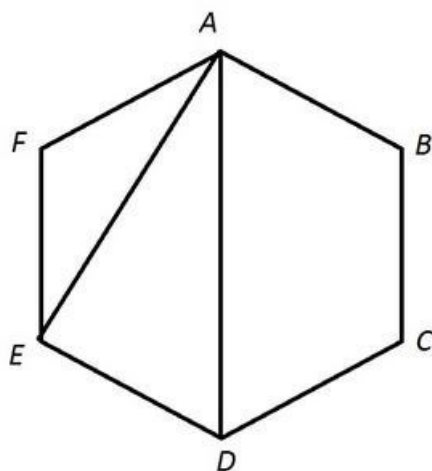
**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The key is to examine  $\triangle AED$  in the figure below:



Each interior angle of a regular hexagon, including angle F, measures  $120^\circ$ , so it can be easily deduced by way of the Isosceles Triangle Theorem that  $m\angle FEA = 30^\circ$ ,  $m\angle FED = 120^\circ$ , so by angle addition,  $m\angle AED = 90^\circ$ .

Also, by symmetry,

$$m\angle EDA = \frac{1}{2} \times 120^\circ = 60^\circ,$$

$$\text{so } m\angle EAD = 30^\circ,$$

and  $\triangle AED$  is a  $30^\circ$ – $60^\circ$ – $90^\circ$  triangle whose hypotenuse AD has length AD = 1.

By the  $30^\circ$ – $60^\circ$ – $90^\circ$  Theorem, the long leg AE of  $\triangle AED$  has length  $\frac{\sqrt{3}}{2}$  times that of hypotenuse AD,

$$\text{So } AE = \frac{\sqrt{3}}{2}.$$

**QUESTION 372** Regular hexagon ABCDEF has side length of 1.

Give the length of diagonal AD.

- A.  $\sqrt{3}$
- B.  $2\sqrt{2}$
- C. 2
- D.  $\sqrt{2}$
- E.  $2\sqrt{3}$

**Correct Answer:** C

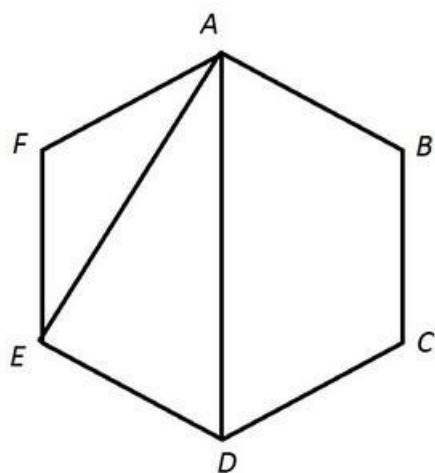
**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The key is to examine  $\triangle AED$  in the figure below:



Each interior angle of a regular hexagon, including angle F, measures  $120^\circ$ , so it can be easily deduced by way of the Isosceles Triangle Theorem that  $m\angle FEA = 30^\circ$ . To find  $m\angle AED$  we can subtract  $m\angle FEA = 30^\circ$  from  $m\angle FED = 120^\circ$ . Thus resulting in:

$$m\angle AED = 90^\circ$$

Also, by symmetry,

$$m\angle EDA = \frac{1}{2} \times 120^\circ = 60^\circ,$$

$$\text{so } m\angle EAD = 30^\circ.$$

Therefore,  $\triangle AED$  is a  $30^\circ$ – $60^\circ$ – $90^\circ$  triangle whose short leg ED has length ED = 1.

The hypotenuse AD of this  $30^\circ$ – $60^\circ$ – $90^\circ$  triangle measures twice the length of short leg ED, so AD = 2.

### QUESTION 373

Regular hexagon ABCDEF has side length 1.

Give the length of diagonal AE.

A.  $\sqrt{2}$

B.  $\frac{\sqrt{2}}{2}$

C.  $\sqrt{3}$

D.  $\frac{\sqrt{3}}{2}$

E.  $\frac{3}{2}$

D.

E.

**Correct Answer:** C

**Section:** Math

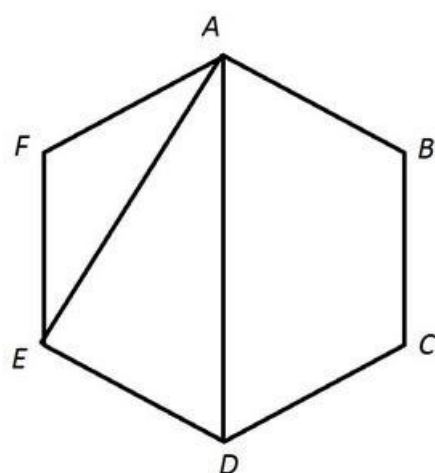
**Explanation**

**Explanation/Reference:**

Explanation:

The key is to examine  $\triangle AED$  in the figure below:





Each interior angle of a regular hexagon, including angle F, measures  $120^\circ$ , so it can be easily deduced by way of the Isosceles Triangle Theorem that  $m\angle FEA = 30^\circ$ . To find  $m\angle AED$  we subtract  $m\angle FEA = 30^\circ$  from  $m\angle FED = 120^\circ$ . Thus resulting in  $m\angle AED = 90^\circ$

Also, by symmetry,

$$m\angle EDA = \frac{1}{2} \times 120^\circ = 60^\circ,$$

so  $m\angle EAD = 30^\circ$ ,

and  $\triangle AED$  is a  $30^\circ$ – $60^\circ$ – $90^\circ$  triangle whose short leg ED has length  $ED = 1$ .

The long leg AE of this  $30^\circ$ – $60^\circ$ – $90^\circ$  triangle measures  $\sqrt{3}$  times the length of short leg ED so  $AE = \sqrt{3}$ .

#### QUESTION 374

The measures in degrees of the interior angles of a convex hexagon are as follows:

$$\left(\frac{x}{10} + 70\right), \left(\frac{x}{2}\right), \left(\frac{x}{4} + 5\right), \left(\frac{x}{2} + 5\right), (-x + 390), \text{ and } 180.$$

What is the measure in degrees of the hexagon's largest angle?

- A. 180
- B. 190
- C. 170
- D. 200
- E. 210

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The sum of the interior angles in a convex polygon is given by the formula  $180(n - 2)$ , where  $n$  is the number of sides in the polygon. Because a hexagon has 6 sides, the sum of the interior angles is equal to  $180(6 - 2) = 180(4) = 720$  degrees. Therefore, we can add up all the angle measures given in the problem and set the sum equal to 720.

$$\left(\frac{x}{10} + 70\right) + \left(\frac{x}{2}\right) + \left(\frac{x}{4} + 5\right) + \left(\frac{x}{2} + 5\right) + (-x + 390) + 180 = 720$$

Let's rewrite the fractions of  $x$  as decimals. For example, we can rewrite  $x/10$  as  $0.10x$ , because  $1/10$  is equal to  $0.10$  when converted to a decimal. ( $0.10x$

$$+ 70) + (0.5x) + (0.25x + 5) + (0.5x + 5) + (-x + 390) + 180 = 720$$

Next, let's combine  $x$  terms and constants.

$$0.35x + 650 = 720$$

Subtract 650 from both sides.

$$0.35x = 70$$

Divide both sides by 0.35.

$$x = 200$$

The question asks us to find the measure of the largest angle, which means we will need to substitute the value of  $x$  into the original expressions for the angles.

$$\frac{x}{10} + 70 = \frac{200}{10} + 70 = 90$$

$$\frac{x}{2} = \frac{200}{2} = 100$$

$$\frac{x}{4} + 5 = \frac{200}{4} + 5 = 55$$

$$\frac{x}{2} + 5 = \frac{200}{2} + 5 = 105$$

$$-x + 390 = -200 + 390 = 190$$

and 180

The six angle measures are 90, 100, 55, 105, 190, and 180. The largest of these is 190.

The answer is 190.

**QUESTION 375** If a triangle has 180 degrees, what is the sum of the interior angles of a regular octagon?

- A. 720
- B. 900
- C. 1080
- D. 540
- E. 1260

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The sum of the interior angles of a polygon is given by  $180(n - 2)$  where  $n$  = number of sides of the polygon. An octagon has 8 sides, so the formula becomes  $180(8 - 2) = 1080$

**QUESTION 376** In a rectangular hexagon, what is the measure of each interior angle?

- A. 105 degrees
- B. 90 degrees
- C. 120 degrees
- D. 72 degrees
- E. 150 degrees

**Correct Answer:** C

**Section:** Math

**Explanation**

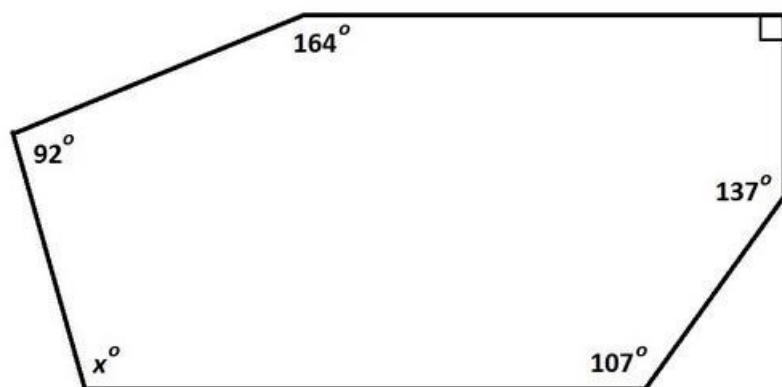
**Explanation/Reference:**

Explanation:

The sum of the interior angles of a hexagon must equal 720 degrees. Because the hexagon is regular, all of the interior angles will have the same measure. A hexagon has six sides and six interior angles. Therefore, each angle measures

$$\frac{720}{6} = 120.$$

**QUESTION 377**



Note: Figure NOT drawn to scale.

Refer to the above figure. Evaluate  $x$ .

- A.  $x = 130$
- B.  $x = 100$
- C.  $x = 110$
- D.  $x = 140$
- E.  $x = 120$

**Correct Answer:** A

**Section:** Math

**Explanation**

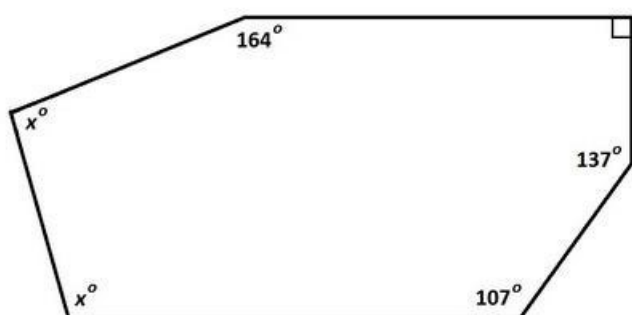
**Explanation/Reference:**

Explanation:

The sum of the degree measures of the angles of a (six-sided) hexagon, is  $180^\circ \times (6 - 2) = 180^\circ \times 4 = 720^\circ$  We can solve for  $x$  in the equation  $x + 92 + 164 + 90 + 137 + 107 = 720$   $x + 590 = 720$   $x = 130$



#### QUESTION 378



Note: Figure NOT drawn to scale.

Refer to the above figure. Evaluate  $x$ .

- A.  $x = 106$
- B.  $x = 121$
- C.  $x = 101$
- D.  $x = 111$
- E.  $x = 116$

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The sum of the degree measures of the angles of a (six-sided) hexagon, is

$$180^\circ \times (6 - 2) = 180^\circ \times 4 = 720^\circ$$
 We

can solve for  $x$  in the equation  $x + x$

$$+ 164 + 90 + 137 + 107 = 720$$

$$2x + 498 = 720$$

$$2x = 222 \quad x =$$

$$111$$

**QUESTION 379**

Three angles of a hexagon measure  $65^\circ$ ,  $74^\circ$ ,  $89^\circ$ . The other three angles are congruent to one another. What is the measure of each of the latter three angles?

A.  $48^\circ$

B.  $58^\circ$

C. This hexagon cannot exist.

D.  $164^\circ$

E.  $174^\circ$

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The sum of the degree measures of the angles of a (six-sided) hexagon, is

$$180^\circ \times (6 - 2) = 180^\circ \times 4 = 720^\circ$$

Let  $x$  be the common measure of the three congruent angles in question. We can solve for  $x$  in the equation  $x$

$$+ x + x + 65 + 74 + 89 = 720$$

$$3x + 228 = 720$$

$$3x = 492 \quad x =$$

$$164$$

**QUESTION 380**

What is the measurement of one of the interior angles of a regular hexagon?

A.  $90^\circ$

B.  $105^\circ$  C.  $120^\circ$  D.  $150^\circ$

E.  $135^\circ$

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

To find the sum of the interior angles of any regular polygon, use the formula  $(n - 2) 180$ , where  $n$  represents the number of sides of the regular polygon.

$$= (6 - 2) \times 180$$

$$= 4 \times 180$$

$$= 720$$



The sum of the interior angles of a regular hexagon is 720 degrees. To find the measurement of one angle, divide by the number of interior angles (or sides): =  $720/6$   
 = 120  
 The measurement of one angle in a regular hexagon is 120 degrees.

#### QUESTION 381

Calculate the approximate area a regular hexagon with the following side length:  
 $s = 6$

- A. 100
- B. 94
- C. 98
- D. Cannot be determined
- E. 88

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

How do you find the area of a hexagon?

There are several ways to find the area of a hexagon.

1. In a regular hexagon, split the figure into triangles.
2. Find the area of one triangle.
3. Multiply this value by six.

Alternatively, the area can be found by calculating one-half of the side length times the apothem.

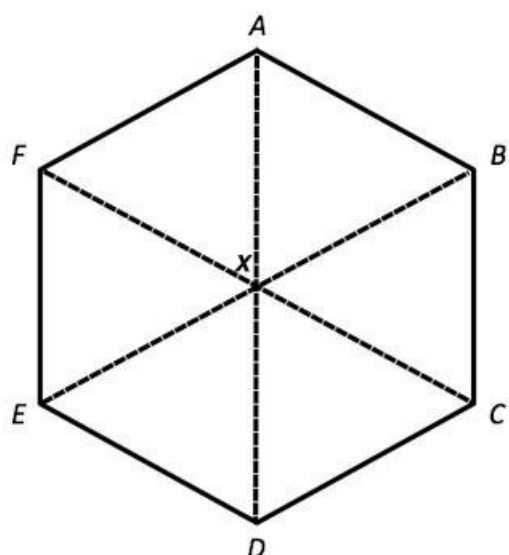
Regular hexagons:

Regular hexagons are interesting polygons. Hexagons are six sided figures and possess the following shape:

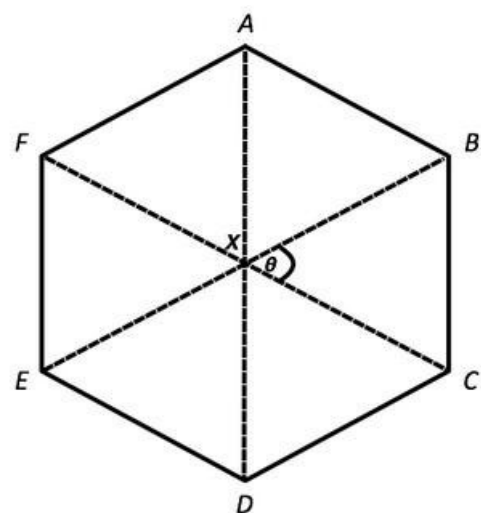
In a regular hexagon, all sides equal the same length and all interior angles have the same measure; therefore, we can write the following expression.

$$\overline{AB} = \overline{BC} = \overline{CD} = \overline{DE} = \overline{EF} = \overline{FA}$$

One of the easiest methods that can be used to find the area of a polygon is to split the figure into triangles. Let's start by splitting the hexagon into six triangles.



In this figure, the center point, X, is equidistant from all of the vertices. As a result, the six dotted lines within the hexagon are the same length. Likewise, all of the triangles within the hexagon are congruent by the side-side-side rule: each of the triangle's share two sides inside the hexagon as well as a base side that makes up the perimeter of the hexagon. In a similar fashion, each of the triangles has the same angles. There are  $360^\circ$  in a circle and the hexagon in our image has separated it into six equal parts; therefore, we can write the following:



$$\theta = \frac{360^\circ}{6}$$

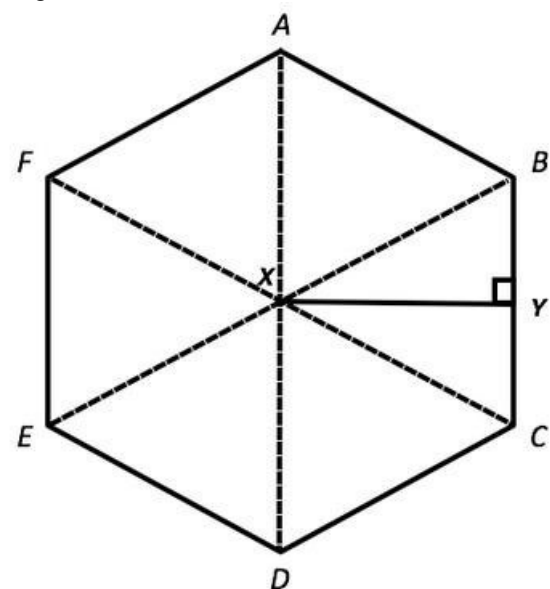
$$\theta = 60^\circ$$

We also know the following:

$$\angle AXB = \angle BXC = \angle CXD = \angle DXE = \angle EXF = \angle FXA = 60^\circ$$

Now, let's look at each of the triangles in the hexagon. We know that each triangle has two sides that are equal; therefore, each of the base angles of each triangle must be the same. We know that a triangle has  $180^\circ$  and we can solve for the two base angles of each triangle using this information.  $2x + 60^\circ = 180^\circ$   $2x = 120^\circ$   $x = 60^\circ$

Each angle in the triangle equals  $60^\circ$ . We now know that all the triangles are congruent and equilateral: each triangle has three equal side lengths and three equal angles. Now, we can use this vital information to solve for the hexagon's area. If we find the area of one of the triangles, then we can multiply it by six in order to calculate the area of the entire figure. Let's start by analyzing  $\triangle BXC$ . If we draw, an altitude through the triangle, then we find that we create two  $30^\circ - 60^\circ - 90^\circ$  triangles.

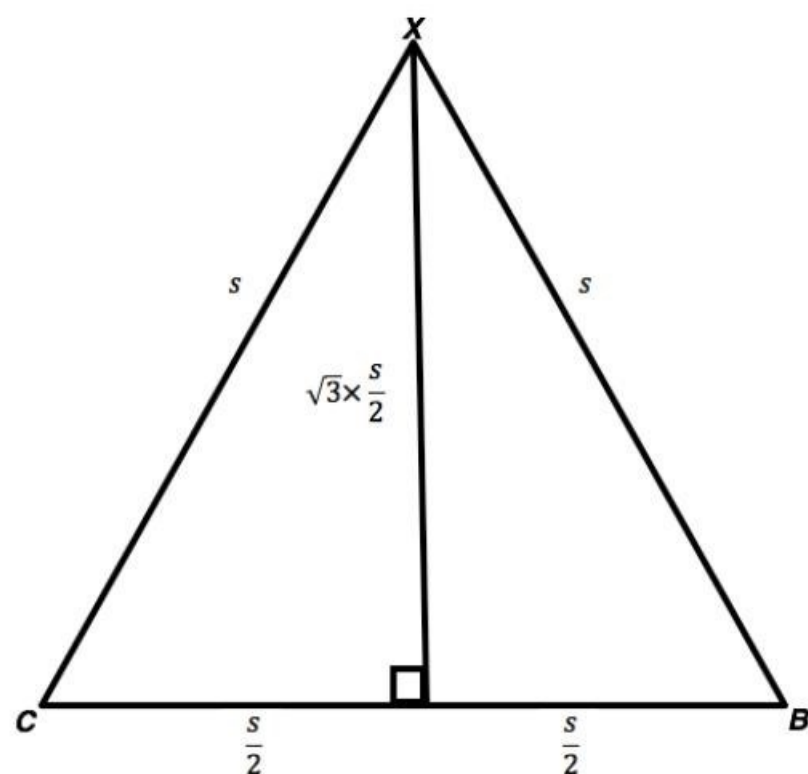


Let's solve for the length of this triangle. Remember that in  $30^\circ - 60^\circ - 90^\circ$  triangles, triangles possess side lengths in the following ratio: 1:2:

$\sqrt{3}$

Now, we can analyze  $\triangle BXC$  using the substitute variable for side length,  $s$ .





We know the measure of both base and height of  $\triangle BXC$  and we can solve for its area.

$$\text{Area of } \triangle BXC = \frac{1}{2} \times \text{base} \times \text{height}$$

$$\text{Area of } \triangle BXC = \frac{1}{2} \times s \times \frac{\sqrt{3}s}{2}$$

$$\text{Area of } \triangle BXC = \frac{\sqrt{3}s^2}{4}$$

Now, we need to multiply this by six in order to find the area of the entire hexagon.

$$\text{Area of a Hexagon } [ABCDEF] = 6 \times \frac{\sqrt{3}s^2}{4}$$

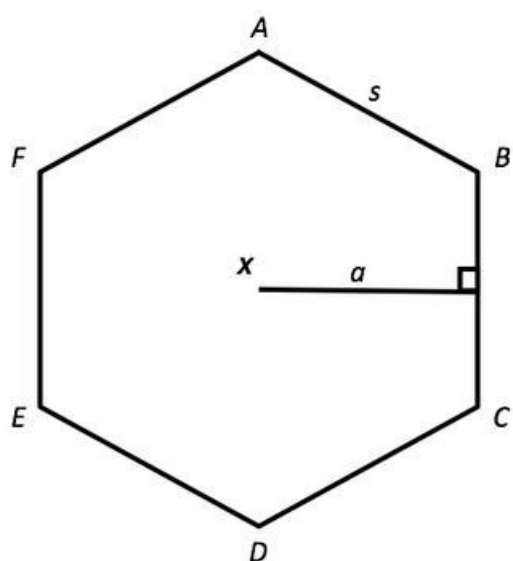
$$\text{Area of a Hexagon } [ABCDEF] = \frac{6\sqrt{3}s^2}{4}$$

$$\text{Area of a Hexagon } [ABCDEF] = \frac{3\sqrt{3}}{2} \times s^2$$

We have solved for the area of a regular hexagon with side length,  $s$ . If we know the side length of a regular hexagon, then we can solve for the area.

If we are not given a regular hexagon, then we can solve for the area of the hexagon by using the side length (i.e.  $s$ ) and apothem (i.e.  $a$ ), which is the length of a line drawn from the center of the polygon to the right angle of any side. This is denoted by the variable  $a$  in the following figure:





Alternative method:

If we are given the variables  $s$  and  $a$ , then we can solve for the area of the hexagon through the following formula:

$$A = \frac{1}{2}(P)(a)$$

In this equation,  $A$  is the area,  $P$  is the perimeter, and  $a$  is the apothem. We must calculate the perimeter using the side length and the equation  $P = \text{number of sides} \times s$ , where  $s$  is the side length.

Solution:

In the given problem we know that the side length of a regular hexagon is the following:

$$s = 6$$

Let's substitute this value into the area formula for a regular hexagon and solve.

$$A = \frac{3\sqrt{3}}{2} \times s^2$$

$$A = \frac{3\sqrt{3}}{2} \times 6^2$$

Simplify

$$A = \frac{108\sqrt{3}}{2}$$

$$A = 54\sqrt{3}$$

$$A = 93.53$$

Round the answer to the nearest whole number.

$$A = 94$$

### QUESTION 382

What is the measure, in degrees, of one interior angle of a regular pentagon?

- A. 108
- B. 144
- C. 180
- D. 72
- E. 120

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The formula for the sum of the interior angles of any regular polygon is as follows:

$= 180(n - 2)$  where  $n$  is equal to the number of sides of the regular polygon. Therefore, the sum of the interior angles for a regular pentagon is:

$$= 180(5 - 2)$$

$$= 180(3)$$

$$= 540$$

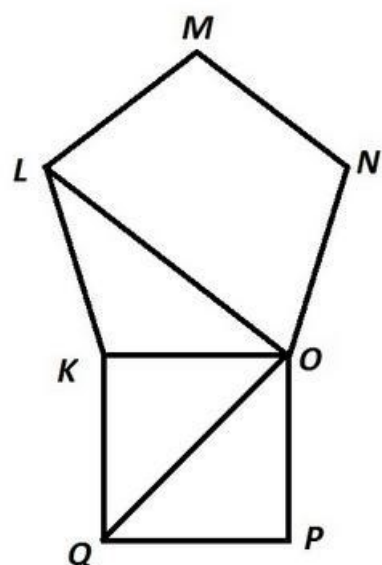
To find the measure of one interior angle of a regular pentagon, simply divide by the number of sides (or number of interior angles):

$$= \frac{540}{5}$$

$$= 108$$

The measure of one interior angle of a regular pentagon is 108 degrees.

### QUESTION 383



Refer to the above figure, which shows Square OPQK and regular Pentagon KLMNO.

Evaluate  $m\angle LOQ$ .

A.  $81^\circ$

B.  $75^\circ$

C.  $72^\circ$

D.  $67\frac{1}{2}^\circ$

E.  $90^\circ$

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

By angle addition,

$$m\angle LOQ = m\angle LOK + m\angle KOQ$$

Angle KOQ is one of two acute angles of isosceles right triangle  $\Delta KOQ$ , so  $m\angle KOQ = 45^\circ$ .

To find  $m\angle LOK$  we examine  $\Delta LOK$ .

Angle LKO is an angle of a regular pentagon and has measure

Also, since, in  $\triangle LOK$ , sides  $\overline{KL} \cong \overline{KO}$ , by the Isosceles  
 Since the angles of a triangle must total  $180^\circ$  in measure,  
 $m\angle LOK + m\angle KLO + m\angle LKO = 180^\circ$   
 $m\angle LOK + m\angle LOK + 108^\circ = 180^\circ$   
 $2m\angle LOK + 108^\circ = 180^\circ$   
 $2m\angle LOK = 72^\circ$   
 $m\angle LOK = 36^\circ$

$$\frac{180^\circ \times (5-2)}{5} = 108^\circ.$$

Triangle Theorem,.

$$m\angle LOK = m\angle KLO.$$

$$m\angle LOQ = m\angle LOK + m\angle KOQ$$

$$m\angle LOQ = 36^\circ + 45^\circ = 81^\circ$$

**QUESTION 384** In an isosceles triangle, the vertex angle is 15 less than the base angle. What is the base angle?

- A. 50
- B. 90
- C. 65
- D. 45
- E. 25

**Correct Answer: C**

**Section: Math**

**Explanation**

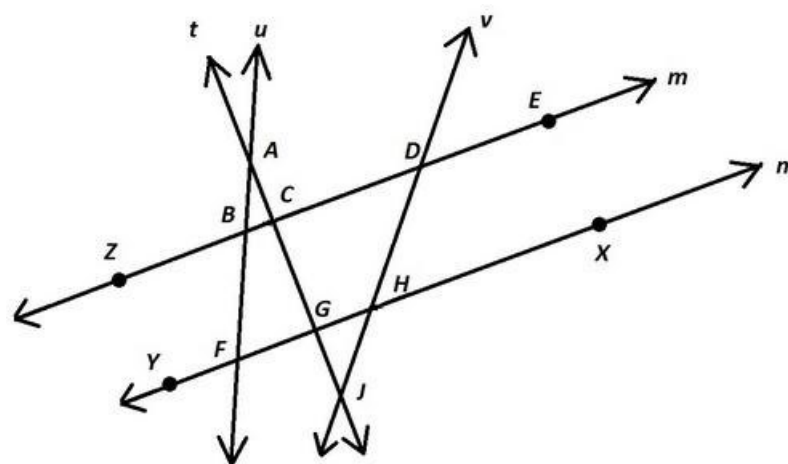
**Explanation/Reference:**

Explanation:

Every triangle has 180 degrees. An isosceles triangle has one vertex angle and two congruent base angles.  
 Let  $x$  = base angle and  $x - 15$  = vertex angle So the equation to solve becomes  $(x - 15) + x + x = 180$  Thus,  
 65 is the base angle and 50 is the vertex angle.



**QUESTION 385**



Note:  $m \parallel n$

Refer to the above diagram. Angle DCG and which other angle form a pair of corresponding angles?

- A. angle HGJ
- B. angle BCG
- C. angle CGH
- D. angle CGF
- E. angle ACB

**Correct Answer: A**

**Section: Math**

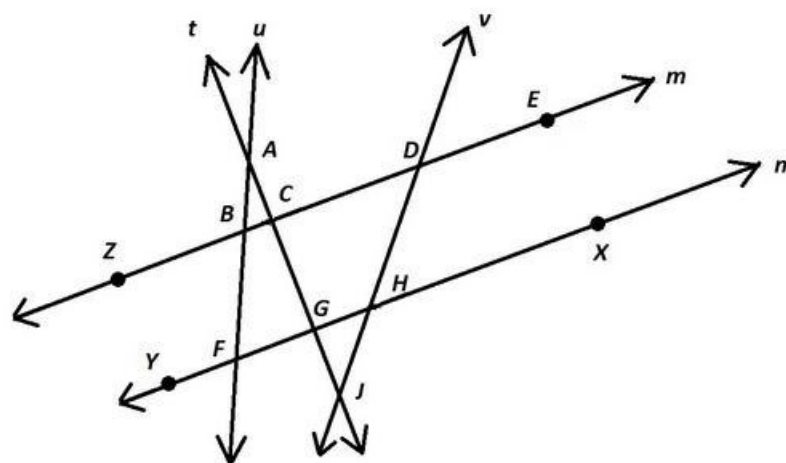
**Explanation**

**Explanation/Reference:**

Explanation:

Two angles formed by a transversal line crossing two other lines are corresponding angles if, relative to the points of intersection, they are in the same position. Angle DCG is formed by the intersection of transversal  $t$  and  $m$ ; the angle in the same relative position where  $t$  intersects  $n$  is angle HGJ.

**QUESTION 386**



Refer to the above diagram. Angle DCG and which other angle form a pair of alternate interior angles?

- A. angle BCG
- B. angle CGF
- C. angle ACB
- D. angle CGH
- E. angle HGJ



**Correct Answer: B**

**Section: Math**

**Explanation**

**Explanation/Reference:**

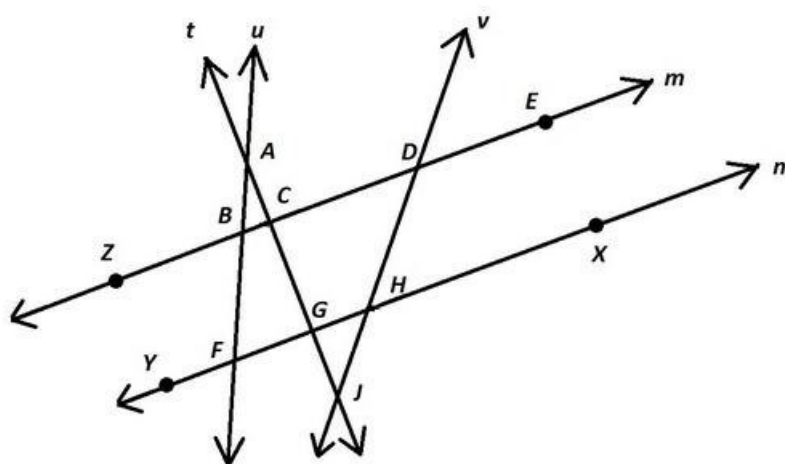
Explanation:

Two angles formed by a transversal line crossing two other lines are alternate interior angles if:

- I) Both angles have their interiors between the lines crossed
- II) The angles have their interiors on the opposite sides of the transversal.

Of the given choices, only angle CGF fits the description; the interior of each is between  $m$  and  $n$ , and the interiors are on the opposite sides of  $t$ .

**QUESTION 387**



Refer to the above diagram.

Angle ABC and which other angle form a pair of vertical angles?

- A. angle AFY
- B. angle ZBA
- C. angle ZBF
- D. angle ACBE. angle BFG

**Correct Answer:** C

**Section:** Math

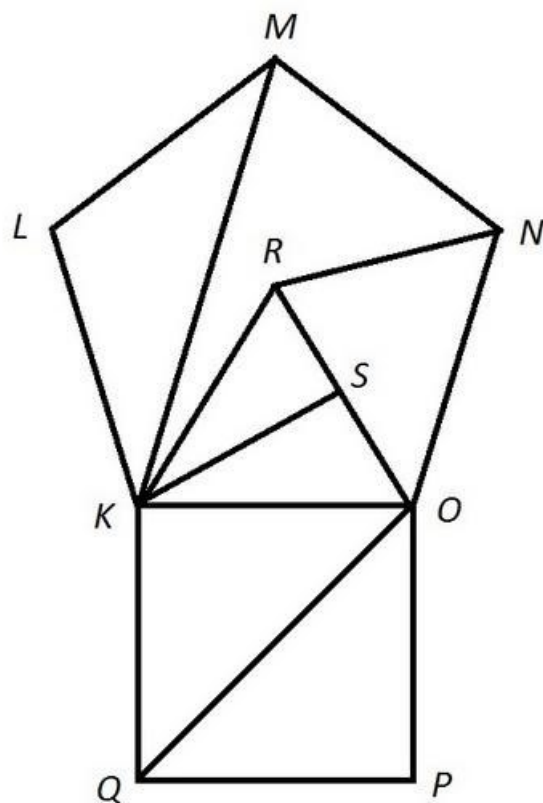
**Explanation**

**Explanation/Reference:**

Explanation:

Two angles are vertical angles if they share a vertex, and if their union is a pair of intersecting lines. Of the five choices, only angle ZBF fits both descriptions with angle ABC.

**QUESTION 388**



Refer to the above figure.

Which of the following segments is a diagonal of Pentagon MNOQK?

- A. OK
- B. ML
- C. OR
- D. RN
- E. QK

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

A diagonal of a polygon is a segment whose endpoints are nonconsecutive vertices of the polygon. Of the five choices, only OK fits this description.

**QUESTION 389** If the area of a rhombus is 24 and one diagonal length is 6, find the perimeter of the rhombus.

- A. 12
- B. 20
- C. 16
- D. 24
- E. 8

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

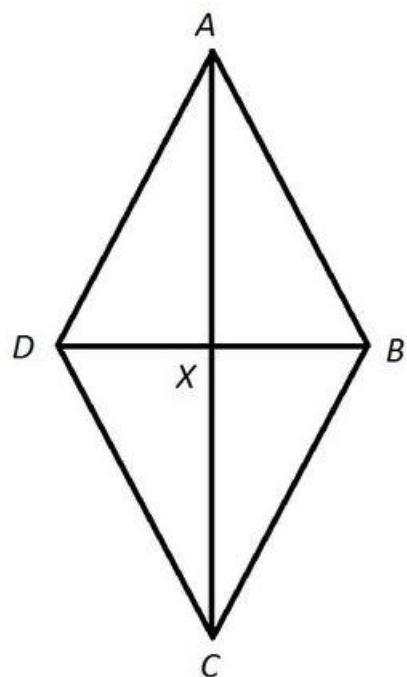
The area of a rhombus is found by  $A = \frac{1}{2}(d_1)(d_2)$  where  $d_1$  and  $d_2$  are the lengths of the diagonals. Substituting for the given values yields  $24 = \frac{1}{2}(d_1)(6)$

$$24 = 3(d_1)$$

$$8 = d_1$$

Now, use the facts that diagonals are perpendicular in a rhombus, diagonals bisect each other in a rhombus, and the Pythagorean Theorem to determine that the two diagonals form 4 right triangles with leg lengths of 3 and 4. Since  $3^2 + 4^2 = 5^2$ , each side length is 5, so the perimeter is  $5(4) = 20$ .

**QUESTION 390**



Note: Figure NOT drawn to scale.

Calculate the perimeter of Quadrilateral ABCD in the above diagram if:

AC = 48

BD = 20

AB = BC = CD = DA

Insufficient information is given to answer the question.

- A. 120
- B. 136
- C. 104
- D. 96

**Correct Answer: C**

**Section: Math**

**Explanation**

**Explanation/Reference:**

Explanation:

AB = BC = CD = DA, so Quadrilateral ABCD is a rhombus. Its diagonals are therefore perpendicular to each other, and the four triangles they form are right triangles. Therefore, the Pythagorean theorem can be used to determine the common sidelength of Quadrilateral ABCD.

We focus on  $\triangle AXB$ . The diagonals are also each other's bisector, so

$$AX = \frac{1}{2}(AC) = \frac{1}{2} \times 48 = 24$$

$$XB = \frac{1}{2}(BD) = \frac{1}{2} \times 20 = 10$$

By the Pythagorean Theorem,

$$AB = \sqrt{(AX)^2 + (XB)^2} = \sqrt{24^2 + 10^2} = \sqrt{576 + 100} = \sqrt{676} = 26$$

26 is the common length of the four sides of Quadrilateral ABCD, so its perimeter is  $4 \times 26 = 104$ .

**QUESTION 391** A rhombus has a side length of 5. Which of the following is NOT a possible value for its area?

- A. 15
- B. 10



- C. 24  
D. 30  
E. 25

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The area of a rhombus will vary as the angles made by its sides change. The "flatter" the rhombus is (with two very small angles and two very large angles, say 2, 178, 2, and 178 degrees), the smaller the area is. There is, of course, a lower bound of zero for the area, but the area can get arbitrarily small. This implies that the correct answer would be the largest choice. In fact, the largest area of a rhombus occurs when all four angles are equal, i.e. when the rhombus is a square. The area of a square of side length 5 is 25, so any value bigger than 25 is impossible to achieve.

#### QUESTION 392

In Rhombus RHOM,  $m\angle R = 60^\circ$ . If HM is constructed, which of the following is true about  $\triangle RHM$ ?

- A.  $\triangle RHM$  is acute and scalene  
B.  $\triangle RHM$  is acute and isosceles, but not equilateral  
C.  $\triangle RHM$  is obtuse and isosceles, but not equilateral  
D.  $\triangle RHM$  is acute and equilateral  
E.  $\triangle RHM$  obtuse and scalene

**Correct Answer:** D

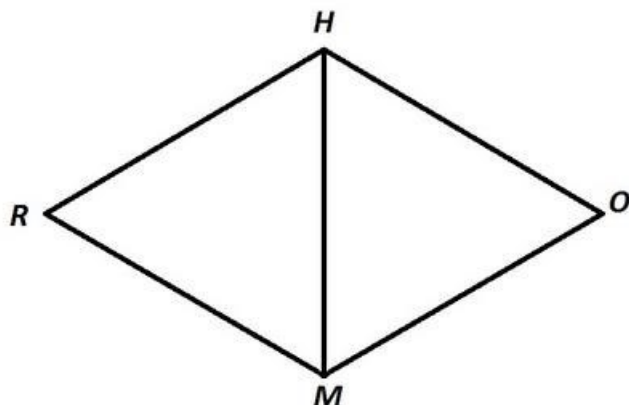
**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The figure referenced is below.



Consecutive angles of a rhombus are supplementary – as they are with all parallelograms – so  
 $m\angle RHO = 180^\circ - m\angle R = 180^\circ - 60^\circ = 120^\circ$

A diagonal of a rhombus bisects its angles, so

$$m\angle RHM = \frac{1}{2}m\angle RHO = \frac{1}{2} \times 120^\circ = 60^\circ$$

A similar argument proves that  $m\angle RMH = 60^\circ$ .

Since all three angles of  $\triangle RHM$  measure  $60^\circ$ , the triangle is acute. It is also equiangular, and, subsequently, equilateral.

#### QUESTION 393

In Rhombus RHOM,  $m\angle H = 45^\circ$ . If RO is constructed, which of the following is true about  $\triangle RHO$ ?

- A.  $\triangle RHO$  is acute and scalene  
B.  $\triangle RHO$  is right and isosceles, but not equilateral

- C.  $\triangle RHO$  is acute and isosceles, but not equilateral  
 D.  $\triangle RHO$  is right and scalene  
 E.  $\triangle RHO$  is acute and equilateral

**Correct Answer:** C

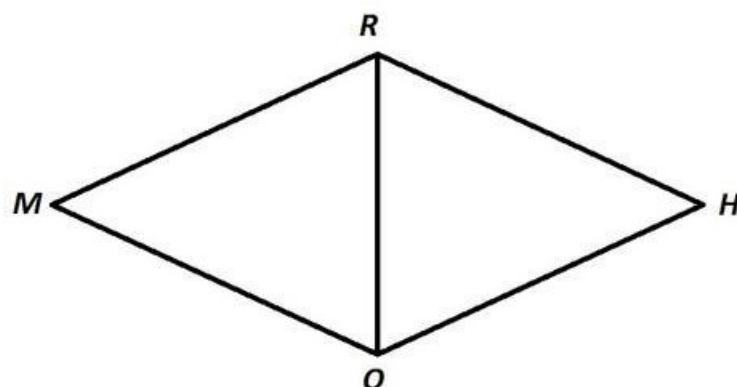
**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The figure referenced is below.



The sides of a rhombus are congruent by definition, so  $\overline{RH} \cong \overline{HO}$ , making  $\triangle RHO$  isosceles. It is not equilateral, since  $m\angle H = 45^\circ$ , and an equilateral triangle must have three  $60^\circ$  angles.

Also, consecutive angles of a rhombus are supplementary – as they are with all parallelograms – so

$$m\angle HRM = 180^\circ - m\angle H = 180^\circ - 45^\circ = 135^\circ$$

A diagonal of a rhombus bisects its angles, so

$$m\angle HRO = \frac{1}{2}m\angle HRM = \frac{1}{2} \times 135^\circ = 67\frac{1}{2}^\circ$$

Similarly,  $m\angle HOR = 67\frac{1}{2}^\circ$

This makes  $\triangle RHO$  acute.

The correct response is that  $\triangle RHO$  is acute and isosceles, but not equilateral.

**QUESTION 394** Quadrilateral ABCD contains four ninety-degree angles. Which of the following must be true?

- I. Quadrilateral ABCD is a rectangle.  
 II. Quadrilateral ABCD is a rhombus.  
 III. Quadrilateral ABCD is a square.

- A. I and II only  
 B. II only  
 C. II and III only  
 D. I, II, and III  
 E. I only

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Quadrilateral ABCD has four ninety-degree angles, which means that it has four right angles because every right angle measures ninety degrees. If a quadrilateral has four right angles, then it must be a rectangle by the definition of a rectangle. This means statement I is definitely true.

However, just because ABCD has four right angles doesn't mean that it is a rhombus. In order for a quadrilateral to be considered a rhombus, it must have four congruent sides. It's possible to have a rectangle whose sides are not all congruent. For example, if a rectangle has a width of 4 meters and a length of 8 meters, then not all of the sides of the rectangle would be congruent. In fact, in a rectangle, only opposite sides need to be congruent. This means that ABCD is not necessarily a rhombus, and statement II does not have to be true.

A square is defined as a rhombus with four right angles. In a square, all of the sides must be congruent. In other words, a square is both a rectangle and a rhombus. However, we already established that ABCD doesn't have to be a rhombus. This means that ABCD need not be a square, because, as we said previously, not all of its sides must be congruent. Therefore, statement III isn't necessarily true either. The only statement that has to be true is statement I. The answer is I only.

**QUESTION 395** A trapezoid has a base of length 4, another base of length  $s$ , and a height of length  $s$ . A square has sides of length  $s$ . What is the value of  $s$  such that the area of the trapezoid and the area of the square are equal?

- A. 4
- B. 2
- C.  $2\sqrt{2}$
- D. 1
- E.  $\sqrt{2}$

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

In general, the formula for the area of a trapezoid is  $(1/2)(a + b)(h)$ , where  $a$  and  $b$  are the lengths of the bases, and  $h$  is the length of the height. Thus, we can write the area for the trapezoid given in the problem as follows:

area of trapezoid =  $(1/2)(4 + s)(s)$

Similarly, the area of a square with sides of length  $a$  is given by  $a^2$ . Thus, the area of the square given in the problem is  $s^2$ . We

now can set the area of the trapezoid equal to the area of the square and solve for  $s$ .

$$(1/2)(4 + s)(s) = s^2$$

Multiply both sides by 2 to eliminate the  $1/2$ .

$$(4 + s)(s) = 2s^2 \text{ Distribute the } s \text{ on the left.}$$

$$4s + s^2 = 2s^2$$

Subtract  $s^2$  from both sides.

$$4s = s^2$$

Because  $s$  must be a positive number, we can divide both sides by  $s$ .

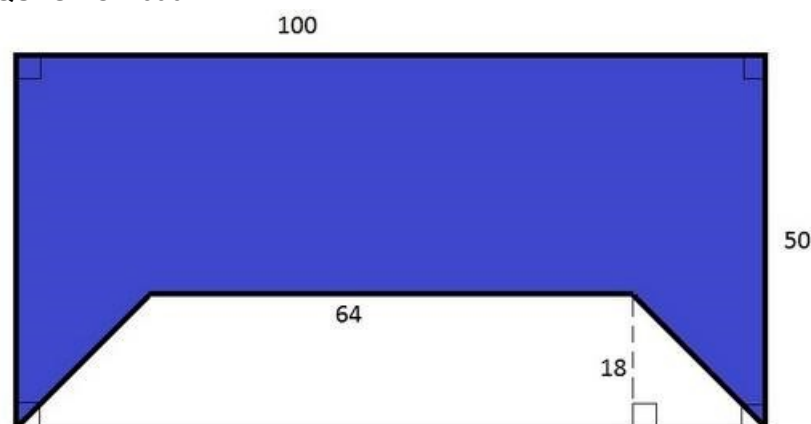
$$4 = s$$

This means the value of  $s$  must be 4.

The answer is 4.



**QUESTION 396**



Note: Figure NOT drawn to scale.

The white region in the above diagram is a trapezoid. What percent of the above rectangle, rounded to the nearest whole percent, is blue?

- A. 75%
- B. 85%
- C. 65%
- D. 80%
- E. 70%

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The area of the entire rectangle is the product of its length and width, or

$$100 \times 50 = 5,000.$$

The area of the white trapezoid is one half the product of its height and the sum of its base lengths, or

$$\frac{1}{2} \times (64 + 100) \times 18 = 1,476$$

Therefore, the blue polygon has area

$$5,000 - 1,476 = 3,524.$$

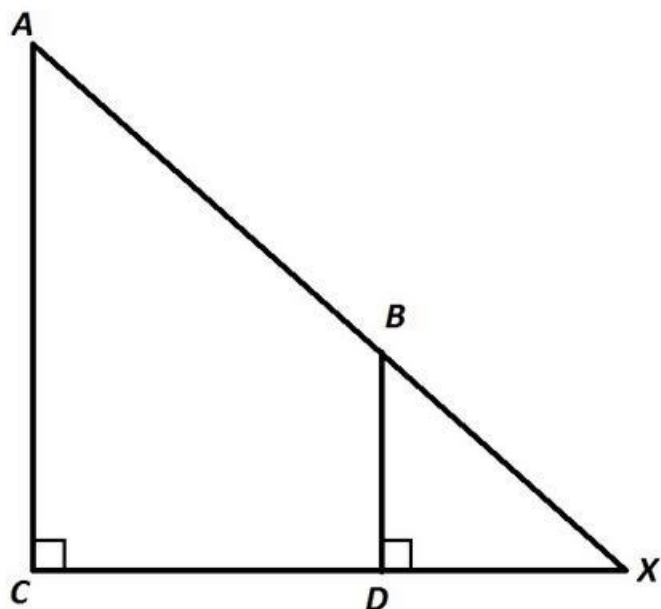
This is

$$\frac{3,524}{5,000} \times 100 = 70.48\%$$

of the rectangle.

Rounded, this is 70%.

**QUESTION 397**



Refer to the above diagram.  $BD = 6$ ,  $DX = 9$ ,  $CX = 24$ . Give the area of Quadrilateral ABDC.

- A. 165
- B. 264
- C. 90
- D. 240
- E. 108

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

$\angle C \cong \angle BD\bar{X}$ , since both are right; by the Corresponding Angles Theorem,  $\overline{AC} \parallel \overline{BD}$ , and Quadrilateral ABDC is a trapezoid. By

the Angle-Angle Similarity Postulate, since

$$\angle C \cong \angle BD\bar{X}$$

and

$$\angle X \cong \angle X \text{ (by reflexivity)}$$

$$\triangle ACX \sim \triangle BD\bar{X}$$

and since corresponding sides of similar triangles are in proportion,

$$\frac{AC}{CX} = \frac{BD}{DX}$$

$$\frac{AC}{24} = \frac{6}{9}$$

$$\frac{AC}{24} \times 24 = \frac{6}{9} \times 24$$

AC = 16, the larger base of the trapezoid;

The smaller base is BD = 6.

CD = CX – DX = 24 – 9 = 15, the height of the trapezoid.

The area of the trapezoid is

$$A = \frac{1}{2}(b + B)h$$

$$A = \frac{1}{2}(BD + AC) \times CD$$

$$A = \frac{1}{2}(6 + 16) \times 15 = \frac{1}{2}(22) \times 15 = 165$$

**QUESTION 398** A circle with a radius 2 in is inscribed in a square. What is the perimeter of the square?

- A. 12in
- B. 32in
- C. 16in
- D. 28in
- E. 24in

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

To inscribe means to draw inside a figure so as to touch in as many places as possible without overlapping. The circle is inside the square such that the diameter of the circle is the same as the side of the square, so the side is actually 4 in. The perimeter of the square =  $4s = 4 \times 4 = 16$ in.

**QUESTION 399**

Square X has 3 times the area of Square Y. If the perimeter of Square Y is 24ft, what is the area of Square X, in sq ft?

- A. 112
- B. 72
- C. 108
- D. 54
- E. 144

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Find the area of Square Y, then calculate the area of Square X.

If the perimeter of Square Y is 24, then each side is  $24/4$ , or 6.

$A = 6 \times 6 = 36$ sq ft, for Square Y

If Square X has 3 times the area, then  $3 \times 36 = 108$ sq ft.

**QUESTION 400**

A square has an area of  $36\text{in}^2$ . If the side of the square is reduced by a factor of two, what is the perimeter of the new square?

- A. 48in.
- B. 24in.
- C. 12in.
- D. 32in.
- E. 16in.

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The area of the given square is given by  $A = s^2$  so the side must be 6 in. The side is reduced by a factor of two, so the new side is 3 in. The perimeter of the new square is given by  $P = 4s = 4 \times 3 = 12$ in.

**QUESTION 401** If the area of a square is 81 units squared, what is the length of its diagonal?

- A. 9 units
- B.  $9\sqrt{2}$ units
- C. Not Enough Information
- D.  $7\sqrt{2}$ units
- E. 6 units

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The diagonal of a square creates two special 45-45-90 triangles, meaning that the diagonal of a square is just the length of one side of the square multiplied by the square root of 2.

In this problem, you can figure out the length of one side of the square by finding the square root of the area (which is equal to a side length), then multiplying that number by the square root of 2.  $\sqrt{81} = 9$

$9 \times \sqrt{2} = 9\sqrt{2}$

**QUESTION 402**

ABCD and EFGH are squares such that the perimeter of ABCD is 3 times that of EFGH. If the area of EFGH is 25, what is the area of ABCD?

- A. 225
- B. 75C. 25
- D. 15
- E. 5

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Assign variables such that

One side of ABCD =  $a$  and

One side of EFGH =  $e$

Note that all sides are the same in a square.

Since the perimeter is the sum of all sides, according to the question:

$4a = 3 \times 4e = 12e$  or  $a = 3e$  From that area of EFGH is 25,  $e \times e = 25$

so  $e = 5$

Substitute  $a = 3e$  so  $a = 15$

We aren't done. Since we were asked for the area of ABCD, this is  $a \times a = 225$ .

#### QUESTION 403

A square has an area of 36. If all sides are doubled in value, what is the new area?

A. 72

B. 132

C. 48

D. 108

E. 144

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:



Let  $S$  be the original side length.  $S \times S$  would represent the original area. Doubling the side length would give you  $2S \times 2S$ , simplifying to  $4 \times (S \times S)$ , giving a new area of 4x the original, or 144.

**QUESTION 404** If the perimeter of a square is equal to twice its area, what is the length of one of its sides?

A. 2

B. 4

C. 8

D. 3

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Area of a square in terms of each of its sides:

Area =  $S \times S$

Perimeter of a square:

Perimeter =  $4S$

So if 'the perimeter of a square is equal to twice its area':

$2 \times \text{Area} = \text{Perimeter}$

$2 \times [S \times S] = [4S]$ ; divide by 2:

$S \times S = 2S$ ; divide by  $S$ :

$S = 2$

#### QUESTION 405

Freddie is building a square pen for his pig. He plans to buy  $x$  feet of fencing to build the pen. This will result in a pen with an area of  $p$  square feet. Unfortunately, he only has enough money to buy one third of the planned amount of fencing. Which expression represents the area of the pen he can build with this limited amount of fencing?

- A.  $p/9$
- B.  $p/6$
- C.  $p/3$
- D.  $3p$
- E.  $9p$

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

If Freddie uses  $x$  feet of fencing makes a square, each side must be  $x/4$  feet long. The area of this square is  $(x/4)^2 = x^2/16 = p$  square feet. If Freddie uses one third of  $x$  feet of fencing makes a square, each side must be  $x/12$  feet long. The area of this square is  $(x/12)^2 = x^2/144 = 1/9(x^2/16) = 1/9(p) = p/9$  square feet. Alternate method:

The scale factor between the small perimeter and the larger perimeter  $1 \div 3$ . Since we're comparing area, a two-dimensional measurement, we can square the scale factor and see that the ratio of the areas is  $1^2 \div 3^2 = 1 \div 9$ .

#### QUESTION 406

If the diagonal of a square measures  $16\sqrt{2}$  cm, what is the area of the square?

- A.  $256\text{cm}^2$
- B.  $32\sqrt{2}\text{cm}^2$
- C.  $64\sqrt{2}\text{cm}^2$
- D.  $512\text{cm}^2$
- E.  $128\text{cm}^2$

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

This is an isosceles right triangle, so the diagonal must equal  $\sqrt{2}$  times the length of a side. Thus, one side of the square measures 16cm, and the area is equal to  $(16\text{cm})^2 = 256 \text{ cm}^2$ .

**QUESTION 407** A square A has side lengths of  $z$ . A second square B has side lengths of  $2.25z$ . How many A's can you fit in a single B?

- A. 5.06
- B. 1C. 4
- D. 2.25
- E. 3

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The area of A is  $n$ , the area of B is  $5.0625n$ . Therefore, you can fit 5.06 A's in B.

**QUESTION 408** The perimeter of a square is 12in. If the square is enlarged by a factor of three, what is the new area?



- A.  $81\text{in}^2$
- B.  $9\text{in}^2$
- C.  $36\text{in}^2$  D.  $27\text{in}^2$
- E.  $48\text{in}^2$

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The perimeter of a square is given by  $P = 4s = 12$  so the side length of the original square is 3 in. The side of the new square is enlarged by a factor of 3 to give  $s = 9$  in. So the area of the new square is given by  $A = s^2 = (9)^2 = 81\text{in}^2$ .

#### QUESTION 409

A half circle has an area of  $18\pi$ . What is the area of a square with sides that measure the same length as the diameter of the half circle?

- A. 108
- B. 72 C. 81
- D. 144
- E. 36

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

If the area of the half circle is  $18\pi$ , then the area of a full circle is twice that, or  $36\pi$ . Use the formula for the area of a circle to solve for the radius:

$$36\pi = \pi r^2$$

$$r = 6$$

If the radius is 6, then the diameter is 12. We know that the sides of the square are the same length as the diameter, so each side has length 12. Therefore the area of the square is  $12 \times 12 = 144$ .



#### QUESTION 410

The area of square R is 12 times the area of square T. If the area of square R is 48, what is the length of one side of square T?

- A. 2
- B. 4
- C. 1
- D. 16

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

We start by dividing the area of square R (48) by 12, to come up with the area of square T, 4. Then take the square root of the area to get the length of one side, giving us 2.

**QUESTION 411** When the side of a certain square is increased by 2 inches, the area of the resulting square is 64 sq. inches greater than the original square. What is the length of the side of the original square, in inches?

- A. 15
- B. 16

- C. 17
- D. 18
- E. 14

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Let  $x$  represent the length of the original square in inches. Thus the area of the original square is  $x^2$ . Two inches are added to  $x$ , which is represented by  $x + 2$ . The area of the resulting square is  $(x + 2)^2$ . We are given that the new square is 64 sq. inches greater than the original. Therefore we can write the algebraic expression:

$$x^2 + 64 = (x + 2)^2$$

FOIL the right side of the equation.

$$x^2 + 64 = x^2 + 4x + 4.$$

Subtract  $x^2$  from both sides and then continue with the algebra.

$$64 = 4x + 4$$

$$64 = 4(x + 1)$$

$$16 = x + 1$$

$$15 = x$$

Therefore, the length of the original square is 15 inches.

If you plug in the answer choices, you would need to add 2 inches to the value of the answer choice and then take the difference of two squares. The choice with 15 would be correct because  $17^2 - 15^2 = 64$ .

**QUESTION 412** If the area of a square is 25 inches squared, what is the perimeter?

- A. 20
- B. Not enough information
- C. 15D. 10
- E. 25

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The area of a square is equal to length times width or length squared (since length and width are equal on a square). Therefore, the length of one side is  $l = \sqrt{25in^2}$  or  $l = 5$  in. The perimeter of a square is the sum of the length of all 4 sides or  $4 \times 5in. = 20in.$

**QUESTION 413** What is the length of the diagonal of a rectangle that is 3 feet long and 4 feet wide?

- A. 5 feet
- B. 6 feet
- C. 8 feet
- D. 4 feet
- E. 7 feet

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The diagonal of the rectangle is equivalent to finding the length of the hypotenuse of a right triangle with sides 3 and 4. Using the Pythagorean Theorem:  
 $3^2 + 4^2 = \text{hypotenuse}^2$   
 $25 = \text{hypotenuse}^2$   
 $\text{hypotenuse} = 5$   
 Therefore the diagonal of the rectangle is 5 feet.

#### QUESTION 414

The length and width of a rectangle are in the ratio of 3:4. If the rectangle has an area of 108 square centimeters, what is the length of the diagonal?

- A. 18 centimeters
- B. 12 centimeters
- C. 15 centimeters
- D. 9 centimeters
- E. 24 centimeters

**Correct Answer:** C

**Section:** Math

**Explanation**

#### Explanation/Reference:

Explanation:

The length and width of the rectangle are in a ratio of 3:4, so the sides can be written as  $3x$  and  $4x$ . We also know the area, so we write an equation and solve for  $x$ :

$$(3x)(4x) = 12x^2 = 108. \quad x^2 = 9 \quad x = 3$$

Now we can recalculate the length and the width:

$$\text{length} = 3x = 3(3) = 9 \text{ centimeters} \quad \text{width} = 4x =$$

$$4(3) = 12 \text{ centimeters}$$

Using the Pythagorean Theorem we can find the diagonal,  $c$ :

$$\text{length}^2 + \text{width}^2 = c^2$$

$$9^2 + 12^2 = c^2$$

$$81 + 144 = c^2 \quad 225$$

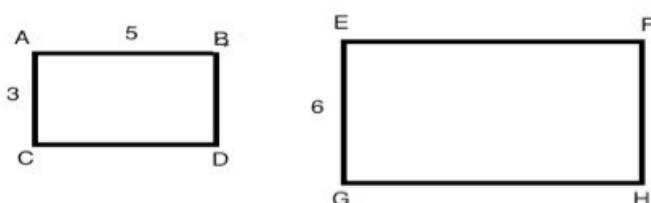
$$= c^2 \quad c = 15$$

centimeters



#### QUESTION 415

The two rectangles shown below are similar. What is the length of EF?



- A. 8
- B. 6
- C. 10
- D. 5

**Correct Answer:** C

**Section:** Math

**Explanation**

#### Explanation/Reference:

Explanation:

When two polygons are similar, the lengths of their corresponding sides are proportional to each other. In this diagram, AC and EG are corresponding sides and AB and EF are corresponding sides. To solve this question, you can therefore write a proportion:

$$AC/EG = AB/EF \Rightarrow 3/6 = 5/EF$$

From this proportion, we know that side EF is equal to 10.

**QUESTION 416**

A rectangle is  $x$  inches long and  $3x$  inches wide. If the area of the rectangle is 108, what is the value of  $x$ ?

- A. 12
- B. 4C. 6
- D. 3
- E. 8

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Solve for  $x$

Area of a rectangle  $A = lw = x(3x) = 3x^2 = 108$

$x^2 = 36$   $x = 6$

**QUESTION 417**

If the area of rectangle is 52 meters squared and the perimeter of the same rectangle is 34 meters. What is the length of the larger side of the rectangle if the sides are integers?

- A. 15 meters
- B. 13 meters
- C. 14 meters
- D. 12 meters
- E. 16 meters

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Area of a rectangle is  $= lw$

Perimeter  $= 2(l + w)$

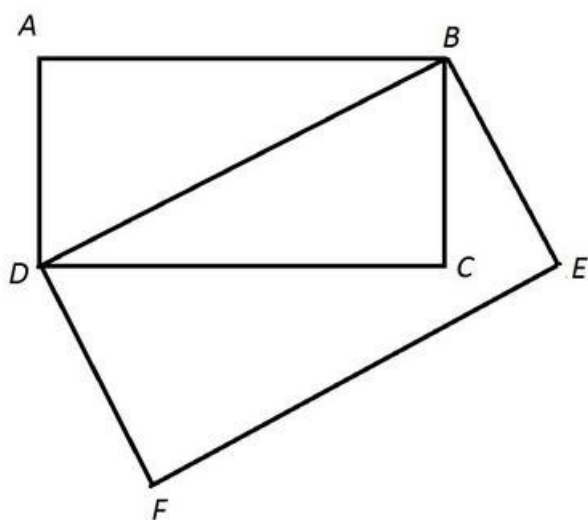
We are given  $34 = 2(l + w)$  or  $17 = (l + w)$

possible combinations of  $l + w$  are  $1 + 16$ ,

$2 + 15$ ,  $3 + 14$ ,  $4 + 13$ ... ect

We are also given the area of the rectangle is 52 meters squared. Do any of the above combinations when multiplied together= 52 meters squared? yes  $4 \times 13 = 52$ . Therefore the longest side of the rectangle is 13 meters.

**QUESTION 418**



Note: Figure NOT drawn to scale.

In the above figure,

Rect ABCD ~ Rect DBEF.

AB = 10, AD = 5.

Give the perimeter of Rect DBEF.

- A.  $30\sqrt{5}$
- B. 45
- C. 60
- D.  $\frac{15}{2}\sqrt{5}$
- E.  $15\sqrt{5}$

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

We can use the Pythagorean Theorem to find DB:

$$DB = \sqrt{(AD)^2 + (AB)^2}$$

$$DB = \sqrt{5^2 + 10^2} = \sqrt{25 + 100} = \sqrt{125} = \sqrt{25} \times \sqrt{5} = 5\sqrt{5}$$

The similarity ratio of Rect DBEF to Rect ABCD is

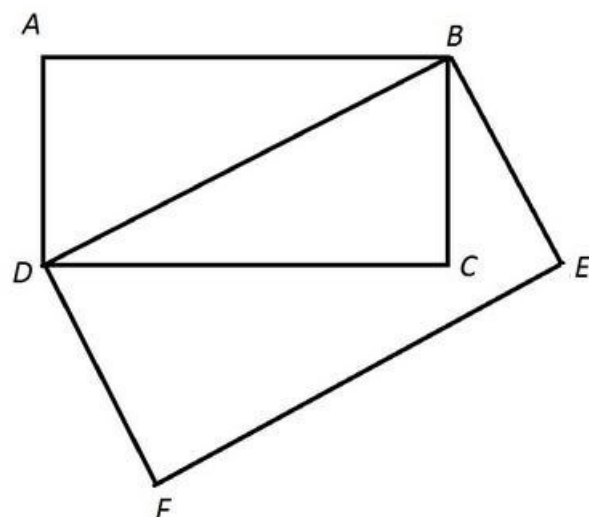
$$\frac{DB}{AB} = \frac{5\sqrt{5}}{10} = \frac{\sqrt{5}}{2}$$

so  $\frac{\sqrt{5}}{2}$

$$\frac{\sqrt{5}}{2}(10 + 5 + 10 + 5) = \frac{\sqrt{5}}{2}(30) = 15\sqrt{5}$$

multiplied by the length of a side of Rect ABCD is the length of the corresponding side of Rect DBEF. We can subsequently multiply the perimeter of the former  $\frac{\sqrt{5}}{2}$  to get that of the latter:

**QUESTION 419**



Note: Figure NOT drawn to scale.

In the above figure,

Rect ABCD ~ Rect DBEF.

AB = 8, AD = 4.

Give the area of Rect DBEF.

- A. 24
- B. Insufficient information is given to determine the area.
- C. 40
- D. 32
- E. 64

**Correct Answer: C**

**Section: Math**

**Explanation**

**Explanation/Reference:**

Explanation:

Corresponding sidelengths of similar polygons are in proportion, so

$$\frac{DF}{AD} = \frac{DB}{AB}$$

AB = 8, AD = 4, so

$$\frac{DF}{4} = \frac{DB}{8}$$

$$DF = \frac{DB}{8} \times 4$$

$$DF = \frac{DB}{2}$$

We can use the Pythagorean Theorem to find DB:

$$DB = \sqrt{(AD)^2 + (AB)^2}$$

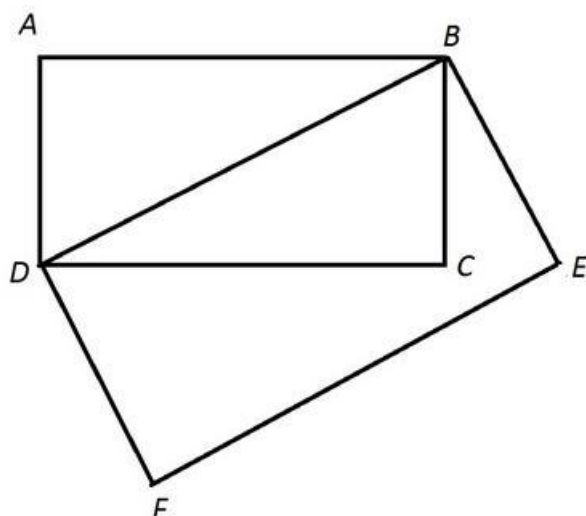
$$DB = \sqrt{4^2 + 8^2} = \sqrt{16 + 64} = \sqrt{80} = \sqrt{16} \times \sqrt{5} = 4\sqrt{5}$$

$$DF = \frac{DB}{2} = \frac{4\sqrt{5}}{2} = 2\sqrt{5}$$

The area of Rect DBEF is

$$DB \times DF = 4\sqrt{5} \times 2\sqrt{5} = 8 \times 5 = 40$$

**QUESTION 420**



Note: Figure NOT drawn to scale.

In the above figure,

Rect ABCD ~ Rect DBEF.

AB = 12, AD = 6.

Give the area of Polygon ABEFD.

- A.  $72 + 18\sqrt{5}$
- B. 90
- C. 126
- D. 162
- E.  $36 + 18\sqrt{5}$



**Correct Answer: C**

**Section: Math**

**Explanation**

**Explanation/Reference:**

Explanation:

Polygon ABEFD can be seen as a composite of right  $\triangle ABD$  and Rect DBEF, so we calculate the individual areas and add them. The area of  $\triangle ABD$  is half the product of legs AB and AD:

$$\frac{1}{2} \times AB \times AD = \frac{1}{2} \times 12 \times 6 = 36$$

Now we find the area of Rect DBEF. We can do this by first finding DB using the Pythagorean Theorem:

$$DB = \sqrt{(AD)^2 + (AB)^2}$$

$$DB = \sqrt{6^2 + 12^2} = \sqrt{36 + 144} = \sqrt{180} = \sqrt{36} \times \sqrt{5} = 6\sqrt{5}$$

The similarity of Rect DBEF to Rect ABCD implies

$$\frac{DF}{AD} = \frac{DB}{AB}$$

so

$$\frac{DF}{6} = \frac{6\sqrt{5}}{12}$$

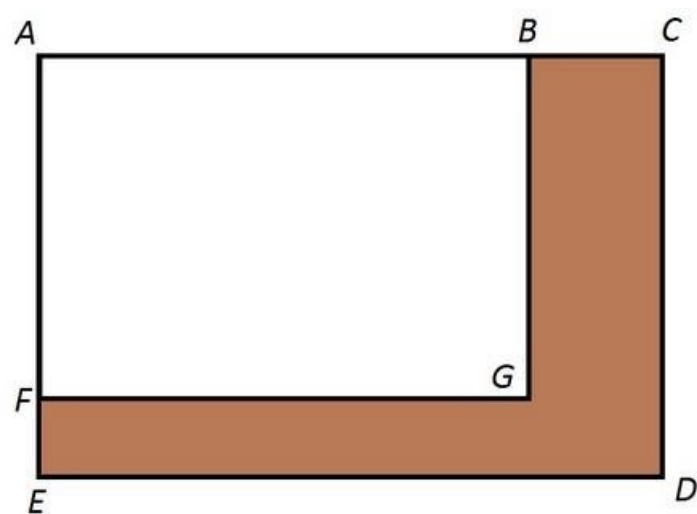
$$DF = \frac{6 \times 6\sqrt{5}}{12} = \frac{36\sqrt{5}}{12} = 3\sqrt{5}$$

The area of Rect DBEF is the product of DB and DF:

$$DB \times DF = 6\sqrt{5} \times 3\sqrt{5} = 6 \times 3 \times \sqrt{5} \times \sqrt{5} = 18 \times 5 = 90$$

Now add:  $90 + 36 = 126$ , the correct response.

**QUESTION 421**



Note: Figure NOT drawn to scale.

Refer to the above figure.

Rect ABGF ~ Rect ACDE

AB = 7 and BC = 3.

What percent of Rect ACDE has been shaded brown?

- A.  $57\frac{1}{7}\%$
- B. Insufficient information is given to answer the problem.
- C. 30% D. 49%
- E. 51%

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

AB = 7 and AC = AB + BC = 7 + 3 = 10

AC = AB + BC = 7 + 3 = 10, so the similarity ratio of Rect ACDE to Rect ABGF is 10 to 7. The ratio of the areas is the square of this, or

$10^2 : 7^2$

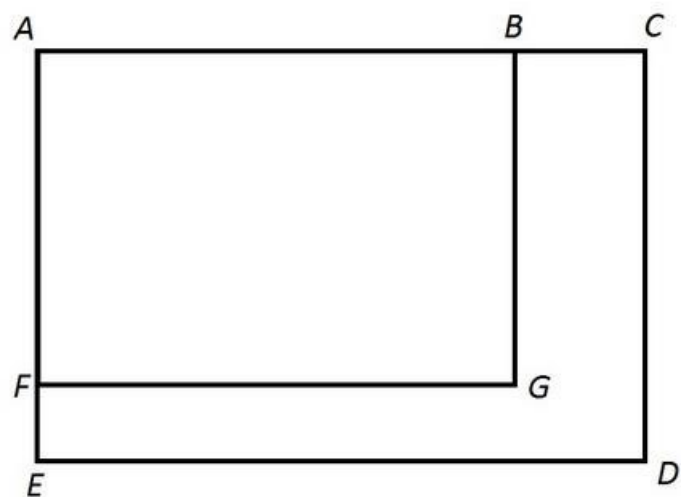
or

100 : 49

Therefore, Rect ABGF comprises  $\frac{49}{100} = 49\%$  of Rect ABGF, and the remainder of the rectangle – the brown region – is 51% of Rect ABGF.

**QUESTION 422**





Note: figure NOT drawn to scale.

Refer to the above figure.

Rect ABGF ~ Rect ACDE

AB = 12, BC = 3, AE = 10.

Give the area of Rect ABGF.

- A. 216
- B. 80
- C. 120
- D. 108
- E. 96

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Rect ABGF ~ Rect ACDE, so the sides are in proportion – that is,

$$\frac{AF}{AB} = \frac{AE}{AC}$$

$$AC = AB + BC = 12 + 3 = 15$$

Set

AB = 12, AC = 15, AE = 10 and solve for AF:

$$\frac{AF}{12} = \frac{10}{15}$$

$$AF = \frac{10}{15} \times 12 = 8$$

Rect ABGF has area

$$AB \times AF = 12 \times 8 = 96$$

#### QUESTION 423

A rectangle has a width of  $2x$ . If the length is five more than 150% of the width, what is the perimeter of the rectangle?

- A.  $10(x + 1)$
- B.  $5x + 10$
- C.  $6x^2 + 10x$
- D.  $5x + 5$
- E.  $6x^2 + 5$

**Correct Answer:** A

**Section:** Math

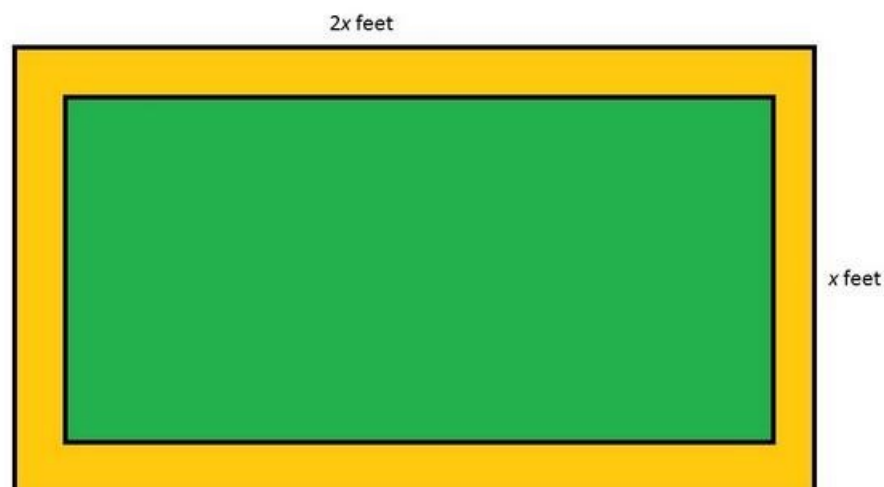
**Explanation**

**Explanation/Reference:**

Explanation:

Given that  $w = 2x$  and  $l = 1.5w + 5$ , a substitution will show that  $l = 1.5(2x) + 5 = 3x + 5$ .  $P = 2w + 2l = 2(2x) + 2(3x + 5) = 4x + 6x + 10 = 10x + 10 = 10(x + 1)$

#### QUESTION 424



Note: Figure NOT drawn to scale

Refer to the above figure, which shows a rectangular garden (in green) surrounded by a dirt path (in orange). The dirt path is seven feet wide throughout. Which of the following polynomials gives the perimeter of the garden in feet?

- A.  $2x^2 - 42x + 196$
- B.  $6x - 28$  C.  $6x - 56$
- D.  $6x - 14$
- E.  $2x^2 - 21x + 49$

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

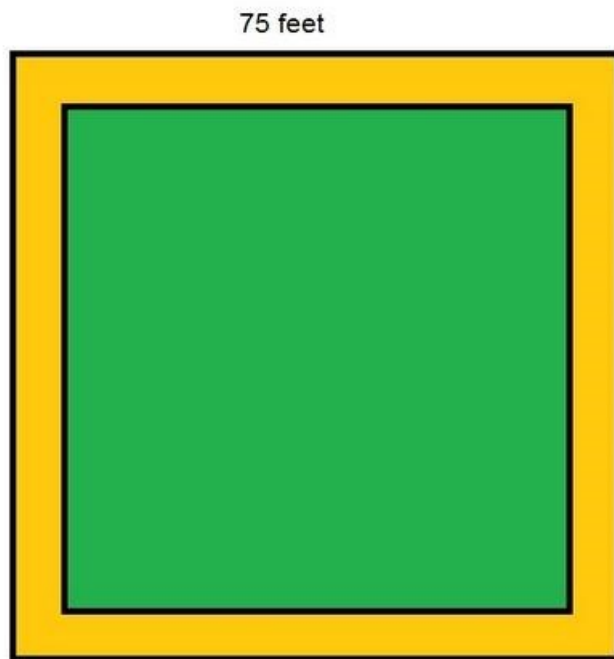
The length of the garden, in feet, is  $2 \times 7 = 14$  feet less than that of the entire lot, or  $L = 2x - 14$ ;

The width of the garden, in feet, is  $2 \times 7 = 14$  less than that of the entire lot, or  $W = x - 14$ .

The perimeter, in feet, is twice the sum of the two:

$$P = 2(L + W) \\ = 2(2x - 14 + x - 14) = 2(3x - 28) = 6x - 56$$

#### QUESTION 425



Note: Figure NOT drawn to scale

Refer to the above figure, which shows a square garden (in green) surrounded by a dirt path (in orange) eight feet wide throughout. What is the perimeter of the garden?

- A. 236ft
- B. 268ft
- C. 284ft
- D. 118ft

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The inner square, which represents the garden, has sidelength  $(75 - 2 \times 8) = 59$  feet, so its perimeter is four times this:

$$P = 4 \times 59 = 236 \text{ feet.}$$

#### QUESTION 426

Farmer Dave has a rectangular field that is 50 yards wide and 40 yards long. He wants to enclose the field with a wire fence. How much wire does Farmer Dave need?

- A. 210 yards
- B. 170 yards
- C. 200 yards
- D. 160 yards
- E. 180 yards

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

To solve this problem, find the perimeter of the rectangle. There are two sides that each measure 50 yards and two sides that each measure 40 yards. Together these four sides measure 180 yards.

#### QUESTION 427

A rectangular garden has an area of  $80 \text{ m}^2$ . Its length is 2 meters longer than its width. How much fencing is needed to enclose the garden?

- A. 36 meters
- B. 18 meters
- C. 40 meters
- D. 24 meters
- E. 54 meters

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

We define the variables as  $w$  = width and  $l$  = length =  $w + 2$ .

We substitute these values into the equation for the area of a rectangle and get  $A_{\text{rectangle}} = wl = w(w + 2) = 80$ .

$$w^2 + 2w - 80 = 0 \quad (w - 8)(w + 10) = 0 \quad w = 8 \text{ or } w = -10$$

Lengths cannot be negative, so the only correct answer is  $w = 8$ . If  $w = 8$ , then  $l = 10$ . Therefore,

$$\text{perimeter} = 2w + 2l = 16 + 20 = 36\text{m}$$

**QUESTION 428** A contractor is going to re-tile a rectangular section of the kitchen floor. If the floor is  $6\text{ft} \times 3\text{ft}$ , and he is going to use square tiles with a side of  $9\text{in}$ . How many tiles will be needed?

- A. 24
- B. 40
- C. 32
- D. 2

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

We have to be careful of our units. The floor is given in feet and the tile in inches. Since the floor is  $6\text{ft} \times 3\text{ft}$ , we can say it is  $72\text{in} \times 36\text{in}$ , because 12 inches equals 1 foot. If the tiles are  $9\text{in} \times 9\text{in}$  we can fit 8 tiles along the length and 4 tiles along the width. To find the total number of tiles we multiply  $8 \times 4 = 32$ . Alternately we could find the area of the floor ( $72 \times 36$ , and divide by the area of the tile  $9 \times 9$ ).

**QUESTION 429**

The rectangular bathroom floor in Michael's house is ten feet by twelve feet. He wants to purchase square tiles that are four inches long and four inches wide to cover the bathroom floor. If each square tile costs \$2.50, how much money will Michael need to spend in order to purchase enough tiles to cover his entire bathroom floor?

- A. \$5400
- B. \$4800
- C. \$1080
- D. \$1920
- E. \$2700

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The dimensions for the bathroom are given in feet, but the dimensions of the tiles are given in inches; therefore, we need to convert the dimensions of the bathroom from feet to inches, because we can't compare measurements easily unless we are using the same type of units.

Because there are twelve inches in a foot, we need to multiply the number of feet by twelve to convert from feet to inches.

$$10 \text{ feet} = 10 \times 12 \text{ inches} = 120 \text{ inches}$$

12 feet =  $12 \times 12$  inches = 144 inches

This means that the bathroom floor is 120 inches by 144 inches. The area of Michael's bathroom is therefore  $120 \times 144 \text{ in}^2 = 17280 \text{ in}^2$ . Now, we need to find the area of the tiles in square inches and calculate how many tiles it would take to cover  $17280 \text{ in}^2$ .

Each tile is 4 in by 4 in, so the area of each tile is  $4 \times 4 \text{ in}^2$ , or  $16 \text{ in}^2$ . If there are  $17280 \text{ in}^2$  to be covered, and each tile is  $16 \text{ in}^2$ , then the number of tiles we need is  $17280 \div 16$ , which is 1080 tiles. The question ultimately asks us for the cost of all these tiles; therefore, we need to multiply 1080 by 2.50, which is the price of each tile. The total cost =  $1080 \times 2.50$  dollars = 2700 dollars. The answer is \$2700.

#### QUESTION 430

Ron has a fixed length of wire that he uses to make a lot. On Monday, he uses the wire to make a rectangular lot. On Tuesday, he uses the same length of wire to form a square-shaped lot. Ron notices that the square lot has slightly more area, and he determines that the difference between the areas of the two lots is sixteen square units. What is the positive difference, in units, between the length and the width of the lot on Monday?

- A. 6
- B. 10
- C. 4
- D. 12
- E. 8

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Let's say that the rectangular lot on Monday has a length of  $l$  and a width of  $w$ . The area of a rectangle is the product of the length and the width, so we can write the area of the lot on Monday as  $lw$ .

Next, we need to find an expression for the area of the lot on Tuesday. We are told that the lot is in the shape of a square and that it uses the same length of wire. If the length of the wire used is the same on both days, then the perimeter will have to remain the same. In other words, the perimeter of the square will equal the perimeter of the rectangle. The perimeter of a rectangle is given by  $2l + 2w$ .

We also know that if  $s$  is the length of a side of a square, then the perimeter is  $4s$ , because each side of the square is congruent. Let's write an equation that sets the perimeter of the rectangle and the square equal.  $2l + 2w = 4s$

If we divide both sides by 4 and then simplify the expression, then we can write the length of the square as follows:

$$s = \frac{2l + 2w}{4} = \frac{2(l + w)}{4} = \frac{l + w}{2}$$

We now have an expression for the side of the square. Because the area of a square is simply the square of the length of any of its sides, the area of the square equals  $s^2$ .

$$\text{Area of square} = s^2 = \left(\frac{l+w}{2}\right)^2$$

Now, we are told that the difference between the area of the square and the area of the rectangle is equal to 16. We can write the following equation:

$$\left(\frac{l+w}{2}\right)^2 - lw = 16$$

Let's simplify the left side. First, we can apply the property of exponents which states that

$$\left(\frac{a}{b}\right)^c = \frac{a^c}{b^c}$$

$$\frac{(l+w)^2}{2^2} - lw = 16$$

Then, we can simplify the left side further by writing  $lw$  as a fraction with a denominator of 4.

$$\frac{l^2 + 2lw + w^2}{4} - \frac{4lw}{4} = \frac{l^2 + 2lw + w^2 - 4lw}{4} = 16$$

Next, we can combine the  $lw$  terms in the numerator of the left side.

$$\frac{l^2 - 2lw + w^2}{4} = 16$$

We can multiply both sides by 4 to get rid of the fraction.

$$\left(\frac{l^2 - 2lw + w^2}{4}\right)\left(\frac{4}{1}\right) = 16(4)$$

$$l^2 - 2lw + w^2 = 64$$

Notice that the left side can now be factored, because of the formula which states that  $(a - b)^2 = a^2 - 2ab + b^2$ . ( $l$

$$- w)^2 = 64$$

Let's take the square root of both sides. Remember, when we take the square root of a number, we can get a positive or a negative answer.

$$(l - w) = \sqrt{64} = \pm 8$$

This means that the difference between  $l$  and  $w$  is either positive or negative 8. However, we are asked to find the positive difference. One way to do this is to take the absolute value of both sides. The absolute value of  $+8$  and  $-8$  will both be 8.

$$|l - w| = |\pm 8| = 8$$

The answer is 8.

#### QUESTION 431

A rectangle has a width of  $2x$ . If the length is five more than 150% of the width, what is the area of the rectangle?

- A.  $10(x + 1)$
- B.  $5x + 10$
- C.  $5x + 5$
- D.  $6x^2 + 10x$
- E.  $6x^2 + 5$

**Correct Answer:** D

**Section:** Math

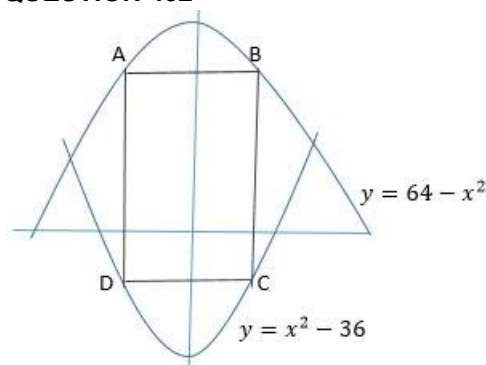
**Explanation**

**Explanation/Reference:**

Explanation:

Given that  $w = 2x$  and  $l = 1.5w + 5$ , a substitution will show that  $l = 1.5(2x) + 5 = 3x + 5$ .  
 $A = lw = (3x + 5)(2x) = 6x^2 + 10x$

#### QUESTION 432



Rectangle ABCD is shown in the figure above. Points A and B lie on the graph of  $y = 64 - x^2$ , and points C and D lie on the graph of  $y = x^2 - 36$ . Segments AD and BC are both parallel to the  $y$ -axis. The  $x$ -coordinates of points A and B are equal to  $-k$  and  $k$ , respectively. If the value of  $k$  changes from 2 to 4, by how much will the area of rectangle ABCD increase?

- A. 352
- B. 88
- C. 272D. 544
- E. 176

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

What we need to do is generate an expression for the area of the rectangle in terms of  $k$ . Then, all we have to do is substitute 2 and 4 in for  $k$  and see how the area changes.

Remember that the area of any rectangle is the product of the length and the width. In the case of rectangle ABCD, we can use AD to represent the length and AB to represent the height. Let's find the coordinates of A, B, and D in terms of  $k$ . Then we can use the distance formula to find the lengths of AB and AD.

We are told that A and B have  $x$ -coordinates equal to  $-k$  and  $k$ , respectively. In order to find the value of the  $y$ -coordinates of A and B, we need to substitute  $-k$  and  $k$  into the equation for  $y = 64 - x^2$  since we know that A and B lie on this graph.  $y$ -coordinate of A =  $64 - (-k)^2 = 64 - k^2$

y-coordinate of  $B = 64 - k^2$

Thus, we can say that A is located at  $(-k, 64 - k^2)$ , and B is located at  $(k, 64 - k^2)$ .

Next, let's find the coordinates of D. Because AD is parallel to the y-axis, A and D must have the same x-coordinate. Thus, the x-coordinate of point D is also  $-k$ . However, in order to find the y-coordinate of point D, we will need to use the equation  $y = x^2 - 36$ , since we are told that D lies on this graph. All we have to do is substitute  $-k$  in place of  $x$ . y-coordinate of D =  $(-k)^2 - 36 = k^2 - 36$

This means D is located at  $(-k, k^2 - 36)$ .

We now have the coordinates of A, B, and D, which we can use to find the width and length of the rectangle. Let's find the distance between A and B, which will give us the rectangle's width.

A is located at  $(-k, 64 - k^2)$ , and B is located at  $(k, 64 - k^2)$ .

The distance d between any points  $(x_1, y_1)$  and  $(x_2, y_2)$  is given below:

$$\begin{aligned} d &= \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2} \\ &= \sqrt{(k - (-k))^2 + (64 - k^2 - (64 - k^2))^2} \\ &= \sqrt{(k + k)^2 + (64 - k^2 - 64 + k^2)^2} \\ &= \sqrt{(2k)^2 + 0^2} = 2k \end{aligned}$$

The length of AB is  $2k$ . Now, let's find the length of AD. D is located at  $(-k, k^2 - 36)$ .

$$\begin{aligned} \text{Distance} &= \sqrt{(-k - (-k))^2 + ((64 - k^2) - (k^2 - 36))^2} \\ &= \sqrt{0^2 + (64 - k^2 - k^2 + 36)^2} \\ &= \sqrt{(100 - 2k^2)^2} = 100 - 2k^2 \end{aligned}$$

The length of AD is  $100 - 2k^2$

The length of AB is  $2k$  and the length of AD is  $100 - 2k^2$ . If we multiply these two expressions together, we will have the area of rectangle ABCD. Area of ABCD =  $2k(100 - 2k^2) = 200k - 4k^3$

Now, let's let  $k = 2$  and see what the area of ABCD is.

$$\text{Area} = 200k - 4k^3 = 200(2) - 4(2^3) = 400 - 32 = 368$$

Then, we will let  $k = 4$ .

$$\text{Area} = 200k - 4k^3 = 200(4) - 4(4^3) = 800 - 256 = 544$$

The Area changed from 368 to 544. The question asks us to find how much this increase is, so we need to find the difference between 544 and 368.

$$\text{Increase in area} = 544 - 368 = 176 \text{ The answer is } 176.$$

#### QUESTION 433

George wants to paint the walls in his room blue. The ceilings are 10ft tall and a carpet 12ft by 15ft covers the floor. One gallon of paint covers 400 ft<sup>2</sup> and costs \$40. One quart of paint covers 100 ft<sup>2</sup> and costs \$15. How much money will he spend on the blue paint?

- A. \$80
- B. \$30
- C. \$70
- D. \$40
- E. \$55

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The area of the walls is given by  $A = 2wh + 2lh = 2(12)(10) + 2(15)(10) = 540\text{ft}^2$

One gallon of paint covers 400 ft<sup>2</sup> and the remaining 140 ft<sup>2</sup> would be covered by two quarts.

So one gallon and two quarts of paint would cost  $\$40 + \$15 + \$15 = \$70$

**QUESTION 434** Daisy gets new carpet for her rectangular room. Her floor is 21ft  $\times$  24ft. The carpet sells for \$5 per square yard. How much did she spend on her carpet?

- A. \$280
- B. \$350

- C. \$120
- D. \$225
- E. \$310

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Since 3ft = 1yd the room measurements are 7 yards by 8 yards. The area of the floor is thus 56 square yards. It would cost  $5 \times 56 = \$280$ .

**QUESTION 435**

The length of a rectangular rug is five more than twice its width. The perimeter of the rug is 40ft. What is the area of the rug?

- A. 150ft<sup>2</sup>
- B. 50ft<sup>2</sup>
- C. 100ft<sup>2</sup>
- D. 125ft<sup>2</sup>
- E. 75ft<sup>2</sup>

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

For a rectangle,  $P = 2w + 2l$  and  $A = lw$  where  $w$  is the width and  $l$  is the length.

Let  $x$  = width and  $2x + 5$  = length.

So the equation to solve becomes  $40 = 2x + 2(2x+5)$  or  $40 = 6x + 10$ .

Thus  $x = 5$ ft and  $2x + 5 = 15$ ft, so the area is 75ft<sup>2</sup>.



**QUESTION 436**

The front facade of a building is 100 feet tall and 40 feet wide. There are eight floors in the building, and each floor has four glass windows that are 8 feet wide and 6 feet tall along the front facade. What is the total area of the glass in the façade?

- A. 768ft<sup>2</sup>
- B. 192ft<sup>2</sup>
- C. 2464ft<sup>2</sup> D. 1536ft<sup>2</sup>
- E. 1536ft<sup>2</sup>

**Correct Answer:** E

**Section:** Math

**Explanation**

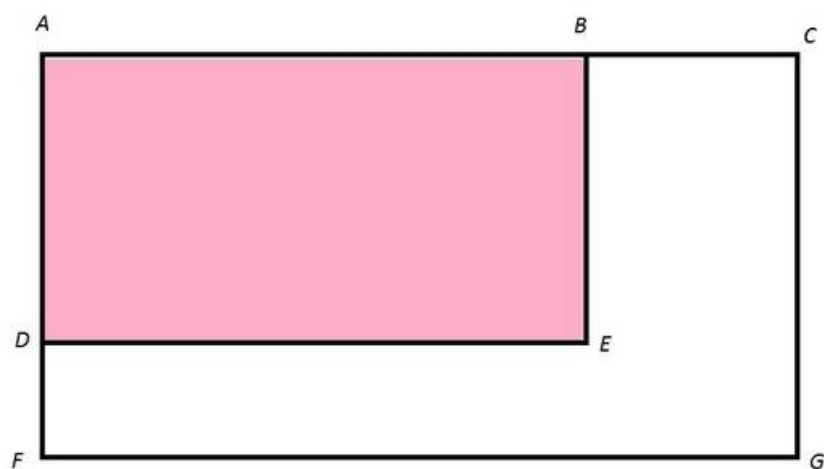
**Explanation/Reference:**

Explanation:

Glass Area per Window = 8ft  $\times$  6ft = 48ft<sup>2</sup> Total Number of Windows = Windows per Floor  $\times$  Number of Floors = 4  $\times$  8 = 32 windows Total Area of Glass = Area per Window  $\times$  Total Number of Windows = 48  $\times$  32 = 1536ft<sup>2</sup>

**QUESTION 437**





Note: Figure NOT drawn to scale.

$AB = 13$ ,  $BC = 7$ ,  $AD = 9$ ,  $DF = 3$

What percent of Rectangle ACGF is pink?

- A. 50%  
 $46\frac{2}{3}\%$  B. C.  
 $55\frac{5}{9}\%$   
 $44\frac{4}{9}\%$   
 $48\frac{3}{4}\%$   
D. E.



**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The pink region is Rectangle ABED. Its length and width are

$L = AB = 13$

$W = AD = 9$

so its area is the product of these, or

$A = 13 \times 9 = 117$ .

The length and width of Rectangle ACGF are

$L = AC = AB + BC = 13 + 7 = 20$

$W = AF = AD + DF = 9 + 3 = 12$  so its

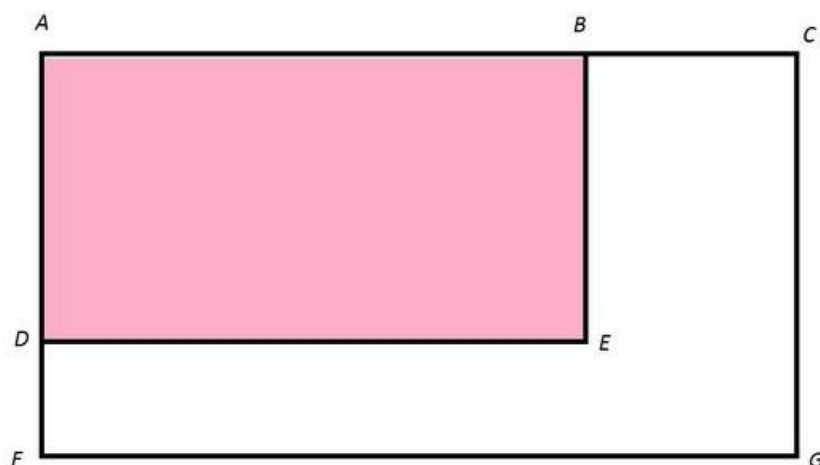
area is the product of these, or  $20 \times$

$12 = 240$ .

We want to know what percent 117 is of 240, which can be answered as follows:

$$\frac{117}{240} \times 100\% = 48\frac{3}{4}\%$$

**QUESTION 438**



Note: Figure NOT drawn to scale

Refer to the above diagram.

40% of Rectangle ACGF is pink.  $AB = 20$ ,  $AD = 15$ ,  $BC = 10$ . Evaluate DF.

- A.  $DF = 8$
- B.  $DF = 12$
- C.  $DF = 5$
- D.  $DF = 15$
- E.  $DF = 10$

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Rectangle ABED has length  $L = AB = 20$  and width  $W = AD = 15$ , so it has area

$$LW = 20 \times 15 = 300.$$

300 is 40% of, or 0.40 times, the area of Rectangle ACGF, which we will call A. We can determine A as follows:  $0.40A = 300$

$$A = 300 \div 0.4 = 750.$$

The length of Rectangle ACGF is L

$$= AC = AB + BC = 20 + 10 = 30, \text{ so}$$

its width is

$$W = AF = 750 \div 30 = 25.$$

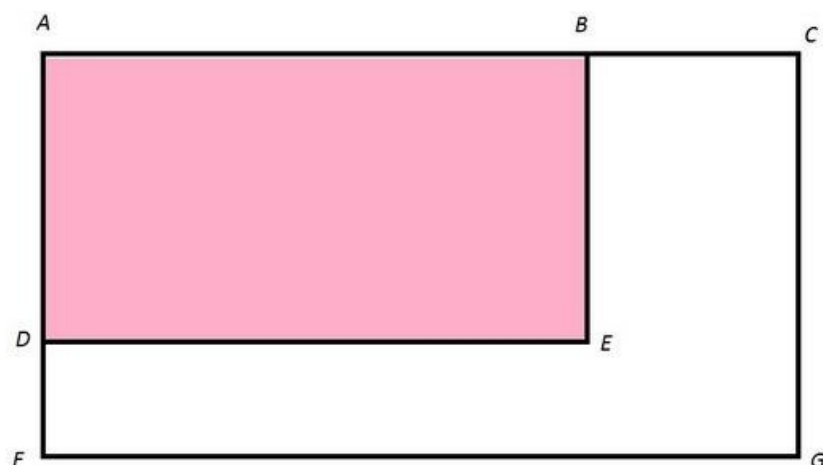
Since

$$W = AF = AD + DF,$$

$$25 = 15 + DF$$

$$DF = 10$$

**QUESTION 439**



Note: Figure NOT drawn to scale

AB = 24, BC = 6, AD = 12, DF = 3

What percent of Rectangle ACGF is white?

- A. 36%
- B.  $33\frac{1}{3}\%$
- C. 40%
- D. 25%
- E.  $44\frac{4}{9}\%$

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The pink region is Rectangle ABED. Its length and width are

$L = AB = 24$

$W = AD = 12$

so its area is the product of these, or

$24 \times 12 = 288$ .

The length and width of Rectangle ACGF are

$L = AC = AB + BC = 24 + 6 = 30$  W

$= AF = AD + DF = 12 + 3 = 15$  so its

area is the product of these, or  $30 \times$

$15 = 450$ .

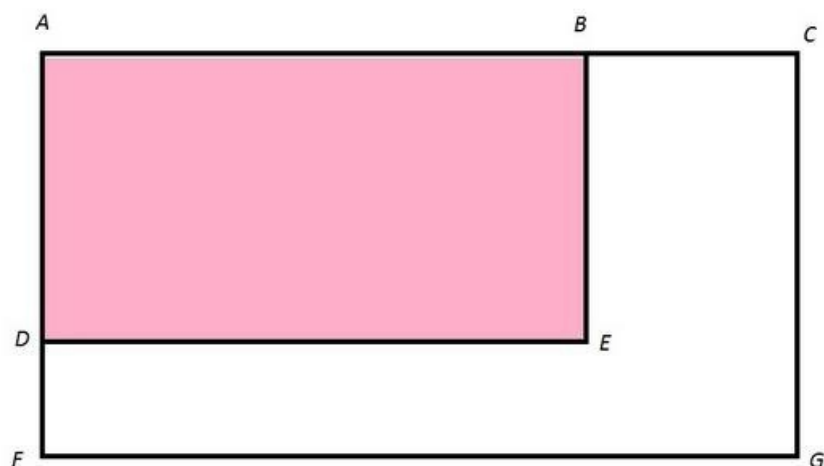
The white region is Rectangle ABED cut from Rectangle ACGF, so its area is the difference of the two:

$450 - 288 = 162$ .

So we want to know what percent 162 is of 450, which can be answered as follows:

$$\frac{162}{450} \times 100\% = 36\%$$

**QUESTION 440**



Note: Figure NOT drawn to scale

$AB = 20$ ,  $BC = 8$ ,  $AD = 10$ ,  $DF = 4$

Give the ratio of the perimeter of Rectangle ACGF to that of Rectangle ABED.

- A.  
7:5
- B.  
4:3
- C.  
5:3
- D.  
2:1
- E. 5:2



**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The perimeter of Rectangle ABED is

$$P = AB + BE + ED + AD$$

Opposite sides of a rectangle are congruent, so

$$AB = ED = 20, AD = BE = 10 \text{ and}$$

$$P = 20 + 10 + 20 + 10 = 60$$

The perimeter of Rectangle ACGF is

$$P = AC + CG + GF + AF$$

Opposite sides of a rectangle are congruent, so

$$GF = AC = AB + BC = 20 + 8 = 28,$$

$$CG = AF = AD + DF = 10 + 4 = 14,$$

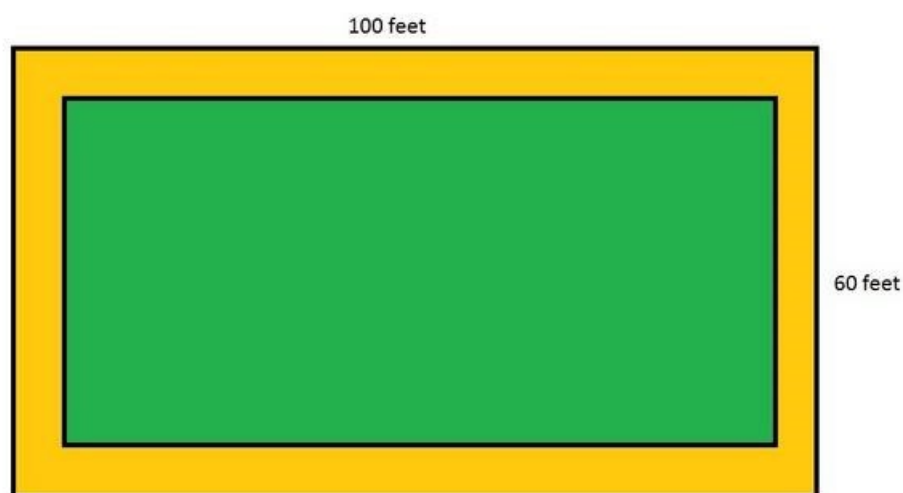
and

$$P = 28 + 14 + 28 + 14 = 84$$

The ratio of the perimeters is

$$\frac{84}{60} = \frac{84 \div 12}{60 \div 12} = \frac{7}{5} \text{ -- that is, 7 to 5.}$$

**QUESTION 441**



Note: Figure NOT drawn to scale

Refer to the above figure, which shows a rectangular garden (in green) surrounded by a dirt path (in orange) eight feet wide throughout. What is the area of that dirt path?

The correct area is not given among the other responses.

- A. 1,216ft<sup>2</sup>
- B. 1,280ft<sup>2</sup>
- C. 2,304ft<sup>2</sup>
- D. 2,560ft<sup>2</sup>

**Correct Answer:** C

**Section:** Math

**Explanation**



**Explanation/Reference:**

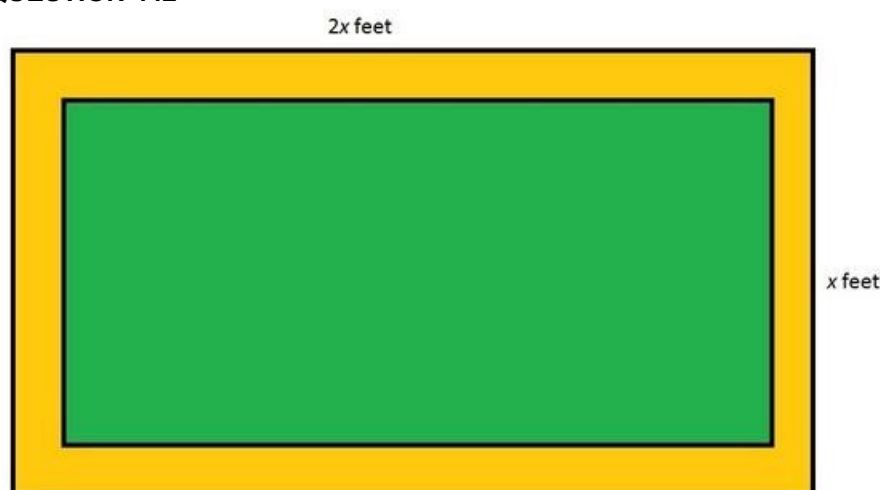
Explanation:

The dirt path can be seen as the region between two rectangles. The outer rectangle has length and width 100 feet and 60 feet, respectively, so its area is  $A = 100 \times 60 = 6,000$  square feet.

The inner rectangle has length and width  $(100 - 2 \times 8) = 84$  feet and  $(60 - 2 \times 8) = 44$  feet, respectively, so its area is  $A = 84 \times 44 = 3,696$  square feet.

The area of the path is the difference of the two:  
 $6,000 - 3,696 = 2,304$  square feet.

**QUESTION 442**



Refer to the above figure, which shows a rectangular garden (in green) surrounded by a dirt path (in orange). The dirt path is seven feet wide throughout. Which of the following polynomials gives the area of the *dirt path* in square feet?

- A.  $21x$
- B.  $42x$
- C.  $21x - 49$
- D.  $42x - 196$
- E.  $42x - 98$

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The area of the dirt path is the difference between the areas of the outer and inner rectangles.

The outer rectangle has area

$$A = 2x \times x = 2x^2$$

The area of the inner rectangle can be found as follows:

The length of the garden is  $2 \times 7 = 14$  feet less than that of the entire lot, or  $L$

$$= 2x - 14;$$

The width of the garden is  $2 \times 7 = 14$  less than that of the entire lot, or

$$W = x - 14;$$

The area of the garden is their product:

$$A = LW = (2x - 14)(x - 14)$$

$$= 2x \times x - 2x \times 14 - 14 \times x + 14 \times 14$$

$$= 2x^2 - 28x - 14x + 196$$

$$= 2x^2 - 42x + 196$$

Now, subtract the areas:

$$2x^2 - (2x^2 - 42x + 196) = 2x^2 - 2x^2 + 42x - 196 = 42x - 196$$



#### QUESTION 443

If the area Rectangle A is 25% larger than Rectangle B and the sides of Rectangle A are 10 and 6, what is the area of Rectangle B?

- A. 60
- B. 45
- C. 15
- D. 48
- E. 75

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

$$A = \text{length} \times \text{width} = 10 \times 6 = 60$$

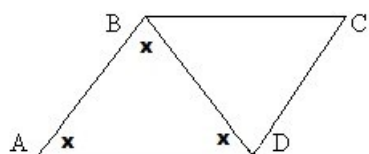
$$A = 1.25B$$

$$60 = 1.25B$$

$$B = \frac{60}{1.25} = 48$$

#### QUESTION 444

ABCD is a parallelogram. BD = 5. The angles of triangle ABD are all equal. What is the perimeter of the parallelogram?



- A. 15  
 B. 20  
 C.  $15\sqrt{3}$  D.  $10\sqrt{3}$   
 E.  $11\sqrt{2}$

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

If all of the angles in triangle ABD are equal and line BD divides the parallelogram, then all angles in triangle BDC must be equal as well. We now have two equilateral triangles, so all sides of the triangles will be equal.

All sides therefore equal 5.

$$5 + 5 + 5 + 5 = 20$$

#### QUESTION 445

Factor the following variable

$$(x^2 + 18x + 72)$$

- A.  $(x - 6)(x - 12)$   
 B.  $(x + 18)(x + 72)$   
 C.  $(x + 6)(x - 12)$  D.  $(x - 6)(x + 12)$   
 E.  $(x + 6)(x + 12)$



**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

You need to find two numbers that multiply to give 72 and add up to give 18 easiest way: write the multiples of 72:

1, 72

2, 36

3, 24

4, 18

6, 12: these add up to 18

$$(x + 6)(x + 12)$$

#### QUESTION 446

Factor  $9x^2 + 12x + 4$ .

- A.  $(3x - 2)(3x - 2)$   
 B.  $(9x + 4)(9x + 4)$   
 C.  $(9x + 4)(9x - 4)$   
 D.  $(3x + 2)(3x + 2)$   
 E.  $(3x + 2)(3x - 2)$

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Nothing common cancels at the beginning. To factor this, we need to find two numbers that multiply to  $9 \times 4 = 36$  and sum to 12. 6 and 6 work. So

$$9x^2 + 12x + 4 = 9x^2 + 6x + 6x + 4$$

Let's look at the first two terms and last two terms separately to begin with.  $9x^2 + 6x$  can be simplified to  $3x(3x + 2)$  and  $6x + 4$  can be simplified into  $2(3x + 2)$ . Putting these together gets us  $9x^2$

$$+ 12x + 4$$

$$= 9x^2 + 6x + 6x + 4$$

$$= 3x(3x + 2) + 2(3x + 2)$$

$$= (3x + 2)(3x + 2)$$

This is as far as we can factor.

#### QUESTION 447

If  $\frac{x^2-9}{x+3} = 5$ , and  $x \neq -3$ , what is the value of  $x$ ?

- A. 6
- B. 8
- C. -8
- D. -6
- E. 0

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:



The numerator on the left can be factored so the expression becomes  $\frac{(x+3)(x-3)}{(x+3)} = 5$ , which can be simplified to  $(x - 3) = 5$  Then you can solve for  $x$  by adding 3 to both sides of the equation, so  $x = 8$ .

#### QUESTION 448

Solve for  $x$ :  $x^2$

$$+ 3x + 2 = 0$$

- A.  $x = 2$  or  $-1$
- B.  $x = -2$  or  $-1$
- C.  $x = 2$  or  $1$
- D.  $x = -2$  or  $1$

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

First, factor.

$$x^2 + 3x + 2 = (x + 2)(x + 1) = 0$$

Set each factor equal to 0  $x +$

$$2 = 0; x = -2 \quad x + 1 = 0; x = -1$$

Therefore,  $x = -2$  or  $-1$

#### QUESTION 449



When  $x^2 - y^2 - z^2 + 2yz$  is factored, it can be written in the form  $(ax + by + cz)(dx + ey + fz)$ , where  $a, b, c, d, e$ , and  $f$  are all integer constants, and  $a > 0$ . What is the value of  $a + b + c + d + e + f$ ?

- A. -2  
B. -1  
C. 2D. 0 E. 1

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Let's try to factor  $x^2 - y^2 - z^2 + 2yz$ .

Notice that the last three terms are very close to  $y^2 + z^2 - 2yz$ , which, if we rearranged them, would become  $y^2 - 2yz + z^2$ . We could factor  $y^2 - 2yz + z^2$  as  $(y - z)^2$ , using the general rule that  $p^2 - 2pq + q^2 = (p - q)^2$ .

So we want to rearrange the last three terms. Let's group them together first.  $x^2 + (-y^2 - z^2 + 2yz)$

If we were to factor out a  $-1$  from the last three terms, we would have the following:

$$x^2 - (y^2 + z^2 - 2yz)$$

Now we can replace  $y^2 + z^2 - 2yz$  with  $(y - z)^2$ .

$$x^2 - (y - z)^2$$

This expression is actually a difference of squares. In general, we can factor  $p^2 - q^2$  as  $(p - q)(p + q)$ . In this case, we can substitute  $x$  for  $p$  and  $(y - z)$  for  $q$ .  $x^2$

$$- (y - z)^2 = (x - (y - z))(x + (y - z))$$

Now, let's distribute the negative one in the trinomial  $x - (y - z)$

$$(x - (y - z))(x + (y - z))$$

$$(x - y + z)(x + y - z)$$

The problem said that factoring  $x^2 - y^2 - z^2 + 2yz$  would result in two polynomials in the form  $(ax + by + cz)(dx + ey + fz)$ , where  $a, b, c, d, e$ , and  $f$  were all integers, and  $a > 0$ .

$(x - y + z)(x + y - z)$  fits this form. This means that  $a = 1, b = -1, c = 1, d = 1, e = 1$ , and  $f = -1$ . The sum of all of these is 2. The answer is 2.

#### QUESTION 450

Factor and simplify:

$$\frac{64y^2 - 16}{8y + 4}$$

- A.  $8y - 4$   
B.  $8y + 4$   
C.  $8y - 12$   
D.  $8y$   
E.  $-4$

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

$64y^2 - 16$  is a difference of squares.

The difference of squares formula is  $a^2 - b^2 = (a - b)(a + b)$ .

$$\frac{64y^2 - 16}{8y + 4} = \frac{(8y + 4)(8 - 4)}{8y + 4} = 8y - 4.$$

Therefore,

#### QUESTION 451

Factor:

$$-12x^2 + 27$$

- A.  $-3(4x^2 - 9)$   
B.  $-3(2x + 3)(2x - 3)$  C.  $-3(2x + 3)(2x + 3)$   
D.  $(2x + 3)(2x - 3)$   
E.  $(2x + 3)(2x + 3)$

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

We can first factor out  $-3$ :

$$-3(4x^2 - 9)$$

These factors further because there is a difference of squares:

$$-3(2x + 3)(2x - 3)$$

**QUESTION 452** What is a possible value for  $x$  in  $x^2$

$$-12x + 36 = 0?$$

- A. 2
- B.  $-6$
- C. There is not enough information
- D. 6

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

You need to factor to find the possible values for  $x$ . You need to fill in the blanks with two numbers with a sum of  $-12$  and a product of  $36$ . In both sets of parenthesis, you know you will be subtracting since a negative times a negative is a positive and a negative plus a negative is a negative  $(x - \underline{\hspace{1cm}})(x - \underline{\hspace{1cm}})$ . You should realize that  $6$  fits into both blanks. You must now set each set of parenthesis equal to  $0$ .

$$x - 6 = 0; x - 6 = 0 \text{ Solve}$$

both equations:  $x = 6$

**QUESTION 453** If  $r$  and  $t$  are constants and  $x^2 + rx + 6 = (x + 2)(x + t)$ , what is the value of  $r$ ?

- A. It cannot be determined from the given information.
- B. 7
- C. 5
- D. 6

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

We first expand the right hand side as  $x^2 + 2x + tx + 2t$  and factor out the  $x$  terms to get  $x^2 + (2 + t)x + 2t$ . Next we set this equal to the original left hand side to get  $x^2 + rx + 6 = x^2 + (2 + t)x + 2t$ , and then we subtract  $x^2$  from each side to get  $rx + 6 = (2 + t)x + 2t$ . Since the coefficients of the  $x$  terms on each side must be equal, and the constant terms on each side must be equal, we find that  $r = 2 + t$  and  $6 = 2t$ , so  $t$  is equal to  $3$  and  $r$  is equal to  $5$ .

**QUESTION 454**

Solve for  $x$ :

$$2x^2 - 4 = 3 + 5$$

- A. 12
- B.  $\pm\sqrt{6}$
- C. 6
- D.  $\pm\sqrt{12}$
- E.  $\sqrt{6}$

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

$2x^2 - 4 = 3 + 5$  First, add

4 to both sides:

$2x^2 = 12$  Divide both

sides by 2:  $x^2 = 6$   $x =$

$\pm\sqrt{6}$

**QUESTION 455** Let  $x$  and  $y$  be integers, such that  $x^3 - y^3 = 56$ . If  $x - y = 2$  and  $3xy = 24$ , then what is  $x^2 + y^2$ ?

A. Cannot be determined

B. 12

C. -20

D. 20

E. 42

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

We are told that  $x^3 - y^3 = 56$ . We can factor the left side of the equation using the formula for difference of cubes.

$x^3 - y^3 = (x - y)(x^2 + xy + y^2) = 56$

Since  $x - y = 2$ , we can substitute this value in for the factor  $x - y$ .

$2(x^2 + xy + y^2) = 56$

Divide both sides by 2.

$x^2 + xy + y^2 = 28$

Because we are trying to find  $x^2 + y^2$ , if we can get rid of  $xy$ , then we would have our answer.

We are told that  $3xy = 24$ . If we divide both sides by 3, we see that  $xy = 8$ .

We can then substitute this value into the equation  $x^2 + xy + y^2 = 28$ .

$x^2 + 8 + y^2 = 28$  Subtract both

sides by eight.  $x^2 + y^2 = 20$ .

The answer is 20.

ALTERNATE SOLUTION:

We are told that  $x - y = 2$  and  $3xy = 24$ . This is a system of equations.

If we solve the first equation in terms of  $x$ , we can then substitute this into the second equation.

$x - y = 2$  Add  $y$  to

both sides.

$x = y + 2$

Now we will substitute this value for  $x$  into the second equation.

$3(y + 2)(y) = 24$

Now we can divide both sides by three.

$(y + 2)(y) = 8$  Then we distribute.

$y^2 + 2y = 8$

Subtract 8 from both sides.

$y^2 + 2y - 8 = 0$

We need to factor this by thinking of two numbers that multiply to give -8 but add to give 2. These numbers are 4 and -2. ( $y$

$+ 4)(y - 2) = 0$

This means either  $y - 4 = 0$ , or  $y + 2 = 0$

$y = -4$ , or  $y = 2$

Because  $x = y + 2$ , if  $y = -4$ , then  $x$  must be  $-2$ . Similarly, if  $y = 2$ , then  $x$  must be  $4$ .

Let's see which combination of  $x$  and  $y$  will satisfy the final equation that we haven't used,  $x^3 - y^3 = 56$ .

If  $x = -2$  and  $y = -4$ , then

$(-2)^3 - (-4)^3 = -8 - (-64) = 56$ . So that means that  $x = -2$  and  $y = -4$  is a valid solution. If

$x = 4$  and  $y = 2$ , then

$(4)^3 - 2^3 = 64 - 8 = 56$ . So that means  $x = 4$  and  $y = 2$  is also a valid solution. The

final value we are asked to find is  $x^2 + y^2$ .

If  $x = -2$  and  $y = -4$ , then  $x^2 + y^2 = (-2)^2 + (-4)^2 = 4 + 16 = 20$ .

If  $x = 4$  and  $y = 2$ , then  $x^2 + y^2 = (4)^2 + 2^2 = 16 + 4 = 20$ .

Thus, no matter which solution we use for  $x$  and  $y$ ,  $x^2 + y^2 = 20$ .

The answer is 20.

#### QUESTION 456

How many negative solutions are there to the equation below?

$$x^2 + 2x = 3$$

- A. 0
- B. 3
- C. 2
- D.  $\geq 3$
- E. 1

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

First, subtract 3 from both sides in order to obtain an equation that equals 0:

$$x^2 + 2x - 3 = 0$$

The left side can be factored. We need factors of  $-3$  that add up to 2.  $-1$  and 3 work:  $(x$

$$- 1)(x + 3) = 0$$

Set both factors equal to 0 and solve:

$$x - 1 = 0 \text{ or } x + 3 = 0$$

To solve the left equation, add 1 to both sides. To solve the right equation, subtract 3 from both sides. This yields two solutions:

$$x = 1$$

$$x = -3$$

Only one of these solutions is negative, so the answer is 1.

#### QUESTION 457

How many of the following are prime factors of the polynomial  $n^4 + 50n^2 + 625$ ?

(A)  $n + 5$

(B)  $n^2 + 25$

(C)  $n^2 + 5n + 25$  (D)  $n^3 + 125$

- A. Two
- B. One
- C. Three
- D. None
- E. Four

**Correct Answer:** B

**Section:** Math

**Explanation**



**Explanation/Reference:**

Explanation:

$n^4 + 50n^2 + 625 = (n^2)^2 + 2 \times n^2 \times 25 + 25^2 n^4$   
 $+ 50n^2 + 625$  can be seen to fit the pattern  $A^2$   
 $+ 2AB + B^2$ : where  $A = n^2$ ,  $B = 25$   
 $A^2 + 2AB + B^2$  can be factored as  $(A + B)^2$ , so  $n^4 + 50n^2 + 625 = (n^2)^2 + 2 \times n^2 \times 25 + 25^2 = (n^2 + 25)^2 n^2 + 25$ , as the sum of squares, is a prime polynomial, so the complete factorization is  $n^4 + 50n^2 + 625 = (n^2 + 25)^2$ , making  $n^2 + 25$  the only prime factor, and "one" the correct choice.

**QUESTION 458**

Completely factor the following expression:

$$3x^3 - 27x$$

- A.  $3x(x - 3)(x - 3)$
- B.  $3x(x^2 - 9)$
- C.  $3x^3 - 27x$
- D.  $3x(x + 3)(x + 3)$
- E.  $3x(x + 3)(x - 3)$

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

To begin, factor out any like terms from the expression. In this case, the term  $3x$  can be pulled out:  $3x(x^2 - 9)$

Next, recall the difference of squares:

$$(a^2 - b^2) = (a + b)(a - b)$$

Here,  $a = x$  and  $b = 3$ .

Thus, our answer is

$$3x(x + 3)(x - 3).$$

**QUESTION 459**

$$2x + 3y = 5a + 2b \quad (1)$$

$$3x + 2y = 4a - b \quad (2)$$

Express  $x^2 - y^2$  in terms of  $a$  and  $b$

- A.  $(-9a^2 - 28ab - 3b^2)/5$
- B.  $-[9a]^2 + 26ab - [3b]^2/5$  C.  $(-9a^2 - 27ab + 3b^2)/5$
- D.  $[-9a]^2 + 26ab + [3b]^2/5$
- E.  $-[9a]^2 + 27ab + [3b]^2/5$

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Add the two equations together to yield  $5x + 5y = 9a + b$ , then factor out 5 to get  $5(x + y) = 9a + b$ ; divide both sides by 5 to get  $x + y = (9a + b)/5$ ; subtract the two equations to get  $x - y = -a - 3b$ . So,  $x^2 - y^2 = (x + y)(x - y) = (9a + b)/5 (-a - 3b) = (-[(9a)]^2 - 28ab - [(3b)]^2)/5$

**QUESTION 460** Give the degree of the polynomial

$777a_{12}b_{14}c_{16}d_{18}$

- A. 18
- B. 777
- C. 12
- D. 837
- E. 60

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The polynomial has one term, so its degree is the sum of the exponents of the variables:  $12 + 14 + 16 + 18 = 60$

**QUESTION 461**

Give the degree of the polynomial

$$X_{50}Y_{30} - X_{70}Y_{25} + X_{45}Y_{45} - X_{30}Y_{70}$$

- A. 100
- B. 70
- C. 80
- D. 365
- E. 25

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The degree of a polynomial in more than one variable is the greatest degree of any of the terms; the degree of a term is the sum of the exponents. The degrees of the terms in the given polynomial are:

$$\begin{aligned}50 + 30 &= 80 \\70 + 25 &= 95 \\45 + 45 &= 90 \\30 + 70 &= 100\end{aligned}$$

The degree of the polynomial is the greatest of these degrees, 100.

**QUESTION 462**

Give the degree of the polynomial

$$y_{44} + y_{20} - y_{10} + y_{100}$$

- A. 44
- B. 154
- C. 4
- D. 174
- E. 100

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The degree of a polynomial in one variable is the greatest exponent of any of the powers of the variable. The terms have as their exponents, in order, 44, 20, 10, and 100; the greatest of these is 100, which is the degree.

**QUESTION 463**

Give the degree of the polynomial

$$400x^{10} - 300x^{20} + 200x^{30} - 100x^{40}$$

- A. 400
- B. 10
- C. 40
- D. 200
- E. 100

**Correct Answer: C**

**Section: Math**

**Explanation**

**Explanation/Reference:**

Explanation:

The degree of a polynomial in one variable is the greatest exponent of any of the powers of the variable. The terms have as their exponents, in order, 10, 20, 30, and 40; 40 is the greatest of them and is the degree of the polynomial.

**QUESTION 464** Which of these polynomials has the greatest degree?

- A.  $-5x^2y^2 + 7x^3y^2 + 8x$
- B.  $6x^3y^2 + 4xy^3 - 100$
- C.  $8x^4y - 4y^2 + 9x^3y$
- D. All of the polynomials given in the other responses have the same degree.
- E.  $7xy^4 - 4x^2 + y^3$



**Correct Answer: D**

**Section: Math**

**Explanation**

**Explanation/Reference:**

Explanation:

The degree of a polynomial is the highest degree of any term; the degree of a term is the exponent of its variable or the sum of the exponents of its variables, with unwritten exponents being equal to 1. For each term in a polynomial, write the exponent or add the exponents; the greatest number is its degree. We do this with all four choices:

$$6x^3y^2 + 4xy^3 - 100:$$

$$6x^3y^2: 3 + 2 = 5$$

$$4xy^3: 1 + 3 = 4$$

100: A constant term has degree 0.

The degree of this polynomial is 5.

$$7xy^4 - 4x^2 + y^3$$

$$7xy^4: 1 + 4 = 5$$

$$4x^2: 2$$

$$y^3: 3$$

The degree

of this

polynomial

is 5.

$$\frac{8x^4y - 4y^2 + 9x^3y}{8x^4y:4 + 1 = 5}$$

$$4y^2:2$$

$$9x^3y:3 + 1 = 4$$

The degree of this polynomial is 5.

$$\frac{-5x^2y^2 + 7x^3y^2 + 8x}{-5x^2y^2:2 + 2 = 4}$$

$$7x^3y^2:3 + 2 = 5$$

$$8x:1$$

The degree of this polynomial is 5.

All four polynomials have the same degree.

**QUESTION 465** Which of the following monomials has degree 999?

- A.  $999x^4y^5z^6$
- B. None of the other responses is correct.
- C.  $444x^{999}yz$
- D.  $100x^{333}y^{333}z^{333}$
- E.  $333x^{999}y^{999}z^{999}$

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The degree of a monomial term is the sum of the exponents of its variables, with the default being 1. For each monomial, this sum - and the degree - is as follows:

$$444x^{999}yz: 999 + 1 + 1 = 1,001$$

$$333x^{999}y^{999}z^{999}: 999 + 999 + 999 = 2,997$$

$$999x^4y^5z^6: 4 + 5 + 6 = 15 \text{ (note - 999 is the coefficient)}$$

$$100x^{333}y^{333}z^{333}: 333 + 333 + 333 = 999$$

$100x^{333}y^{333}z^{333}$  is the correct choice.

**QUESTION 466**

Find the degree of the polynomial

$$-x^2 + 3x - 2x^5 - x^3 + 4$$

- A. 4
- B. 6
- C. None of the other answers
- D. 3E. 5

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The degree of the polynomial is the largest degree of any one of its individual terms.



$$-x^2 + 3x - 2x^5 - x^3 + 4$$

The degree of  $-x^2$  is 2

The degree of  $3x$  is 1

The degree of  $-2x^5$  is 5

The degree of  $-x^3$  is 3

The degree of 4 is 0

5 is the largest degree of any one of the terms of the polynomial, and so the degree of the polynomial is 5.

#### QUESTION 467

Add the polynomials.

$$(x^2 + 5x + 12) + (3x^3 + 3x + 8)$$

A.  $3x^3 + x^2 + 6x + 17$

B.  $4x^2 + 8x + 20$

C.  $3x^3 + x^2 + 8x + 20$

D.  $4x^3 + 2x^2 + 4x + 14$

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

We can add together each of the terms of the polynomial which have the same degree for our variable.  $(3x^3) + (x^2) + (5x + 3x) + (12 + 8) = 3x^3 + x^2 + 8x + 20$

#### QUESTION 468

$$F(x) = x^3 + x^2 - x + 2$$

and

$$G(x) = x^2 + 5$$

What is  $FG(x)$ ?

A.  $(FG)(x) = x^5 + x^4 - x - 2$

B.  $(FG)(x) = x^3 + 2x^2 - x + 7$

C.  $(FG)(x) = x^5 + x^4 - x^3 + 2x^2 - 5x - 10$

D.  $(FG)(x) = x^5 + x^4 + 4x^3 + 7x^2 - 5x + 10$

E.  $(FG)(x) = x^3 - x - 3$

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

$(FG)(x) = F(x)G(x)$  so we multiply the two function to get the answer. We use  $x^m x^n = x^{m+n}$

#### QUESTION 469

Multiply:

$$(100Y^2 - 70Y + 49)(10Y + 7)$$

A.  $1,000Y^3 - 700Y^2 + 490Y - 343$

B.  $1,000Y^3 + 343$

C.  $1,000Y^3 + 100Y^2 - 49Y - 343$

D.  $1,000Y^3 + 700Y^2 - 490Y - 343$

E.  $1,000Y^3 - 100Y^2 + 49Y - 343$

**Correct Answer:** B

**Section: Math**

**Explanation**

**Explanation/Reference:**

Explanation:

$$(100Y^2 - 70Y + 49)(10Y + 7) \\ = [(10Y)^2 - 10Y \times 7 + 7^2](10Y + 7)$$

This product fits the sum of cubes pattern, where  $A = 10Y$ ,  $B = 7$ :

$$(A^2 - AB + B^2)(A + B) = A^3 + B^3$$

So

$$[(10Y)^2 - 10Y \times 7 + 7^2](10Y + 7) \\ = (10Y)^3 + 7^3 = 1,000Y^3 + 343$$

**QUESTION 470** If 3 less than 15 is equal to  $2x$ , then  $24/x$  must be greater than

- A. 5
- B. 4
- C. 3
- D. 6

**Correct Answer: C**

**Section: Math**

**Explanation**

**Explanation/Reference:**

Explanation:

Set up an equation for the sentence:  $15 - 3 = 2x$  and solve for  $x$ .  $X$  equals 6. If you plug in 6 for  $x$  in the expression  $24/x$ , you get  $24/6 = 4$ . 4 is only choice greater than  $a$ .

**QUESTION 471**

Given  $a \times b = (a + b)/(a - b)$  and  $b \times a = (b + a)/(b - a)$ , which of the following statement(s) is(are) true: I.

$$a \times b = -(b \times a)$$

$$\text{II. } (a \times b)(b \times a) = (a \times b)^2 \text{ III.}$$

$$a \times b + b \times a = 0$$

- A. I only
- B. I, II and III
- C. I and III
- D. I and II
- E. II & III

**Correct Answer: C**

**Section: Math**

**Explanation**

**Explanation/Reference:**

Explanation:

Notice that  $-(a - b) = b - a$ , so statement I & III are true after substituting the expression. Substitute the expression for statement II gives  $((a + b)/(a - b))((a + b)/(b - a)) = ((a + b)(b + a))/((-1)(a - b)(a - b)) = -1 [(a + b)]^2/[(a - b)]^2 = -((a + b)/(a - b))^2 = -(a \times b)^2 \neq (a \times b)^2$

**QUESTION 472**

If a positive integer  $a$  is divided by 7, the remainder is 4. What is the remainder if  $3a + 5$  is divided by 3?

- A. 5
- B. 6

- C. 2  
D. 3  
E. 4

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The best way to solve this problem is to plug in an appropriate value for  $a$ . For example, plug-in 11 for  $a$  because 11 divided by 7 will give us a remainder of 4. Then  $3a + 5$ , where  $a = 11$ , gives us 38. Then 38 divided by 3 gives a remainder of 2.

The algebra method is as follows:

$a$  divided by 7 gives us some positive integer  $b$ , with a remainder of 4.

Thus,  $a/7 = b \text{ R } 4$   $a/7 = (7b + 4)/7$   $a = (7b + 4)$

then  $3a + 5 = 3(7b + 4) + 5$

$(3a + 5)/3 = [3(7b + 4) + 5]/3$

$= (7b + 4) + 5/3$

The first half of this expression  $(7b + 4)$  is a positive integer, but the second half of this expression  $(5/3)$  gives us a remainder of 2.

**QUESTION 473** Let  $f(x) = x^3 - 2x^2 - 19x + 20$ , and  $f(1) = 0$ .

What is the sum of the squares of the roots of  $f(x)$ ?

- A. 38  
B. 42  
C. 36  
D. 100  
E. 45



**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

If a polynomial function has a root at  $x = r$ , then the monomial  $(x - r)$  must be a factor of the function. In the function we are given,  $f(1) = 0$ , which means that  $x = 1$  is a root of  $f(x)$ , because a root of a function occurs where the function equals zero. As a result, we know that  $x - 1$  must be a factor of  $f(x)$ . We can use this to help us factor  $f(x)$  and thereby determine all of its roots.

Since  $x - 1$  is a factor of  $f(x)$ , we can divide  $f(x)$  by  $x - 1$ , and the result will not have a remainder. We can divide  $f(x)$  by  $x - 1$  using algebraic long division.

$$\begin{array}{r}
 (x^3 - 2x^2 - 19x + 20) \div (x - 1) \\
 \underline{x^2 - x - 20} \\
 x - 1 \overline{) x^3 - 2x^2 - 19x + 20} \\
 \underline{-(x^3 - x^2)} \phantom{+ 20} \\
 -x^2 - 19x \phantom{+ 20} \\
 \underline{-(-x^2 + x)} \phantom{+ 20} \\
 -20x + 20 \\
 \underline{-(-20x + 20)} \\
 0
 \end{array}$$

The process of long division with polynomials is shown above. First, we notice that  $x$  will divide into  $x^3$  by  $x^2$  of times. We put  $x^2$  above the division bar then multiply it by  $(x - 1)$ , which gives us  $x^3 - x^2$ . We then subtract this from  $x^3 - 2x^2$  to give us  $-x^2$ . We then bring down the  $-19x$  and continue the process again. We end up with a remainder of zero. Thus, we can write the following:  $(x^3 - 2x^2 - 19x + 20) \div (x - 1) = x^2 - x - 20$

Put another way,  $(x - 1)(x^2 - x - 20) = x^3 - 2x^2 - 19x + 20$ .

Now, if we factor  $x^2 - x - 20$ , we will be able to find the other roots of  $f(x)$ . In order to factor this, we need to think of two numbers that multiply to give  $-20$  but add to give  $-1$ . Those numbers are  $-5$  and  $4$ . Therefore,  $x^2 - x - 20 = (x - 5)(x + 4)$ , and  $f(x) = (x - 1)(x - 5)(x + 4)$

In order to find the roots of  $f(x)$ , we must set each factor equal to zero. We already know that  $x = 1$ , so we only need to look at the factors  $x - 5$  and  $x + 4$ .  $x$

$$-5 = 0 \quad x = 5$$

Lastly, we set  $x + 4 = 0$

$$x = -4$$

The roots of  $f(x)$  are  $1$ ,  $5$ , and  $-4$ . We are asked to find the sum of the square of the roots.

Sum of square of roots  $= (1)^2 + (5)^2 + (-4)^2 = 1 + 25 + 16 = 42$  The answer is  $42$ .

#### QUESTION 474

What is the remainder when the polynomial  $x^4 - 5x^3 + 3x - 17$  is divided by  $x - 6$ ?

- A. 215
- B. 2,341
- C. 217
- D. 1
- E. 2,411

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

By the remainder theorem, if a polynomial  $p(x)$  is divided by the linear binomial  $x - c$ , the remainder is  $p(c)$  – that is, the polynomial evaluated at  $x = c$ . The remainder of dividing  $x^4 - 5x^3 + 3x - 17$  by  $x - 6$  is the dividend evaluated at  $x = 6$ , which is

$$\begin{aligned} & x^4 - 5x^3 + 3x - 17 \\ &= 6^4 - 5 \times 6^3 + 3 \times 6 - 17 \\ &= 1,296 - 5 \times 216 + 18 - 17 \\ &= 1,296 - 1,080 + 18 - 17 \\ &= 217 \end{aligned}$$

**475**

Simplify:  $\frac{6x^7y^5z^9}{3x^6y^8z}$

- A.  $6xyz^8$
- B.  $xyz$
- C.  $xyz^8$
- D.  $xz^8$
- E.  $2xz^8$

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Cancel by subtracting the exponents of like terms:

$$\frac{6x^7y^8z^9}{3x^6y^5z} = 2x^{7-6}y^{8-5}z^{9-1} = 2x^1y^3z^8 = 2xyz^8$$

**QUESTION 476** Decrease  $18d + 30$  by 40%. Which of the following will this be equal to?

- A.  $18d + 18$
- B.  $18d - 10$
- C.  $10.8d + 18$
- D.  $-22d + 40$
- E.  $10.8d + 30$

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

A number decreased by 40% is equivalent to 100% of the number minus 40% of the number. This is taking 60% of the number, or, equivalently, multiplying it by 0.6. Therefore,  $18d + 30$  decreased by 40% is 0.6 times this, or  $0.6(18d + 30) = 0.6 \times 18d + 0.6 \times 30 = 10.8d + 18$

**QUESTION 477**

Find the product:

$$(7 - 2y)(5 - 6y)$$

- A.  $12y^2 - 52y + 35$
- B.  $12y^2 - 32y + 35$
- C.  $12y^2 - 52y$
- D.  $12y^2 - 35$
- E.  $52y + 35$

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Find the product:

$$(7 - 2y)(5 - 6y)$$

Use the distributive property:

$$7(5 - 6y) - 2y(5 - 6y)$$

$$35 - 42y - 10y + 12y^2$$

Write the resulting expression in standard form:

$$12y^2 - 52y + 35$$

**QUESTION 478** If  $[(x + y)]^2 = 144$  and  $[(x - y)]^2 = 64$ , what is the value of  $xy$ ?

- A. 22
- B. 16
- C. 20
- D. 18

**Correct Answer:** C

**Section:** Math

# Explanation

## Explanation/Reference:

Explanation:

We first expand each binomial to get  $x^2 + 2xy + y^2 = 144$  and  $x^2 - 2xy + y^2 = 64$ . We then subtract the second equation from the first to find  $4xy = 80$ . Finally, we divide each side by 4 to find  $xy = 20$ .

**QUESTION 479** Which of these expressions can be simplified further by collecting like terms?

- A.  $7b + 13b^2$
- B.  $12a + 12b$
- C.  $7ab + 12ab^2$
- D.  $7ab + 13b$
- E. None of the expressions in the other choices can be simplified further

**Correct Answer:** E

**Section:** Math

**Explanation**

## Explanation/Reference:

Explanation:

A binomial can be simplified further if and only if the two terms have the same combination of variables and the same exponents for each like variable. This is not the case in any of the four binomials given, so none of the expressions can be simplified further.

## QUESTION 480

Solve for  $x$ .

$$\frac{x^2 + 2x - 8}{x^2 + 5x - 14} = \frac{3}{4}$$

- A. 11
- B. 5C. 0 D. 3 E. 2

**Correct Answer:** B

**Section:** Math

**Explanation**

## Explanation/Reference:

Explanation:

$$\frac{x^2 + 2x - 8}{x^2 + 5x - 14} = \frac{3}{4}$$

Factor the expression

numerator: find two numbers that add to 2 and multiply to  $-8$ [use 4,  $-2$ ]

denominator: find two numbers that add to 5 and multiply to  $-14$ [use 7,  $-2$ ]

new expression:

$$\frac{(x + 4)(x - 2)}{(x + 7)(x - 2)} = \frac{3}{4}$$

Cancel the  $x - 2$  and cross multiply.

$$4(x + 4) = 3(x + 7)$$

$$4x + 16 = 3x + 21$$

$$x = 5$$

## QUESTION 481

Give the coefficient of  $x^2$  in the product



$$\left(2x + \frac{1}{3}\right) \left(x - \frac{1}{6}\right) \left(x + \frac{1}{4}\right)$$

$$\frac{1}{6}$$

$$\frac{11}{12}$$

$$\frac{7}{6}$$

$$\frac{1}{2}$$

$$\frac{1}{4}$$

A.

B.

C.

D.

E.

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

While this problem can be answered by multiplying the three binomials, it is not necessary. There are three ways to multiply one term from each binomial such that two x terms and one constant are multiplied; find the three products and add them, as follows:

$$\left(2x + \frac{1}{3}\right) \left(x - \frac{1}{6}\right) \left(x + \frac{1}{4}\right)$$

$$2x \times x \times \frac{1}{4} = \frac{1}{2}x^2$$

$$\left(2x + \frac{1}{3}\right) \left(x - \frac{1}{6}\right) \left(x + \frac{1}{4}\right)$$

$$2x \times \left(-\frac{1}{6}\right) \times x = -\frac{1}{3}x^2$$

$$\left(2x + \frac{1}{3}\right) \left(x - \frac{1}{6}\right) \left(x + \frac{1}{4}\right)$$

$$\frac{1}{3} \times x \times x = \frac{1}{3}x^2$$

$$\text{Add: } \frac{1}{2}x^2 + \left(-\frac{1}{3}x^2\right) + \frac{1}{3}x^2 = \frac{1}{2}x^2$$

The correct response is  $\frac{1}{2}$ .

**QUESTION 482** Give the coefficient of  $x^5$  in the binomial expansion of  $(2x + 0.5)^8$ .

A. 26,880

B. 224

C. 1,680

D. 1

E. 14

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

If the expression  $(A x + B)^n$  is expanded, then by the binomial theorem, the  $x^k$  term is

$$C(n, k) \times (Ax)^k \times B^{n-k} =$$

$$C(n, k) \times A^k \times B^{n-k} \times x^k$$

or, equivalently, the coefficient of  $x^k$  is

$$C(n, k) \times A^k \times B^{n-k}$$

Therefore, the  $x^5$  coefficient can be determined by setting

$$A = 2, B = 0.5, k = 5, n = 8:$$

$$C(8, 5) \times 2^5 \times 0.5^{8-5}$$

$$= C(8, 5) \times 2^5 \times 0.5^3$$

$$= 56 \times 32 \times 0.125$$

$$= 224$$

**QUESTION 483**

Give the coefficient of  $x^4$  in the binominal expansion of  $(6x + \frac{1}{6})^7$ .

A. 1

B. 210

C.  $\frac{35}{6}$

D. 140

E. 5, 040

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

If the expression  $(A x + B)^n$  is expanded, then by the binomial theorem, the  $x^k$  term is

$$C(n, k) \times (Ax)^k \times B^{n-k} =$$

$$C(n, k) \times A^k \times B^{n-k} \times x^k$$

or, equivalently, the coefficient of  $x^k$  is

$$C(n, k) \times A^k \times B^{n-k}$$

Therefore, the  $x^5$  coefficient can be determined by setting

$$A = 6, B = \frac{1}{6}, n = 7, k = 4:$$

$$C(7, 4) \times 6^4 \times \left(\frac{1}{6}\right)^{7-4}$$

$$= C(7, 4) \times 6^4 \times \left(\frac{1}{6}\right)^3$$

$$= 35 \times 1,296 \times \frac{1}{216}$$

$$= 210$$

**QUESTION 484**

Give the coefficient of  $x^5$  in the binomial expansion of  $(0.2x + 5)^7$ .

A. 0.168

B. 315,000

C. 2,625

D. 20.16

E. 1

**Correct Answer:** A





**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

If the expression  $(A x + B)^n$  is expanded, then by the binomial theorem, the  $x^k$  term is  $C(n, k)$

$$\times (Ax)^k \times B^{n-k}$$

$$= C(n, k) \times A^k \times B^{n-k} \times x^k$$

or, equivalently, the coefficient of  $x^k$  is

$$C(n, k) \times A^k \times B^{n-k}$$

Therefore, the  $x^5$  coefficient can be determined by setting

$$A = 0.2, B = 5, k = 5, n = 7$$

$$C(7, 5) \times 0.2^5 \times 5^{7-5}$$

$$= C(7, 5) \times 0.2^5 \times 5^2$$

$$= 21 \times 0.00032 \times 25$$

$$= 0.168$$

**QUESTION 485**

Give the coefficient of  $x^2$  in the product  $(3x$

$- 7)(4x + 3)(2x - 7)$ .

A. 75

B. -122

C. 10

D. 46

E. 158

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

While this problem can be answered by multiplying the three binomials, it is not necessary. There are three ways to multiply one term from each binomial such that two  $x$  terms and one constant are multiplied; find the three products and add them, as follows:  $(\underline{3x} - 7) (\underline{4x} + 3) (\underline{2x} - \underline{7})$   $3x \times 4x \times (-7) = -84x^2$

$$(\underline{3x} - 7) (\underline{4x} + 3) (\underline{2x} - \underline{7})$$

$$3x \times 3 \times 2x = 18x^2$$

$$(\underline{3x} - 7) (\underline{4x} + 3) (\underline{2x} - \underline{7})$$

$$-7 \times 4x \times 2x = -56x^2$$

$$\text{Add: } -84x^2 + 18x^2 - 56x^2 = -122x^2$$

The correct response is -122.

**QUESTION 486**

Give the coefficient of  $x^2$  in the product  $(x$

$+ 0.4) (x - 0.2) (3x - 0.7)$ .

A. 0.7

B. 1.3

C. 2.5

D. -0.1

E. 0.5

**Correct Answer:** D

**Section:** Math

**Explanation**



**Explanation/Reference:**

Explanation:

While this problem can be answered by multiplying the three binomials, it is not necessary. There are three ways to multiply one term from each binomial such that two x terms and one constant are multiplied; find the three products and add them, as follows:

$$(\underline{x} + 0.4) (\underline{x} - 0.2) (\underline{3x} - \underline{0.7})$$

$$x \times x \times (-0.7) = -0.7x^2$$

$$(\underline{x} + 0.4) (x - \underline{0.2}) (\underline{3x} - 0.7)$$

$$x \times (-0.2) \times 3x = -0.6x^2$$

$$(x + \underline{0.4}) (\underline{x} - 0.2) (\underline{3x} - 0.7)$$

$$0.4 \times x \times 3x = 1.2x^2$$

$$\text{Add: } -0.7x^2 + (-0.6x^2) + 1.2x^2 = -0.1x^2.$$

The correct response is  $-0.1$

**QUESTION 487**

Multiply the binomial

$$(x - 3)(x + 4)$$

A.  $x^2 + x - 12$

B.  $x^2 - 12$

C.  $x^2 - x - 12$

D.  $x^2 + x + 12$

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

By multiplying with the foil method, we multiply our first values giving  $x^2$ , our outside values giving  $4x$ , our inside values which gives  $-3x$ , and our last values giving  $-12$ .

**QUESTION 488**

Factor the following expression completely:

$$x^4 - 8x^3 + 12x^2$$

A.  $x^2(x - 6)(x - 2)$

B.  $x^2(x + 6)(x + 2)$  C.  $x^2(x - 3)(x - 4)$

D.  $x^2(x^2 - 8x + 12)$

E.  $x^2(x + 3)(x + 4)$

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

We must begin by factoring out  $x^2$  from each term.

$$x^2(x^2 - 8x + 12)$$

Next, we must find two numbers that sum to  $-8$  and multiply to  $12$ .  $(-6)$

$$+ (-2) = -8$$

$$-6 \times -2 = 12$$

Thus, our final answer is:

$$x^2(x - 6)(x - 2)$$

**QUESTION 489**

Factor the following trinomial:

$$x^2 - x - 12$$

- A.  $(x - 6)(x + 2)$
- B.  $(x - 3)(x - 4)$
- C.  $(x + 4)(x - 3)$
- D.  $(x - 1)(x - 12)$
- E.  $(x + 3)(x - 4)$

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

$$x^2 - x - 12$$

To trinomial is in  $ax + bx + c$  form

In order to factor, find two numbers whose product is  $c$ , in this case  $-12$ , and whose sum is  $b$ , in this case  $-1$

Factors of  $-12$ :

$-1, 12; 1, -12; -3, 4; 3, -4; -2, 6; 2, -6$

Which of these pairs has a sum of  $-1$ ?

$3$  and  $-4$

Therefore the factored form of  $x^2 - x - 12$  is:

$$(x + 3)(x - 4)$$

**QUESTION 490**

Factor the trinomial.

$$x^2 - 5x - 14$$

- A.  $(x + 7)(x - 2)$
- B.  $(x - 8)(x + 3)$
- C.  $(x - 7)(x + 2)$
- D.  $(x - 3)(x - 2)$

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Our factors will need to have a product of  $(-14)$ , and a sum of  $(-5)$ , so our factors must be  $(-7)$  and  $2$ .

**QUESTION 491**

Find the product:

$$(x^2 + 7x + 4)(x^2 - 3x - 2)$$

- A.  $x^4 + 4x^3 - 19x^2 - 26x - 8$
- B.  $x^4 - 10x^3 + 27x^2 - 14x - 4$
- C.  $2x^2 + 4x + 2$
- D.  $2x^2 - 4x - 2$
- E.  $x^4 - 21x - 8$

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:



Find the product:

$(x^2 + 7x + 4)(x^2 - 3x - 2)$  Step 1: Use the Distributive Property  $x^2(x^2 - 3x - 2) + 7x(x^2 - 3x - 2) + 4(x^2 - 3x - 2)$   $x^4 - 3x^3 - 2x^2 + 7x^3 - 21x^2 - 14x + 4x^2 - 12x - 8$  Step 2: Combine like terms  $x^4 + 4x^3 - 19x^2 - 26x - 8$

**QUESTION 492**

Find the product:

$$(2x^2 + 3y + 6)(7x^2 + 4y + 1)$$

- A.  $14x^2 + 8x^2y + 12y^2 + 8$
- B.  $42x^2 + 24y + 6$
- C.  $14x^4 + 8x^2y + 2x^2$
- D.  $14x^2 + 29x^2y + 44x^2 + 12y^2 + 27y + 6$
- E.  $21x^2y + 12y^2 + 3y$

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Find the product:

$$(2x^2 + 3y + 6)(7x^2 + 4y + 1)$$

Use the distributive property:

$$\begin{aligned} &2x^2(7x^2 + 4y + 1) + 3y(7x^2 + 4y + 1) + 6(7x^2 + 4y + 1) \\ &14x^4 + 8x^2y + 2x^2 + 21x^2y + 12y^2 + 3y + 42x^2 + 24y + 6 \\ &14x^4 + 29x^2y + 44x^2 + 12y^2 + 27y + 6 \end{aligned}$$

**QUESTION 493**

Simplify:

$$(4x^2 + 6x + 5) + (3x^3 + 10x + 7)$$

- A.  $7x^2 + 13x + 15$
- B.  $3x^3 + 4x^2 + 13x + 15$
- C.  $7x^2 + 16x + 12$
- D.  $3x^3 + 4x^2 + 16x + 12$

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

All operations are addition, so we can first remove the parentheses:

$$\begin{aligned} &(4x^2 + 6x + 5) + (3x^3 + 10x + 7) \\ &= 4x^2 + 6x + 5 + 3x^3 + 10x + 7 \end{aligned}$$

Now rearrange the terms so that like terms are next to each other:

$$= 3x^3 + 4x^2 + (6x + 10x) + (5 + 7)$$

Combine like terms:

$$= 3x^3 + 4x^2 + 16x + 12$$

**QUESTION 494**

Add, expressing the result in simplest form:

$$(4x^2 + 9y^2) + (2x^2 - 4xy + 7y)$$

- A.  $6x^2 + 9y^2 + 3xy^2$   
 B.  $6x^2 + 16y^2 - 4xy$   
 C.  $6x^2 + 16y^3 - 4xy$   
 D.  $6x^2 + 9y^2 + 3xy$   
 E.  $6x^2 + 9y^2 - 4xy + 7y$

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

$$\begin{aligned} & (4x^2 + 9y^2) + (2x^2 - 4xy + 7y) \\ &= 4x^2 + 2x^2 + 9y^2 - 4xy + 7y \\ &= 6x^2 + 9y^2 - 4xy + 7y \end{aligned}$$

#### QUESTION 495

Add, expressing the result in simplest form:

$$(4x^2 + 2xy + 7y^2) + (2x^2 + 7y)$$

- A.  $4x^2 + 4xy + 7y^2 + 7y$   
 B.  $6x^2 + 2xy + 7y^2 + 7y$   
 C.  $6x^2 + 9xy + 7y^2$   
 D.  $6x^2 + 2xy + 14y^3$  E.  $6x^2 + 2xy + 14y^2$

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

$$\begin{aligned} & (4x^2 + 2xy + 7y^2) + (2x^2 + 7y) \\ &= 4x^2 + 2x^2 + 2xy + 7y^2 + 7y \\ &= 6x^2 + 2xy + 7y^2 + 7y \end{aligned}$$

#### QUESTION 496

Add, expressing the result in simplest form:

$$\left(\frac{1}{2}x^2 + \frac{2}{3}x - \frac{1}{5}\right) + \left(\frac{1}{4}x^2 - \frac{1}{4}x - \frac{1}{4}\right)$$

$$\begin{aligned} & \frac{3}{4}x^2 + \frac{11}{12}x - \frac{9}{20} \\ & \frac{1}{6}x^2 + \frac{11}{12}x - \frac{9}{20} \\ & \frac{3}{4}x^2 + \frac{5}{12}x + \frac{1}{20} \\ & \frac{1}{6}x^2 + \frac{5}{12}x - \frac{1}{20} \\ & \frac{3}{4}x^2 + \frac{5}{12}x - \frac{9}{20} \end{aligned}$$

A.

B. C.

D. E.

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

$$\begin{aligned} & \left(\frac{1}{2}x^2 + \frac{2}{3}x - \frac{1}{5}\right) + \left(\frac{1}{4}x^2 - \frac{1}{4}x - \frac{1}{4}\right) \\ &= \frac{1}{2}x^2 + \frac{2}{3}x - \frac{1}{5} + \frac{1}{4}x^2 - \frac{1}{4}x - \frac{1}{4} \\ &= \frac{1}{2}x^2 + \frac{1}{4}x^2 + \frac{2}{3}x - \frac{1}{4}x - \frac{1}{5} - \frac{1}{4} \\ &= \left(\frac{1}{2} + \frac{1}{4}\right)x^2 + \left(\frac{2}{3} - \frac{1}{4}\right)x - \left(\frac{1}{5} + \frac{1}{4}\right) \\ &= \left(\frac{2}{4} + \frac{1}{4}\right)x^2 + \left(\frac{8}{12} - \frac{3}{12}\right)x - \left(\frac{4}{20} + \frac{5}{20}\right) \\ &= \frac{3}{4}x^2 + \frac{5}{12}x - \frac{9}{20} \end{aligned}$$

#### QUESTION 497

Add, expressing the result in simplest form:

$$(0.4x^2 - 0.0006x + 1) + (0.03x^2 + x - 0.005)$$

- A.  $0.7x^2 + 0.994x + 0.9995$   
 B.  $0.7x^2 + 0.9994x + 0.9995$   
 C.  $0.43x^2 + 0.994x + 0.9995$  D.  $0.43x^2 + 0.9994x + 0.995$   
 E.  $0.7x^2 - 1.006x + 0.995$

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

$$\begin{aligned} & (0.4x^2 - 0.0006x + 1) + (0.03x^2 + x - 0.005) = \\ & 0.4x^2 + 0.03x^2 + 1x - 0.0006x + 1 - 0.005 \\ &= 0.43x^2 + 0.9994x + 0.995 \end{aligned}$$

#### QUESTION 498

Find the sum:

$$(x - 2x^4 + 3x^2) + (5x^2 - 4x^4 + 3x)$$

Write the answer in standard form.

- A.  $8x^2 - 6x^4 + 4x$   
 B.  $-6x^4 + 8x^2 + 4x$   
 C.  $4x^6 + 8x^3 + 2x$  D.  $2x + 4x^6 + 8x^2$   
 E.  $8x^2 + 4x^6 + 2x$

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Find the sum:

$$(x - 2x^4 + 3x^2) + (5x^2 - 4x^4 + 3x)$$

Write the answer in standard form.

Combine like terms:



$$4x - 6x^4 + 8x^2$$

Write the answer in standard form (terms with the highest degree first):

$$-6x^4 + 8x^2 + 4x$$

#### QUESTION 499

Evaluate the following:

$$(2x^2 + 3x - 4) + (3x^2 - 6x + 7)$$

- A.  $5x^2 - 3x + 3$   
 B.  $5x^2 + 3x - 3$   
 C.  $5x^2 - 3x - 3$  D.  $5x^2 + 3x + 3$

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

With this problem, you need to take the trinomials out of parentheses and combine like terms. Since the two trinomials are being added together, you can remove the parentheses without needing to change any signs:  $(2x^2 + 3x - 4) + (3x^2 - 6x + 7)$

$$2x^2 + 3x - 4 + 3x^2 - 6x + 7$$

The next step is to combine like terms, based on the variables. You have two terms with  $x^2$ , two terms with  $x$ , and two terms with no variable. Make sure to pay attention to plus and minus signs with each term when combining like terms:  $5x^2 - 3x + 3$

#### QUESTION 500

Evaluate the following:

$$\frac{1}{2}(6x^2 + 2x - 3) + \frac{1}{4}(12x^2 - 24x + 6)$$

- A.  $6x^2 - 5x + 32$   
 B.  $6x^2 + 5x + 3$   
 C.  $6x^2 - 7x$   
 D.  $6x^2 - 5x$

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

With this problem, you need to distribute the two fractions across each of the trinomials. To do this, you multiply each term inside the parentheses by the fraction outside of it:

$$\frac{1}{2}(6x^2 + 2x - 3) + \frac{1}{4}(12x^2 - 24x + 6)$$

$$3x^2 + x - \frac{3}{2} + 3x^2 - 6x + \frac{3}{2}$$

The next step is to combine like terms, based on the variables. You have two terms with  $x^2$ , two terms with  $x$ , and two terms with no variable. Make sure to pay attention to plus and minus signs with each term when combining like terms.

Since you have a positive and negative  $\frac{3}{2}$ , those two terms will cancel out:

$$6x^2 - 5x$$

#### QUESTION 501

Evaluate the following:

$$\left(\frac{1}{2}x^2 + 2x - 4\right) + \left(\frac{3}{2}x^2 - 5x - 4\right)$$

- A.  $2x^2 - 3x - 8$
- B.  $x^2 + 3x - 8$
- C.  $2x^2 - 3x$
- D.  $2x^2 + 3x + 8$

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

To add these two trinomials, you will first begin by combining like terms. You have two terms with  $x^2$ , two terms with  $x$ , and two terms with no variable. For the two fractions with  $x^2$ , you can immediately add because they have common denominators:

$$\left(\frac{1}{2}x^2 + 2x - 4\right) + \left(\frac{3}{2}x^2 - 5x - 4\right)$$

$$\frac{4}{2}x^2 - 3x - 8$$

$$2x^2 - 3x - 8$$

**QUESTION 502** Add:

$$(3x^2 + 14x + 9) + (x^2 - 2x + 4)$$

- A.  $3x^4 + 12x^2 + 36$
- B.  $4x^2 + 12x + 13$
- C.  $4x^4 - 12x^2 + 13$
- D.  $2x^2 + 16x + 5$
- E.  $-8x + 13$

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

To add trinomials, identify and group together the like-terms:  $(3x^2 + x^2) + (14x - 2x) + (9 + 4)$ . Next, factor out what is common between the like-terms:  $(3 + 1)x^2 + (14 - 2)x + (9 + 4)$ . Finally, add what is left inside the parentheses to obtain the final answer of  $4x^2 + 12x + 13$ .

**QUESTION 503**

Evaluate the following:

$$\left(2x^2 + \frac{3}{4}x - 5\right) - (x^2 + x - 10)$$

$$x^2 - \frac{7}{4}x + 10$$

$$3x^2 - \frac{1}{4}x + 5$$

$$x^2 - \frac{1}{4}x + 5$$

$$x^2 - \frac{1}{4}x - 5$$

- A.
- B.
- C.
- D.



**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

To subtract these two trinomials, you first need to flip the sign on every term in the second trinomial, since it is being subtracted:

$$(2x^2 + \frac{3}{4}x - 5) - (x^2 + x - 10)$$

$$2x^2 + \frac{3}{4}x - 5 - x^2 - x + 10$$

Next you can combine like terms. You have two terms with  $x^2$ , two terms with  $x$ , and two terms with no variable:

$$x^2 - \frac{1}{4}x + 5$$

#### QUESTION 504

Find the difference:

$$(25a^3 + 14a^2 + 9a) - (-6a^3 - 14a^2 + 8a)$$

- A.  $19a^3 + a$
- B.  $31a^3 + 14a^2 + a$
- C.  $19a^3 + 17a$
- D.  $31a^3 + a$
- E.  $31a^3 + 28a^2 + a$

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Find the difference:

$$(25a^3 + 14a^2 + 9a) - (-6a^3 - 14a^2 + 8a)$$

Distribute the negative to the second trinomial:

$$25a^3 + 14a^2 + 9a + 6a^3 + 14a^2 - 8a$$

Combine like terms:

$$31a^3 + 28a^2 + a$$

#### QUESTION 505

Subtract:

$$(x^2 + 15x - 3) - (x^2 - 5x - 3)$$

- A.  $2x^2 + 20x + 6$
- B.  $20x^2$
- C.  $20x + 6$
- D.  $x^4 + 20x^2 + 6$
- E.  $20x$

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:



When subtracting trinomials, first distribute the negative sign to the expression being subtracted, and then remove the parentheses:  $(x^2 + 15x - 3) - (x^2 - 5x - 3) = x^2 + 15x - 3 - x^2 + 5x + 3$  Next, identify and group the like terms in order to combine them:  $(x^2 - x^2) + (15x + 5x) + (3 - 3) = 20x$ .

#### QUESTION 506

Find the quotient:

$$\frac{x^2 + 6x + 9}{x + 3}$$

- A.  $x + 9$   
 B.  $x + 2x + 3$   
 C.  $x + 3$  D.  $x - 6$   
 E.  $\frac{x+9}{x}$

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Find the quotient:

$$\frac{x^2 + 6x + 9}{x + 3}$$

Step one: Factor the numerator

$$\frac{(x + 3)(x + 3)}{(x + 3)}$$

Step two: Simplify

$$\frac{(x + 3)(x + 3)}{(x + 3)} = x + 3$$



**QUESTION 507** Phillip can paint  $y$  square feet of wall per minute. What area of the wall can he paint in 2.5 hours?

- A.  $150y\text{ft}^2$   
 B.  $25y\text{ft}^2$   
 C.  $2.5y\text{ft}^2$   
 D.  $50y\text{ft}^2$   
 E.  $300y\text{ft}^2$

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Every minute Phillip completes another  $y$  square feet of painting. To solve for the total area that he completes, we need to find the number of minutes that he works. There are 60 minutes in an hour, and he paints for 2.5 hours. Multiply to find the total number of minutes.

$$\left(60 \frac{\text{min}}{\text{hr}}\right)(2.5\text{hr}) = 150 \text{ min}$$

If he completes  $y$  square feet per minute, then we can multiply  $y$  by the total minutes to find the final answer.

$$\left(y \frac{\text{ft}^2}{\text{min}}\right)(150\text{min}) = 150y \text{ ft}^2$$

#### QUESTION 508

The value of  $y$  varies directly with the square of  $x$  and the cube of  $z$ . If  $y = 24$  when  $x = 1$  and  $z = 2$ , then what is the value of  $y$  when  $x = 3$  and  $z = 1$ ?

- A. 48
- B. 27C. 24



81  
E. 9

**Correct Answer:** B  
**Section:** Math  
**Explanation**

**Explanation/Reference**  
: Explanation:

Let's consider the general case when  $y$  varies directly with  $x$ . If  $y$  varies directly with  $x$ , then we can express their relationship to one another using the following formula:  $y = kx$ , where  $k$  is a constant.  
Therefore, if  $y$  varies directly as the square of  $x$  and the cube of  $z$ , we can write the following analogous equation:  $y = kx^2z^3$ , where  $k$  is a constant.  
The problem states that  $y = 24$  when  $x = 1$  and  $z = 2$ . We can use this information to solve for  $k$  by substituting the known values for  $y$ ,  $x$ , and  $z$ .  
 $24 = k(1)^2(2)^3 = k(1)(8) = 8k$   
 $24 = 8k$   
Divide both sides by 8.  
 $3 = k$   
 $k = 3$   
Now that we have  $k$ , we can find  $y$  if we know  $x$  and  $z$ . The problem asks us to find  $y$  when  $x = 3$  and  $z = 1$ . We will use our formula for direct variation again, this time substitute values for  $k$ ,  $x$ , and  $z$ .  
 $y = 3(3)^2(1)^3 = 3(9)(1) = 27$   
 $y = 27$   
The answer is 27.

#### QUESTION 509

In a growth period, a population of flies triples every week. If the original population had 3 flies, how big is the population after 4 weeks?

- A. 2187
- B. 729
- C. 243
- D. 27
- E. 81

**Correct Answer:** C  
**Section:** Math  
**Explanation**

**Explanation/Reference**  
: Explanation:

We know that the initial population is 3, and that every week the population will triple.  
The equation to model this growth will be  $i(r)^n$ , where  $i$  is the initial size,  $r$  is the rate of growth, and  $n$  is the time. In this case, the equation will be  $3(3)^4$ .  
 $3(3)^4 = 3(81) = 243$   
Alternatively, you can evaluate for each consecutive week.  
Week 1:  $3(3) = 9$   
Week 2:  $3(9) = 27$   
Week 3:  $3(27) = 81$   
Week 4:  $3(81) = 243$

#### QUESTION 510

$L$  varies directly as  $A$  and inversely as  $V$ ;  $A = 6s^2$  and  $V = s^3$ . Assuming that no other variables affect  $L$ , which statement is true of  $L$  concerning its relationship to  $s$ ?

- A.  $L$  varies inversely as the fifth power of  $s$ .
- B. None of the other statements are correct.
- C.  $L$  varies inversely as  $s$ .
- D.  $L$  varies directly as  $s$ .

D.

E.  $L$  varies directly as the fifth power of  $s$ .

**Correct Answer: C**

**Section: Math**

**Explanation**

**Explanation/Reference**

: Explanation:

$L$  varies directly as  $A$  and inversely as  $V$ , meaning that for some constant of variation  $K$ ,

$$\frac{LV}{A} = K.$$

Setting  $A = 6s^2$  and  $V = s^3$ , the formula becomes

$$\frac{Ls^3}{6s^2} = K$$

$$\frac{Ls}{6} = K$$

$$Ls = 6K$$

Setting  $K' = 6K$  as the new constant of variation, the variation equation becomes  $Ls$

$= K'$ ,

so  $L$  varies inversely as  $s$ .

**QUESTION 511**  $X$  varies directly as both  $y$  and the cube of  $z$ . Which statement is true of  $z$  concerning its relationship to  $y$ ?

A.  $z$  varies inversely as the cube of  $y$ .

B.  $z$  varies directly as the cube root of  $y$ .

C.  $z$  varies inversely as the cube root of  $y$ .

D.  $z$  varies directly as the cube of  $y$ .

E. None of the other statements is true.

**Correct Answer: C**

**Section: Math**

**Explanation**

**Explanation/Reference:** Explanation:  $x$  varies directly as both  $y$  and the cube of  $z$ ,

meaning that for some constant of variation  $K$ ,

$$\frac{x}{yz^3} = K$$

Take the reciprocal of both sides, and the equation becomes

$$\frac{yz^3}{x} = \frac{1}{K}$$

Take the cube root of both sides, and the equation becomes

$$\frac{z\sqrt[3]{y}}{\sqrt[3]{x}} = \sqrt[3]{\frac{1}{K}}$$

$$K' = \sqrt[3]{\frac{1}{K}}$$

$$\frac{z\sqrt[3]{y}}{\sqrt[3]{x}} = K'$$

takes the role of the new constant of variation here, and we now have

so  $z$  varies inversely as the cube root of  $y$ .

**QUESTION 512** The square of  $x$  varies inversely with the cube of  $y$ . If  $x = 8$  when  $y = 8$ , then what is the value of  $y$  when  $x = 1$ ?

A. 85

B. 32C. 64 2

E. 215

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference**

: Explanation:

When two quantities vary inversely, their products are always equal to a constant, which we can call  $k$ . If the square of  $x$  and the cube of  $y$  vary inversely, this means that the product of the square of  $x$  and the cube of  $y$  will equal  $k$ . We can represent the square of  $x$  as  $x^2$  and the cube of  $y$  as  $y^3$ . Now, we can write the equation for inverse variation.  $x^2y^3 = k$

We are told that when  $x = 8$ ,  $y = 8$ . We can substitute these values into our equation for inverse variation and then solve for  $k$ .

$$8^2(8^3) = k$$

$$k = 8^2(8^3)$$

Because this will probably be a large number, it might help just to keep it in exponent form. Let's apply the property of exponents which says that  $a^b a^c = a^{b+c}$ .  $k$

$$= 8^2(8^3) = 8^{2+3} = 8^5.$$

Next, we must find the value of  $y$  when  $x = 1$ . Let's use our equation for inverse variation equation, substituting  $8^5$  in for  $k$ .

$$x^2y^3 = 8^5 (1)^2y^3 = 8^5 y^3 = 8^5$$

In order to solve this, we will have to take a cube root. Thus, it will help to rewrite 8 as the cube of 2, or  $2^3$ .

$$y^3 = (2^3)^5$$

We can now apply the property of exponents that states that  $(a^b)^c = a^{bc}$ .

$$y^3 = 2^{3 \cdot 5} = 2^{15}$$

In order to get  $y$  by itself, we will have to raise each side of the equation to the  $1/3$  power.

$$(y^3)^{(1/3)} = (2^{15})^{(1/3)}$$

Once again, let's apply the property  $(a^b)^c = a^{bc}$ .

$$y^{(3 \times 1/3)} = 2^{(15 \times 1/3)} y$$

$$= 2^5 = 32 \text{ The}$$

answer is 32.

#### QUESTION 513

$x$  varies inversely as both the square of  $y$  and the square root of  $z$ . Assuming that  $x$  does not depend on any other variable, which statement is true of  $z$  concerning its relationship to  $y$ ?

- A.  $z$  varies inversely as  $y$ .
- B.  $z$  varies directly as the fourth power of  $y$ .
- C.  $z$  varies inversely as the fourth power of  $y$ .
- D.  $z$  varies directly as the fourth root of  $y$ .
- E.  $z$  varies inversely as the fourth root of  $y$ .

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference**

: Explanation:

$x$  varies inversely as both the square of  $y$  and the square root of  $z$ , meaning that for some constant of variation  $K$ ,  $x^2\sqrt{z} = K$

Square both sides, and the expression becomes

$$x^2y^4z = K^2$$

$K' = K^2$  takes the role of the new constant of variation here, and we now have

$zx^2y^4 = K'$ , meaning that  $z$  varies inversely as the fourth power of  $y$ .

#### QUESTION 514

$Q$  varies directly as the square of  $A$  and inversely as  $V$ ;  $A = 4\pi r^2$  and  $V = \frac{4}{3}\pi r^3$ . Assuming that  $Q$  does not depend on any other variables, which of the following gives the variation relationship of  $r$  to  $Q$ ?

- A.  $Q$  varies inversely as  $r$ .
- B.  $Q$  varies inversely as the seventh power of  $r$ .
- C.  $Q$  varies inversely as the fourth power of  $r$ .
- D.  $Q$  varies directly as  $r$ .
- E.  $Q$  varies directly as the fourth power of  $r$ .

D.

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference**

: Explanation:

Q varies directly as the square of A and inversely as V; therefore for some constant of variation K,

$$\frac{QV}{A^2} = K$$

Setting  $A = 4\pi^2$  and  $V = \frac{4}{3}\pi r^3$ , the formula becomes

$$\frac{Q(\frac{4}{3}\pi r^3)}{(4\pi r^2)^2} = K$$

$$\frac{Q(\frac{4}{3}\pi r^3)}{(16\pi^2 r^4)} = K$$

$$\frac{Q}{12\pi r} = K$$

$$\frac{Q}{r} = 12\pi K$$

Setting  $K' = 12\pi K$  as the new constant of variation, we have a new variation equation

$$\frac{Q}{r} = K'$$

meaning that Q varies directly as  $r$ .

**QUESTION 515** If you have a rectangle with a width of  $3n$  and a length of  $7n - 3y + 2$ , what is the area of the rectangle?

A.  $56n^2 - 27ny + 18n$

B.  $14ny^3$

C.  $21n - 9y^2 + 6$

D.  $21n^2 - 9ny + 6n$

E.  $21ny - 9ny + 2ny$

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference**

: Explanation:

To find the area of a rectangle, multiply the length times the width. Therefore, you must multiply  $3n$  times  $7n - 3y + 2$ . To do that, you must multiply the monomial times each part of the trinomial, like so:  $7n(3n) -$

$$3y(3n) + 2(3n)$$

$$21n^2 - 9ny + 6n$$

**QUESTION 516**

Find the product:

$$6x^3y^5(3x^2z^4 + x^3y + 7y)$$

A.  $18x^6y^5z^4 + 6x^9y^5 + 42x^3y^5$

B.  $6x^3y^5z^4 + 6x^3y^5 + 7y^6$

C.  $18x^5y^5z^4 + 6x^6y^6 + 42x^3y^6$

D.  $18x^5y^5z^4 + 6x^6y^6 + 42x^3y^6$

E.  $9x^5y^6 + 6x^3y^6 + 7$

**Correct Answer:** C

**Section:** Math

**Explanation**



**Explanation/Reference**

: Explanation:

Use the distributive property:

$$6x^3y^5(3x^2z^4 + x^3y + 7y)$$

$$(6x^3y^5)(3x^2z^4) + (6x^3y^5)(x^3y) + (6x^3y^5)(7y)$$

Simplify: don't forget to use the rules of multiplying exponents (add them)

$$18x^5y^5z^4 + 6x^6y^6 + 42x^3y^6$$

**QUESTION 517**

Find the product:

$$4a^2(ab^2 + a^2b + ac^3)$$

A.  $8a^2b^2 + 4a^4b$

B.  $4a^2b^3 + 4ab$

C.  $4a^3b^2 + 4a^4b + 4a^3b^3$

D.  $4ab^3 + 4a^2b^3 + 4ac$

E.  $4a^2b^2 + 4a^4b + 4a^2b^3$

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference**

: Explanation:

Find the product:

$$4a^2(ab^2 + a^2b + ac^3)$$

Use the distributive property:

$$(4a^2 \times ab^2) + (4a^2 \times a^2b) + (4a^2 \times ac^3)$$

When multiplying variables with exponents, add the exponents:

$$4a^3b^2 + 4a^4b + 4a^3c^3$$

**QUESTION 518**

Find the product:

$$5x^3(x^2 + 2x + 4)$$

A.  $5x^3 + x^2 + 2x + 4$

B.  $5x^2 + 2.5x^2 + 1.25x^3$

C.  $5x^6 + 10x^4 + 20x^3$

D.  $5x^5 + 10x^4 + 20x^3$

E.  $5x^6 + 30x^3$

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference**

: Explanation:

Find the product:

$$5x^3(x^2 + 2x + 4)$$

Use the distributive property:

$$(5x^3 \times x^2) + (5x^3 \times 2x) + (5x^3 \times 4)$$

$$5x^5 + 10x^4 + 20x^3$$



D.

**QUESTION 519** If  $(3x - 4)(3x + 4) = 2$ , what is the value of  $9x^2$ ?

- A. 27
- B. 4
- C. 36
- D. 18
- E. 9

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference**

: Explanation:

Remember that  $(a - b)(a + b) = a^2 - b^2$ .

We can therefore rewrite  $(3x - 4)(3x + 4) = 2$  as  $(3x)^2 - (4)^2 = 2$ .

Simplify to find  $9x^2 - 16 = 2$ .

Adding 16 to each side gives us  $9x^2 = 18$ .

**QUESTION 520** If  $g(x) = 2x^2 - 2$  and  $h(x) = x + 4$ , then which of the following is equivalent to  $g(h(x)) - h(g(x))$ ?

- A.  $-16x - 28$
- B.  $16x + 28$
- C.  $2x^3 + 8x^2 - 2x - 8$
- D. 28
- E.  $16x$

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference**

: Explanation:

We are asked to find the difference between  $g(h(x))$  and  $h(g(x))$ , where  $g(x) = 2x^2 - 2$  and  $h(x) = x + 4$ . Let's find expressions for both.

$$g(h(x)) = g(x + 4) = 2(x + 4)^2 - 2$$

$$g(h(x)) = 2(x + 4)(x + 4) - 2$$

In order to find  $(x + 4)(x + 4)$  we can use the FOIL method.

$$(x + 4)(x + 4) = x^2 + 4x + 4x + 16$$

$$g(h(x)) = 2(x^2 + 4x + 4x + 16) - 2$$

$$g(h(x)) = 2(x^2 + 8x + 16) - 2$$

Distribute and simplify.  $g(h(x)) =$

$$2x^2 + 16x + 32 - 2 \quad g(h(x)) = 2x^2$$

$$+ 16x + 30 \quad \text{Now, we need to find}$$

$$h(g(x)). \quad h(g(x)) = h(2x^2 - 2) = 2x^2$$

$$- 2 + 4 \quad h(g(x)) = 2x^2 + 2$$

Finally, we can find  $g(h(x)) - h(g(x))$ .

$$g(h(x)) - h(g(x)) = 2x^2 + 16x + 30 - (2x^2 + 2)$$

$$= 2x^2 + 16x + 30 - 2x^2 - 2$$

$$= 16x + 28$$

The answer is  $16x + 28$ .

**QUESTION 521**



The sum of two numbers is  $s$ . The product of the same two numbers is  $p$ . If the two numbers are each increased by one, the new product is  $q$ . Find  $q - p$  in terms of  $s$ .

- A.  $s + 2$
- B.  $2s + 1$
- C.  $s - 1$
- D.  $s^2$
- E.  $s + 1$

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Let the two numbers be  $x$  and  $y$ .

$$x + y = s \quad xy = p$$

$$(x + 1)(y + 1) = q \text{ Expand}$$

the last equation:

$$xy + x + y + 1 = q$$

Note that both of the first two equations can be substituted into this new equation:

$$p + s + 1 = q$$

Solve this equation for  $q - p$  by subtracting  $p$  from both sides:

$$s + 1 = q - p$$

#### QUESTION 522

Expand the expression:

$$(x^3 - 4x)(6 + 12x^2)$$

- A.  $42x^3 + 12x^5 - 24x$
- B.  $6x^3 + 12x^5 - 24x - 48x^3$
- C.  $6x^3 + 12x^2 - 24x - 48$
- D.  $22x^2$
- E.  $12x^5 - 42x^3 - 24x$



**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

When using FOIL, multiply the first, outside, inside, then last expressions; then combine like terms.

$$(x^3 - 4x)(6 + 12x^2)$$

$$6x^3 + 12x^5 - 24x - 48x^3$$

$$-42x^3 + 12x^5 - 24x$$

$$12x^5 - 42x^3 - 24x$$

#### QUESTION 523

Expand the following expression:

$$(4x + 2)(x^2 - 2)$$

- A.  $4x^3 + 2x^2 - 8x - 4$
- B.  $4x^3 - 4$
- C.  $x^3 + 2x^2 - 8x - 4$
- D.  $4x^3 + 2x^2 + 8x + 4$
- E.  $4x^3 + 4x - 4$

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

$$(4x + 2)(x^2 - 2) = (4x \times x^2) + (4x \times -2) + (2 \times x^2) + (2 \times -2)$$

Which becomes

$$4x^3 - 8x + 2x^2 - 4$$

Or, written better

$$4x^3 + 2x^2 - 8x - 4$$

**QUESTION 524** Which of the following is equal to the expression  $(3x - 1)(2x + 4)$ ?

A.  $6x^2 - 4$

B.  $6x^2 + 10x - 4$  C.  $6x^2 - 10$

D.  $6x^2 + 2x + 10$

E.  $5x + 3$

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Multiply using FOIL:

$$\text{First} = 3x(2x) = 6x^2$$

$$\text{Outer} = 3x(4) = 12x$$

$$\text{Inner} = -1(2x) = -2x$$

$$\text{Last} = -1(4) = -4$$

Combine and simplify:

$$6x^2 + 12x - 2x - 4 = 6x^2 + 10x - 4$$

**QUESTION 525**

Simplify the expression.

$$(2x^2 - 3x)(2y + a)$$

A.  $-6x^3 + 2ay$

B. None of the other answers

C.  $-2axy$

D.  $2x^2y - 2ax^2 - 3xy - 3ax$  E.  $4x^2y + 2ax^2 - 6xy - 3ax$

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Solve by applying FOIL:

$$\text{First: } 2x^2 \times 2y = 4x^2y$$

$$\text{Outer: } 2x^2 \times a = 2ax^2$$

$$\text{Inner: } -3x \times 2y = -6xy$$

$$\text{Last: } -3x \times a = -3ax$$

$$\text{Add them together: } 4x^2y + 2ax^2 - 6xy - 3ax$$

There are no common terms, so we are done.

**QUESTION 526**

$$(6x - 2)(3x + 5) = ax^2 + dx + k$$

Given the equation above, what is the value of  $a - d + k$ ?

- A. 24
- B. -10
- C. 2
- D. -16
- E. 9

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

$$(6x - 2)(3x + 5) = ax^2 + dx + k$$

Use FOIL to expand the left side of the equation.

$$(6x - 2)(3x + 5) = 18x^2 + 30x - 6x - 10 = 18x^2 + 24x - 10$$

$$18x^2 + 24x - 10 = ax^2 + dx + k$$

From this equation, we can solve for  $a$ ,  $d$ , and  $k$ .

$$18x^2 = ax^2 \rightarrow a = 18$$

$$24x = dx \rightarrow d = 24 -$$

$$10 = k$$

Plug these values into  $a - d + k$  to solve.

$$a - d + k = (18) - (24) + (-10) = -16$$

**QUESTION 527**

Expand and simplify the expression.

$$4(x - 5)(2x + 10)$$

- A.  $8x^2 - 10x + 10$
- B.  $8x^2 - 200x$
- C.  $8x^2 - 200$
- D.  $8x^2 - 40x + 200$  E.  $8x^2 - 80x - 200$

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

$$4(x - 5)(2x + 10)$$

We can solve by FOIL, then distribute the 4. Since all terms are being multiplied, you will get the same answer if you distribute the 4 before using FOIL. First:

$$x \times 2x = 2x^2$$

$$\text{Inside: } -5 \times 2x = -10x$$

$$\text{Outside: } x \times 10 = 10x$$

$$\text{Last: } -5 \times 10 = -50$$

Sum all of the terms and simplify. Do not forget the 4 in front of the quadratic!

$$4(2x^2 - 10x + 10x - 50)$$

$$4(2x^2 - 50)$$

Finally, distribute the 4.

$$8x^2 - 200$$

**QUESTION 528**

If  $f(x) = 3x - 2$ ,  $g(x) = 2x + 3$ , and  $h(x) = f(x) \times g(x)$ , then  $h(x) = ?$



- A.  $6x^2 + 5x - 6$
- B.  $6x - 1$
- C.  $6x^2 - 4x - 6$
- D.  $6x^2 + 9x + 6$
- E.  $6x - 6$

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

To find what  $h(x)$  equals, you must know how to multiply  $f(x)$  times  $g(x)$ , or, you must know how to multiply binomials. The best way to multiply monomials is the FOIL (first, outside, inside, last) method, as shown below:  $h(x)$

$$= f(x) \times g(x) = (3x - 2) \times (2x + 3)$$

Multiply the First terms

$$3x \times 2x = 6x^2$$

Multiply the Outside terms:

$$3x \times 3 = 9x$$

Multiply the Inside terms:

$$-2 \times 2x = -4x$$

Note: this step yields a negative number because the product of the two terms is negative. Multiply the Last terms:

$$-2 \times 3 = -6$$

Note: this step yields a negative number too!

Putting the results together, you get:

$$(3x - 2) \times (2x + 3) = 6x^2 + 9x - 4x - 6$$

Finally, combine like terms, and you get:

$$h(x) = 6x^2 + 5x - 6$$



#### QUESTION 529

Factor  $4x^3 - 16x$

- A.  $4x(x - 2)(x - 2)$
- B.  $4x(x^2 - 4)$
- C.  $4x(x + 2)(x - 2)$
- D. cannot be factored
- E.  $4x(x + 2)(x + 2)$

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

First pull out any common terms:  $4x^3 - 16x = 4x(x^2 - 4)$   $x^2 - 4$  is a difference of squares, so we can also factor that further. The difference of squares formula is  $a^2 - b^2 = (a -$

$b)(a + b)$ . Here  $a = x$  and  $b = 2$ . So  $x^2 - 4 = (x - 2)(x + 2)$ .

Putting everything together,  $4x^3 - 16x = 4x(x + 2)(x - 2)$ .

**QUESTION 530** Factor the following equation.

$$x^2 - 16$$

- A.  $(x)(x - 4)$
- B.  $(x + 4)(x - 4)$

- C.  $(x - 4)(x - 4)$   
 D.  $(x^2)(4 - 2)$   
 E.  $(x + 4)(x + 4)$

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The correct answer is  $(x + 4)(x - 4)$

We need to factor  $x^2 - 16$  to solve. We know that each parenthesis will contain an  $x$  to make the  $x^2$ . We know that the root of 16 is 4 and since it is negative and no value of  $x$  is present we can tell that one 4 must be positive and the other negative. If we work it from the multiple choice answers we will see that when multiplying it out we get  $x^2 + 4x - 4x - 16$ .  $4x - 4x$  cancels out and we are left with our answer.

#### QUESTION 531

If  $x^3 - y^3 = 30$ , and  $x^2 + xy + y^2 = 6$ , then what is  $x^2 - 2xy + y^2$ ?

- A. 180  
 B. cannot be determined  
 C. 5  
 D. 24  
 E. 25

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

First, let's factor  $x^3 - y^3$  using the formula for difference of cubes.

$$x^3 - y^3 = (x - y)(x^2 + xy + y^2)$$

We are told that  $x^2 + xy + y^2 = 6$ . Thus, we can substitute 6 into the above equation and solve for  $x - y$ .

$$(x - y)(6) = 30. \text{ Divide}$$

both sides by 6.

$$x - y = 5.$$

The original questions ask us to find  $x^2 - 2xy + y^2$ . Notice that if we factor  $x^2 - 2xy + y^2$  using the formula for perfect squares, we obtain the following:  $x^2$

$$- 2xy + y^2 = (x - y)^2.$$

Since we know that  $(x - y) = 5$ ,  $(x - y)^2$  must equal  $5^2$ , or 25.

$$\text{Thus, } x^2 - 2xy + y^2 = 25.$$

The answer is 25.

#### QUESTION 532

If  $x - y = 4$  and  $x^2 - y = 34$ , what is  $x$ ?

- A. 6  
 B. 9

C. 10D. 12

E. 15

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

This can be solved by substitution and factoring.

$x^2 - y = 34$  can be written as  $y = x^2 - 34$  and substituted into the other equation:  $x - y = 4$  which leads to  $x - x^2 + 34 = 4$  which can be written as  $x^2 - x - 30 = 0$ .  $x^2$

$-x - 30 = 0$  can be factored to  $(x - 6)(x + 5) = 0$  so  $x = 6$  and  $-5$  and because only 6 is a possible answer, it is the correct choice.

**QUESTION 533** If  $x^2 + 2ax + 81 = 0$ . When  $a = 9$ , what is the value of  $x$ ?

A. 0

B. -18

C. 3

D. -9

E. 9

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

When  $a = 9$ , then  $x^2 + 2ax + 81 = 0$  becomes

$$x^2 + 18x + 81 = 0.$$

This equation can be factored as  $(x + 9)^2 = 0$ .

Therefore when  $a = 9$ ,  $x = -9$ .

**QUESTION 534** If  $f(x)$  has roots at  $x = -1, 0$  and  $2$ , which of the following could be the equation for  $f(x)$ ?

A.  $f(x) = x^4 + x^3 - 2x^2$

B.  $f(x) = x^2 + x - 2$

C.  $f(x) = x^3 - x^2 + 2x$

D.  $f(x) = x^2 - x - 2$

E.  $f(x) = x^3 - x^2 - 2x$

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

In general, if a function has a root at  $x = r$ , then  $(x - r)$  must be a factor of  $f(x)$ . In this problem, we are told that  $f(x)$  has roots at  $-1, 0$  and  $2$ . This means that the following are all factors of  $f(x)$ :  $(x - (-1)) = x + 1$   $(x - 0) = x$  and  $(x - 2)$ .

This means that we must look for an equation for  $f(x)$  that has the factors  $(x + 1)$ ,  $x$ , and  $(x - 2)$ .



We can immediately eliminate the function  $f(x) = x^2 + x - 2$ , because we cannot factor an  $x$  out of this polynomial. For the same reason, we can eliminate  $f(x) = x^2 - x - 2$ .

Let's look at the function  $f(x) = x^3 - x^2 + 2x$ . When we factor this, we are left with  $x(x^2 - x + 2)$ . We cannot factor this polynomial any further. Thus,  $x + 1$  and  $x - 2$  are not factors of this function, so it can't be the answer.

Next, let's examine  $f(x) = x^4 + x^3 - 2x^2$ .

We can factor out  $x^2$ .

$$x^2(x^2 + x - 2)$$

When we factor  $x^2 + x - 2$ , we will get  $(x + 2)(x - 1)$ . These factors are not the same as  $x - 2$  and  $x + 1$ .

The only function with the right factors is  $f(x) = x^3 - x^2 - 2x$ .

When we factor out an  $x$ , we get  $(x^2 - x - 2)$ , which then factors into  $(x - 2)(x + 1)$ . Thus, this function has all of the factors we need.

The answer is  $f(x) = x^3 - x^2 - 2x$ .

#### QUESTION 535

Factor  $36x^2 - 49y^2$ .

- A.  $(6x + 7y)(6x - 7y)$
- B. cannot be factored
- C.  $(6x - 7y)(6x - 7y)$
- D.  $(6x + 7y)(6x + 7y)$
- E.  $6x^2 - 7y^2$

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

This is a difference of squares. The difference of squares formula is  $a^2 - b^2 = (a + b)(a - b)$ . In this problem,  $a = 6x$  and  $b = 7y$ . So  $36x^2 - 49y^2 = (6x + 7y)(6x - 7y)$ .

**QUESTION 536** Find the roots of

$$f(x) = x^2 + 2x - 3$$

- A.  $x = 1, -3$
- B.  $x = 1, 3$
- C.  $x = -1, 3$
- D.  $x = 2, 1$  E.  $x = 0, 3$

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Factoring yields  $(x + 3)(x - 1)$  giving roots of  $-3$  and  $1$ .

**QUESTION 537**

$$\frac{-3 - 2x + x^2}{x - 3}$$

Find the root of the equation above.

- A.  $x = -1$



- B.  $x = 3$  C.  $x = 0$  D.  $x = 1$   
E.  $x = 2$

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The numerator can be factored into  $(x - 3)(x + 1)$ .

Therefore, it can cancel with the denominator. So  $x + 1 = 0$  implies  $x = -1$ .

#### QUESTION 538

$$x^2 - 5x - 24 = 0$$

Solve for  $x$ .

A.  $x = 24$   $x = 0$

B.  $x = \frac{24}{5}$   $x = \frac{-24}{5}$

C.  $x = -8$   $x = 3$

D.  $x = 8$   $x = -3$

E.  $x = \frac{5}{24}$   $x = -\frac{5}{24}$

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

$$x^2 - 5x - 24 = 0$$

Find all factors of 24

1, 2, 3, 4, 6, 8, 12, 24

Now find two factors that add up to  $-5$  and multiply to  $-24$ ;  $-8$  and  $3$  are the two factors.

By factoring, you can set the equation to be  $(x - 8)(x + 3) = 0$ . If you FOIL it out, it gives

you  $x^2 - 5x - 24 = 0$ . Set each part of the equation equal to 0, and solve for  $x$ .

$x + 3 = 0$  and  $x - 8 = 0$

$x = -3$  and  $x = 8$

#### QUESTION 539

Assume that  $x$  and  $y$  are integers and that  $x > y$ . The value of  $x^6 - y^6$  must be divisible by all of the following EXCEPT:

A.  $x^2 + y^2$

B.  $x - y$

C.  $x + y$

D.  $x^2 - y^2$  E.  $x^3 - y^3$

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The numbers by which  $x^6 - y^6$  is divisible will be all of its factors. In other words, we need to find all of the factors of  $x^6 - y^6$ , which essentially means we must factor  $x^6 - y^6$  as much as we can.

First, we will want to apply the difference of squares rule, which states that, in general,  $a^2 - b^2 = (a - b)(a + b)$ . Notice that  $a$  and  $b$  are the square roots of the values of  $a^2$  and  $b^2$ , because  $\sqrt{a^2} = a$ , and  $\sqrt{b^2} = b$  (assuming  $a$  and  $b$  are positive). In other words, we can apply the difference of squares formula to  $x^6 - y^6$  if we simply find the square roots of  $x^6$  and  $y^6$ .

Remember that taking the square root of a quantity is the same as raising it to the one-half power. Remember also that, in general,  $(ab)c = abc$ .

$\sqrt{x^6} = (x^6)^{(1/2)} = x^{(6(1/2))} = x^3$  Similarly,

$\sqrt{y^6} = y^3$ .

Let's now apply the difference of squares factoring rule.

$$x^6 - y^6 = (x^3 - y^3)(x^3 + y^3)$$

Because we can express  $x^6 - y^6$  as the product of  $(x^3 - y^3)$  and  $(x^3 + y^3)$ , both  $(x^3 - y^3)$  and  $(x^3 + y^3)$  are factors of  $x^6 - y^6$ . Thus, we can eliminate  $x^3 - y^3$  from the answer choices.

Let's continue to factor  $(x^3 - y^3)(x^3 + y^3)$ . We must now apply the sum of cubes and differences of cubes formulas, which are given below: In general,  $a^3 + b^3 = (a + b)(a^2 - ab + b^2)$ . Also,  $a^3 - b^3 = (a - b)(a^2 + ab + b^2)$ . Thus, we have the following:

$$(x^3 - y^3)(x^3 + y^3) = (x - y)(x^2 + xy + y^2)(x + y)(x^2 - xy + y^2)$$

This means that  $x - y$  and  $x + y$  are both factors of  $x^6 - y^6$ , so we can eliminate both of those answer choices.

We can rearrange the factorization  $(x - y)(x^2 + xy + y^2)(x + y)(x^2 - xy + y^2)$  as follows:  $(x - y)(x + y)(x^2 + xy + y^2)(x^2 - xy + y^2)$

Notice that  $(x - y)(x + y)$  is merely the factorization of difference of squares. Therefore,  $(x - y)(x + y) = x^2 - y^2$ .

$(x - y)(x + y)(x^2 + xy + y^2)(x^2 - xy + y^2) = (x^2 - y^2)(x^2 + xy + y^2)(x^2 - xy + y^2)$  This means that  $x^2 - y^2$  is also a factor of  $x^6 - y^6$ .

By process of elimination,  $x^2 + y^2$  is not necessarily a factor of  $x^6 - y^6$ . The answer is  $x^2 + y^2$ .

#### QUESTION 540

Factor  $4x^3 - 16x$ .

- A.  $4x(x^2 - 4)$
- B.  $4x(x - 2)(x - 2)$
- C.  $4x(x + 2)(x + 2)$
- D. Cannot be factored
- E.  $4x(x + 2)(x - 2)$

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

First pull out any common terms:  $4x^3 - 16x = 4x(x^2 - 4)$   $x^2 - 4$  is a difference of squares, so we can also factor that further. The difference of squares formula is  $a^2 - b^2 = (a - b)(a + b)$ . Here  $a = x$  and  $b = 2$ . So  $x^2 - 4 = (x - 2)(x + 2)$ . Putting everything together,  $4x^3 - 16x = 4x(x + 2)(x - 2)$ .

#### QUESTION 541

Factor the following:

$$x^2 + x - 12$$

- A.  $(x - 4)(x + 3)$
- B.  $(x + 10)(x - 2)$
- C.  $(x + 4)(x - 3)$
- D.  $(x + 12)(x - 1)$
- E.  $(x + 6)(x - 2)$

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Start by looking at your last term. Since this term is negative, you will need to have a positive group and a negative group:

$$(x + ?)(x - ?)$$

Now, since the middle term is positive, you can guess that the positive group will contain the larger number. Likewise, since the coefficient is only 1, you can guess that the factors will be close. Two such factors of 12 are 3 and 4. Therefore, your groups will be:

$$(x + 4)(x - 3)$$

#### QUESTION 542

Factor the following:

$$x^2 - 9x + 18$$

- A.  $(x - 3)(x + 6)$
- B.  $(x - 9)(x + 2)$
- C.  $(x - 3)(x - 6)$
- D.  $(x - 2)(x - 9)$
- E.  $(x - 18)(x + 1)$

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Begin by looking at the last element. Since it is positive, you know that your groups will contain either two additions or two subtractions. Since the middle term is negative ( $-9x$ ), your groups will be two subtractions:  $(x - ?)(x - ?)$

Now, the factors of 18 are 1 and 18, 2 and 9, and 3 and 6.

Clearly, the last is the one that works, for when you FOIL  $(x - 3)(x - 6)$ , you get your original equation!

#### QUESTION 543 Factor

$$2x^2 - 18x - 72$$

- A.  $(2x - 3)(x - 12)$
- B.  $(2x + 1)(x + 3)$
- C.  $2(x + 3)(x - 12)$
- D.  $(x + 3)(x - 12)$
- E.  $(2x + 7)(x - 13)$

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

We can factor out a 2, leaving  $2(x^2 - 9x - 36)$ .

From there we can factor again to  $2(x + 3)(x - 12)$ .

#### QUESTION 544 Solve

for  $y$ :

$$5(y + 4) + 3(y + 2) = 8(y + 3) + 2$$

- A.  $y = 1$
- B.  $y = 3\frac{1}{4}$
- C.  $y = 8$
- D.  $y$  can be any real number
- E. No solution

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

$$\begin{aligned} 5(y + 4) + 3(y + 2) &= 8(y + 3) + 2 \\ 5 \times y + 5 \times 4 + 3 \times y + 3 \times 2 &= 8 \times y + 8 \times 3 + 2 \\ + 20 + 3y + 6 &= 8y + 24 + 2 \\ 5y + 3y + 20 + 6 &= 8y + 24 + 2 \\ 8y + 26 &= 8y + 26 \end{aligned}$$

The original statement is equivalent to a statement that is identically true regardless of the value of  $y$ ; therefore, so is the original statement itself. The solution set is the set of all real numbers.

**QUESTION 545**

If  $j = 12$ , what is the value of:

$$\frac{j(j-2) + (j-6)(j-10)}{j}$$

- A. 10
- B. 2
- C. 12
- D. 11
- E. 24

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

To solve this equation, simply plug 12 in for  $j$  in the equation.

$$\begin{aligned} &\frac{j(j-2) + (j-6)(j-10)}{j} \\ &\frac{12(12-2) + (12-6)(12-10)}{12} \\ &\frac{132}{12} = 11 \end{aligned}$$

**QUESTION 546** Which of the following equations has more than one solution? A. All of the other responses gives a correct answer.

- B.  $|6x + 16| = |2(x + 6) + 4(x + 1)|$
- C.  $|6x + 16| = |2(x + 8) + 4(x + 1)|$
- D.  $|6x + 16| = |2(x + 2) + 4(x + 1)|$
- E.  $|6x + 16| = |2(x + 4) + 4(x + 1)|$

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

The question is equivalent to asking the following:  
For what value of  $A$  does the equation  $|6x + 16| =$



$|2(x + A) + 4(x + 1)|$  have more than one solution? The equation simplifies as follows:

$$|6x + 16| = |2x + 2A + 4x + 4|$$

$$|6x + 16| = |6x + (2A + 4)|$$

$$|6x + 16| = |6x + 4 + 2A|$$

If the absolute values of two expressions equal, then either the expressions themselves are equal or they are each other's opposite.

Taking the latter case:

$$6x + 16 = -(6x + 4 + 2A)$$

$$6x + 16 = -6x - 4 - 2A$$

$$12x + 16 = -4 - 2A$$

$$12x = -20 - 2A$$

$$x = \frac{-20 - 2A}{12}$$

Regardless of the value of  $A$ , exactly one solution is yielded this way.

The question becomes as follows: for which value of  $A$  does the other way yield a solution?

Set:

$$6x + 16 = 6x + 4 + 2A$$

$$16 = 2A + 4$$

If this is a false statement, then this yields no solutions.

If this is a true statement, then this automatically yields the set of all real numbers as the solution set. We solve for  $A$ :  $12$

$$= 2A$$

$$A = 6$$

As a result, the statement  $|6x + 16| = |2(x + 6) + 4(x + 1)|$  has infinitely many solutions, and the other three statements have exactly one.

#### QUESTION 547

Which of the following is true of the solution set of the equation  $2x^2 - 7x + 9 = x^2 - 3x + 14$ ?

- A. The solution set comprises one irrational number.
- B. The solution set comprises two imaginary numbers.
- C. The solution set comprises two rational numbers.
- D. The solution set comprises two irrational numbers.
- E. The solution set comprises one rational number.

**Correct Answer: C**

**Section: Math**

**Explanation**

**Explanation/Reference:**

Explanation:

First, since the equation is quadratic, put it in standard form

$$ax^2 + bx + c = 0$$

as follows:

$$2x^2 - 7x + 9 = x^2 - 3x + 14$$

$$2x^2 - 7x + 9 - x^2 + 3x - 14 = x^2 - 3x + 14 - x^2 + 3x - 14$$

$$x^2 - 4x - 5 = 0$$

To determine the nature of the solution set, evaluate discriminant  $b^2 - 4ac$  for  $a = 1$ ,  $b = -4$ ,  $c = -5$ :

$$b^2 - 4ac = (-4)^2 - 4(1)(-5)$$

$$= 16 - (-20)$$

$$= 36$$

$$= 6^2$$

The discriminant is positive and a perfect square, so the solution set comprises two rational numbers.

**QUESTION 548** Which of the following is true of the solution set of the equation  $4x^2 - 7x - 12 = 2x^2 + 3x - 6$ ?

- A. The solution set comprises one rational number.

- B. The solution set comprises two rational numbers.
- C. The solution set comprises one irrational number.
- D. The solution set comprises two imaginary numbers.
- E. The solution set comprises two irrational numbers

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

First, since the equation is quadratic, put it in standard form

$ax^2 + bx + c = 0$  as follows:

$$4x^2 - 7x - 12 = 2x^2 + 3x - 6$$

$$4x^2 - 7x - 12 - 2x^2 - 3x + 6 = 2x^2 + 3x - 6 - 2x^2 - 3x + 6$$

$$2x^2 - 10x - 6 = 0$$

To determine the nature of the solution set, evaluate discriminant  $b^2 - 4ac$  for  $a = 2$ ,  $b = -10$ ,  $c = -6$ :

$$b^2 - 4ac = (-10)^2 - 4(2)(-6)$$

$$= 100 - (-48)$$

$$= 148$$

The discriminant is positive, but not a perfect square, so the solution set comprises two irrational numbers.

#### QUESTION 549

Which of the following is true of the solution set of the equation  $x^4 - 1,000,000 = 0$ ?

- A. The solution set comprises four imaginary numbers.
- B. The solution set comprises four irrational numbers.
- C. The solution set comprises two irrational numbers and two imaginary numbers.
- D. The solution set comprises two irrational numbers.
- E. The solution set comprises two rational numbers and two imaginary numbers.



**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Factor the polynomial as the difference of squares:

$$x^4 - 1,000,000 = 0$$

$$(x^2)^2 - 1,000^2 = 0$$

$$(x^2 + 1,000)(x^2 - 1,000) = 0$$

We set each binomial equal to 0 and apply the Square Root Property:

$$x^2 + 1,000 = 0$$

$$x^2 = -1,000$$

$$= \pm\sqrt{-1,000}$$

This yields two imaginary solutions.

$$x^2 - 1,000 = 0$$

$$x^2 = 1,000$$

$$= \pm\sqrt{1,000}$$

This yields two irrational solutions.

The correct response is that the solution set comprises two irrational numbers and two imaginary numbers.

**QUESTION 550** Which of the following is true of the solution set of the equation  $x^3 + 1,000 = 0$ ?

- A. The solution set comprises one rational number and two irrational numbers.
- B. The solution set comprises three imaginary numbers.
- C. The solution set comprises one rational number and two imaginary numbers.
- D. The solution set comprises three irrational numbers.
- E. The solution set comprises one irrational number and two imaginary numbers.

**Correct Answer: C**

**Section: Math**

**Explanation**

**Explanation/Reference:**

Explanation:

The cubic binomial in the equation can be factored to yield an equivalent equation as follows:

$$x^3 + 1,000 = 0$$

$$x^3 + 10^3 = 0$$

$$(x + 10)(x^2 - 10x + 100) = 0$$

One of these factors must be equal to 0.

If  $x + 10 = 0$  then  $x = -10$ , so one solution is rational.

If  $x^2 - 10x + 100 = 0$ , we can find out about the nature of the remaining solutions using discriminant  $b^2 - 4ac$ , setting  $a = 1$ ,  $b = -10$ ,  $c = 100$ :

$$b^2 - 4ac = (-10)^2 -$$

$$4(1)(100)$$

$$= 100 - 400$$

$$= -300$$

The discriminant is negative, so the two solutions of the equation  $x^2 - 10x + 100 = 0$  are imaginary. These are also the two remaining solutions of  $x^3 + 1,000 = 0$ .

The correct response is that the equation has one rational solution and two imaginary solutions.

**QUESTION 551**  $J$  = a set of positive integer factors of 16

$K$  = a set of positive integer factors of 24

$L$  = a set of positive integer factors of 30

$J$ ,  $K$ , and  $L$  represent three sets of numbers. What is the set of numbers that belongs in  $K$  but not in  $J$  or  $L$ ?

- A. {3, 4, 12}
- B. {3, 8}
- C. {12, 24}
- D. {6, 12, 24}
- E. {6, 8, 24}

**Correct Answer: C**

**Section: Math**

**Explanation**

**Explanation/Reference:**

Explanation:

This problem is asking for the factors of 24 that are NOT also factors of 16 OR 30. Thus, the quickest way to solve this problem is to just list all the factors of 16, 24, and 30, and solve. Those factors are:

16: 1, 2, 4, 8, 16

24: 1, 2, 3, 4, 6, 8, 12, 24

30: 1, 2, 3, 5, 6, 10, 15, 30

As you can see you can knock out 1 (16 & 30), 2 (16 & 30), 3(30), 4(16), 6(30) and 8(16) as factors of 24 that are in common with 16 & 30. This leaves only 12 and 24, which is the solution.

**QUESTION 552** If  $k^2 - 24 = 57$ , what is the solution set for  $k$ ?

- A.  $K = -9, 3$
- B.  $K = -9, 0$
- C.  $K = 9, 0$
- D.  $K = -9, 3$
- E.  $K = -9, 9$

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

To find the solution set, you must solve the equation; in this case, solving the equation; in this case, solving the equation means isolating  $k$  on one side of the equation, and the numbers on the other side of the equation.

That is done like this:

$$k^2 - 24 = 56$$

$$k^2 = 81 \quad k =$$

$$\pm 9$$

$K = -9$  or  $9$  because either number is the square root of  $81$ . To see that that's true, square both numbers. —

$$9 \times -9 = 81 \text{ and } 9 \times 9 = 81.$$

This is very important to remember: whenever you're isolating a variable by taking the square root of a squared number, the answer can be a positive OR negative value, as long as they share an absolute value!

**QUESTION 553** Which of the following is true of the solution set of the equation  $x^4 + 2,000x^2 + 1,000,000 = 0$ ?

- A. The solution set comprises two imaginary numbers and two irrational numbers.
- B. The solution set comprises two irrational numbers.
- C. The solution set comprises four imaginary numbers.
- D. The solution set comprises two imaginary numbers and two rational numbers.
- E. The solution set comprises two imaginary numbers.

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The perfect square trinomial in the equation can be factored to yield an equivalent equation as follows:

$$x^4 + 2,000x^2 + 1,000,000 = 0 \quad (x^2)^2$$

$$+ 2 \times x^2 \times 1,000 + 1,000^2 = 0$$

$$(x^2 + 1,000)^2 = 0$$

$$x^2 + 1,000 = 0$$

$$x^2 = -1,000 \quad x =$$

$$\pm \sqrt{-1,000}$$

Therefore, there are exactly two solutions to the equation, both imaginary.

**QUESTION 554** Which of the following is true of the solution set of the equation  $4x^2 + 7x - 5 = x^2 + 2x - 10$ ?

- A. The solution set comprises two imaginary numbers.
- B. The solution set comprises one rational number.



- C. The solution set comprises two rational numbers.  
 D. The solution set comprises two irrational numbers.  
 E. The solution set comprises one irrational number.

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

First, since the equation is quadratic, put it in standard form

$ax^2 + bx + c = 0$  as follows:

$$4x^2 + 7x - 5 = x^2 + 2x - 10$$

$$4x^2 + 7x - 5 - x^2 - 2x + 10 = x^2 + 2x - 10 - x^2 - 2x + 10$$

$$3x^2 + 5x + 5 = 0$$

To determine the nature of the solution set, evaluate discriminant  $b^2 - 4ac$  for  $a = 3$ ,  $b = 5$ ,  $c = 5$ :

$$b^2 - 4ac = 5^2 - 4(3)(5)$$

$$= 25 - 60$$

$$= -35$$

The discriminant is negative, so the solution set comprises two imaginary numbers.

#### QUESTION 555

$$3x + y = 8$$

$$2x + 4y = 12$$

Solve the system for  $x$  and  $y$ .

A.  $x = 10$ ,  $y = -2$

B.  $x = -4$ ,  $y = 20$

C.  $x = 2$ ,  $y = 0$

D.  $x = 2$ ,  $y = 2$

E.  $x = 3$ ,  $y = -1$

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The simplest method for solving systems of equations is to transform one of the equations so it allows for the cancelling out of a variable. In this case, we can multiple  $3x + y = 8$  by  $(-4)$  to get  $-12x - 4y = -32$ .

Then, we can add  $2x + 4y = 12$  to this equation to yield  $-10x = -20$ , so  $x = 2$ .

We can plug that value into either of the original equations; for example,  $3(2) + y = 8$ . So,  $y = 2$  as well.

#### QUESTION 556

What is the solution to the following system of equations:

$$3x + 5y = 15 \quad 3x + 3y = 15 \quad \text{A. } x = 3, y = \frac{6}{5}$$

B.  $x = 5$ ,  $y = 0$

$$x = \frac{1}{3}, y = 3$$

$$x = 2, y = \frac{13}{4}$$

C.

D.

E.  $x = 3, y = 2$

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

By solving one equation for  $y$ , and replacing  $y$  in the other equation with that expression, you generate an equation of only 1 variable which can be readily solved.

**QUESTION 557**

Jeff, the barista at Moonbucks Coffee, is having a problem. He needs to make fifty pounds of Premium Blend coffee by mixing together some Kona beans, which cost \$24 per round, with some Ethiopian Delight beans, which cost \$10 per pound. The Premium Blend coffee will cost \$14.20 per pound. Also, the coffee will sell for the same price mixed as it would separately.

How many pounds of Kona beans will be in the mixture?

- A. 5
- B. 20C. 25
- D. 10
- E. 15

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The number of pounds of coffee beans totals 50, so one of the equations would be

$$x + y = 50.$$

The total price of the Kona beans, is its unit price, \$24 per pound, multiplied by its quantity,  $x$  pounds. This is  $24x$  dollars. Similarly, the total price of the Ethiopian delight beans is  $10y$  dollars, and the price of the mixture is  $14.2 \times 50 = 710$  dollars. Add the prices of the Kona and Ethiopian Delight beans to get the price of the mixture:  $24x + 10y = 710$

We are trying to solve for  $x$  in the system

$$24x + 10y = 710$$

$$x + y = 50$$

Multiply the second equation by  $-10$ , then add to the first:

$$24x + 10y = 710$$

$$\underline{-10x - 10y = -500}$$

$$14x = 210$$

$$= 210 \div 14$$

$$= 15$$

The mixture includes 15 pounds of Kona beans.

**QUESTION 558**

If  $3x - y = 1$  and  $2x + 2y = 14$ , what is the value of  $x + y$ ?

- A. 7
- B. 10.5
- C. 2
- D. 9
- E. 5.5

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

To solve this problem, you must first solve the system of equation for both  $x$  and  $y$ , then plug the values of  $x$  and  $y$  into the final equation.

In order to solve a system of equations, you must add the equations in a way that gets rid of one of the variables so you can solve for one variable, then for the other. One example of how to do so is as follows:

Take the equations. Multiply the first equation by two so that there is  $-2y$  (this will cancel out the  $2y$  in the second equation).

$(3x - y = 1) \times 2 = 6x - 2y = 2$  Add the equations:

$$6x - 2y = 2$$

$$2x + 2y = 14$$

Find the sum (notice that the variable  $y$  has disappeared entirely):

$$8x = 16 \text{ Solve for } x.$$

$$x = 2$$

Plug this value of  $x$  back into one of the original equations to solve for  $y$ :

$$3(2) - y = 1$$

$$6 - y = 1 \quad y$$

$$= 5$$

Now, plug the values of  $x$  and  $y$  into the final expression:

$$2 + 5 = 7$$

The answer is 7.

**QUESTION 559**

Solve for  $x$ .

$$4x + 3y = 6$$

$$2x + 2y = 4$$

A.  $x = 0$

B.  $x = \frac{3}{4}$

C.  $x = 2$

D.  $x = -2$

E.  $x > 0$



**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

$$4x + 3y = 6$$

$$2x + 2y = 4$$

For the second equation, solve for  $x$  in terms of  $y$ .

$$4 - 2x = 2y$$

$$y = 2 - x$$

Plug this value of  $y$  into the first equation.

$$4x + 3(2 - x) = 6$$

$$4x + 6 - 3x = 6$$

$$x = 0$$

**QUESTION 560**

Solve for  $(x, y)$  in the system of equations:

$$y = 3x + 4$$

$$2x + 3y = 34$$

- A. (2, 10)
- B. (3, 13)
- C. The system has no solution
- D. (4, 16)
- E. (5, 19)

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

In the second equation, you can substitute  $3x + 4$  for  $y$  from the first.

$$2x + 3y = 34$$

$$2x + 3(3x + 4) = 34$$

$$2x + 3(3x) + 3(4) = 34$$

$$2x + 9x + 12 = 34$$

$$11x + 12 = 34$$

$$11x = 22 \quad x =$$

$$2$$

Now, substitute 2 for  $x$  in the first equation:

$$y = 3x + 4 \quad y$$

$$= 3(2) + 4 \quad y$$

$$= 6 + 4 \quad y =$$

$$10$$

The solution is (2, 10)

#### QUESTION 561

Without drawing a graph of either equation, find the point where the two lines intersect.

Line 1:  $y = 3x$

Line 2:  $y = x - 2$

- A. (1, 3)
- B. (0, -2)
- C. (-1, -3)
- D. (0, 0)
- E. (2, 0)

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

To find the point where these two lines intersect, set the equations equal to each other, such that  $y$  is substituted with the  $x$  side of the second equation. Solving this new equation for  $x$  will give the  $x$ -coordinate of the point of intersection.  $3x = x - 2$

Subtract  $x$  from both sides.

$$(3x) - x = (x - 2) - x$$

$$2x = -2$$

Divide both sides by 2.

$$\frac{2x}{2} = \frac{-2}{2}$$

$$x = -1$$

Now substitute  $-1$  into either equation to find the  $y$ -coordinate of the point of intersection.

$$y = 3x \quad y = 3(-1) \quad y = -3$$

With both coordinates, we know the point of intersection is  $(-1, -3)$ . One can plug in  $-1$  for  $x$  and  $-3$  for  $y$  in both equations to verify that this is correct.

**QUESTION 562**

$$8x + 3y = 2$$

$$2x - 3y = 18$$

What is the solution of  $x$  for the systems of equations?

- A.  $x = 3$
- B.  $x = 0$
- C.  $x = 1$
- D.  $x = 2$
- E.  $x = 5$

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

We add the two systems of equations:

For the Left Hand Side:

$$(8x + 3y) + (2x - 3y) = 10x$$

For the Right Hand Side:

$$2 + 18 = 20$$

So our resulting equation is:

$$10x = 20$$

Divide both sides by 10:

For the Left Hand Side:

$$\frac{10x}{10} = x$$

For the Right Hand Side:

$$x = 2$$

**QUESTION 563**

$$5x + 2y = 9$$

$$12x + 6y = 24$$

What is the solution of  $x$  that satisfies both equations?

- A.  $x = 1$
- B.  $x = 2$
- C.  $x = 3$
- D.  $x = 0$
- E.  $x = 4$

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Reduce the second system by dividing by 3.

Second Equation:

$$12x + 6y = 24 \text{ We this by 3.}$$

$$\frac{12x}{3} + \frac{6y}{3} = \frac{24}{3}$$

$$4x + 2y = 8$$

Then we subtract the first equation from our new equation.

$$\text{First Equation: } 5x + 2y = 9$$

$$\text{First Equation: } 5x + 2y = 9$$

$$5x + 2y = 9$$

$$\text{First Equation} - \text{Second Equation:}$$

$$\text{Left Hand Side: } (5x + 2y) - (4x +$$

$$2y) = x \text{ Right Hand Side: } 9 - 8 = 1$$

$$\text{Our result is: } x = 1$$

#### QUESTION 564

$$2x - y = 2 \quad x + y$$

$$= 4$$

What is the solution of  $x$  for the two systems of equations?

$$\text{A. } x = 2$$

$$\text{B. } x = 0$$

$$\text{C. } x = 1$$

$$\text{D. } x = 9$$

$$\text{E. } x = 3$$

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

We first add both systems of equations.

$$\text{Left Hand Side: } (2x - y) + (x + y) = 3x$$

$$\text{Right Hand Side: } 2 + 4 = 6$$

Our resulting equation is:

$$3x = 6$$

We divide both sides by 3.

Left Hand Side:

$$\frac{3x}{3} = x$$

Right Hand Side:

$$\frac{6}{3} = 2$$

Our resulting equation is:

$$x = 2$$

#### QUESTION 565

$$4x + y = 8 \quad x + 4y$$

$$= 17$$

What is the solution of  $y$  for the two systems?

$$\text{A. } y = 4$$

$$\text{B. } y = 1$$

$$\text{C. } y = 3$$

$$\text{D. } y = 2$$

$$\text{E. } y = 6$$

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

We first multiply the second equation by 4.

So our resulting equation is:  $x \times 4 + 4y \times 4$

$= 17 \times 4 \quad 4x + 16y = 68$

Then we subtract the first equation from the second new equation.

Left Hand Side:  $(4x + y) -$

$(4x + 16y) = -15y$  Right

Hand Side:  $6 - 68 = -60$

Resulting Equation:

$-15y = -60$

We divide both sides by  $-15$

Left Hand Side:

$$\frac{-15y}{-15} = y$$

Right Hand Side:

$$\frac{-60}{-15} = 4$$

Our result is:

$y = 4$

#### QUESTION 566

Find the solutions for the following set of equations:

$$13x + 2y = 11 -$$

$$5x - y = -1$$

A.  $x = \frac{9}{13}$

$y = 1$  B.

$x = 2 \quad y = -$

7.5 C.  $x =$

$3 \quad y = -14$

D.  $x = 1$

$y = -4$  E.

$x = 1 \quad y =$

$-1$

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

If we multiply both sides of our bottom equation by 2, we get  $-10x - 2y = -2$ . We can now add our two equations, and eliminate  $y$ , leaving only one variable. When we add the equations, we get  $3x = 9$ . Therefore,  $x = 3$ . Finally, we go back to either of our equations, and plug in  $x = 3$  so we can solve for  $y$ .

$$13(3) + 2y = 11$$

$$39 + 2y = 11$$

$$2y = -28 \quad y =$$

$$-14$$

#### QUESTION 567

Give the solution to the system of equations below.

$$4x - 3y = 11$$
$$2x + y = 13$$

- A. (6, 1)
- B. (4, -3)
- C. No solution
- D. (2, -1)
- E. (5, 3)

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

$$4x - 3y = 11$$

$$2x + y = 13$$

Solve the second equation for  $y$ , allowing us to solve using the substitution method.

$$2x + y = 13$$

$$y = 13 - 2x$$

Substitute for  $y$  in the first equation, and solve for  $x$ .

$$4x - 3(13 - 2x) = 11$$

$$4x - 39 + 6x = 11$$

$$10x - 39 = 11$$

$$10x = 50 \quad x =$$

$$5$$

Now, substitute for  $x$  in either equation; we will choose the second. This allows us to solve for  $y$ .

$$2x + y = 13$$

$$2 \times 5 + y = 13$$

$$10 + y = 13 \quad y$$

$$= 3$$

Now we can write the solution in the notation  $(x, y)$  or  $(5, 3)$ .



#### QUESTION 568

$$|12x + 3y| < 15$$

What is the range of values for  $y$ , expressed in terms of  $x$ ?

- A.  $5 - 4x < y < 5 + 4x$
- B.  $y < 5 - 4x$
- C.  $-5 - 4x < y < 5 - 4x$
- D.  $y > 15 - 12x$
- E.  $5 + 4x < y < 5 - 4x$

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Recall that with absolute values and "less than" inequalities, we have to hold the following:

$$12x + 3y < 15$$

AND

$$12x + 3y > -15$$

Otherwise written, this is:



$$-15 < 12x + 3y < 15$$

In this form, we can solve for  $y$ . First, we have to subtract  $x$  from all 3 parts of the inequality:

$$-15 - 12x < 3y < 15 - 12x$$
 Now, we have to divide each element by 3:

$$(-15 - 12x)/3 < y < (15 - 12x)/3$$

This simplifies to:

$$-5 - 4x < y < 5 - 4x$$

**QUESTION 569**

$$|4x + 14| > 30$$

What is a possible valid value of  $x$ ?

- A. 7
- B. -3
- C. -11
- D. 4
- E. 1

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

This inequality could be rewritten as:

$$4x + 14 > 30 \text{ OR } 4x + 14 < -30$$

Solve each for  $x$ :

$$4x + 14 > 30; 4x > 16; x > 4$$

$$4x + 14 < -30; 4x < -44; x < -11$$

Therefore, anything between -11 and 4 (inclusive) will not work. Hence, the answer is 7.



**QUESTION 570** Given the inequality,  $|2x - 2| > 20$ , what is a possible value for  $x$ ?

- A. -8
- B. 0
- C. 10
- D. 11
- E. -10

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

For this problem, we must take into account the absolute value.

First, we solve for  $2x - 2 > 20$ . But we must also solve for  $2x - 2 < -20$  (please notice that we negate 20 and we also flip the inequality sign).

First step:

$$2x - 2 > 20$$

$$2x > 22 \quad x >$$

$$11$$

Second step:

$$2x - 2 < -20$$

$$2x < -18 \quad x <$$

$$-9$$

Therefore,  $x > 11$  and  $x < -9$ .

A possible value for  $x$  would be  $-10$  since that is less than  $-9$ .

Note: the value  $11$  would not be a possible value for  $x$  because the inequality sign given does not include an equal sign.

#### QUESTION 571

Solve for  $x$ .  $-2x$

$$+ 5 \geq 10$$

$$x \leq \frac{5}{2}$$

$$x \geq -\frac{5}{2}$$

$$x \geq \frac{5}{2}$$

- A.
- B.
- C.
- D. None of the above
- E.  $x \geq 5$

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Move  $+5$  using subtraction rule which will give you  $-2x \geq 5$ .

Divide both sides by  $2$  (using division rule) and you will get  $-\frac{x}{2} \leq \frac{5}{2}$  which is the same as  $\frac{x}{2} \geq \frac{5}{2}$



#### QUESTION 572

If  $\frac{a}{5} + 5 > 6$ , which of the following MUST be true?

- I.  $a > 2$
- II.  $a > 10$  III.  $a < 6$

- A. I, II, and III
- B. I and II only
- C. II only
- D. III only
- E. I only

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Subtract  $5$  from both sides of the inequality:

$$\frac{a}{5} > 1$$

Multiple both sides by  $5$ :  $a > 5$

Therefore only I must be true

**QUESTION 573** Which of the following is equivalent to  $|x - 3| < 2$ ?

- A.  $x > -1$
- B.  $x > 1$
- C.  $1 < x < 5$
- D.  $-3 < x < 2$
- E.  $x < 5$

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Solve for both  $x - 3 < 2$  and  $-(x - 3) < 2$ .

$x - 3 < 2$  and  $-x + 3 < 2$   $x < 2 +$

$3$  and  $-x < 2 - 3$

$x < 5$  and  $-x < -1$

$x < 5$  and  $x > 1$

The results are  $x < 5$  and  $x > 1$ .

Combine the two inequalities to get  $1 < x < 5$

**QUESTION 574**

Which of the following is a possible set of solutions to  $x + 4 > 2x - 2$ ?

- A.  $-2, 3, 6$
- B.  $-2, -1, 6$
- C.  $-2, 4, 7$
- D.  $2, 6, 7$
- E.  $-1, 4, 5$

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Manipulate the inequality until  $x$  is on a side by itself:

$$x + 4 > 2x - 2$$

$$x + 4 - x > 2x - 2 - x$$

$$4 > x - 2$$

$$4 + 2 > x - 2 + 2$$

$$6 > x$$

For this equation,  $x$  must be less than 6. Find the answer choice with value all less than 6. In this case, it will be  $-1, 4$  and  $5$ .

**QUESTION 575**

A factory packs cereal boxes. Before sealing each box, a machine weighs it to ensure that it is no lighter than 356 grams and no heavier than 364 grams. If the box holds  $w$  grams of cereal, which inequality represents all allowable values of  $w$ ?

- A.  $|w + 360| < 4$
- B.  $|w - 360| > 4$  C.  $|w + 360| \leq 4$
- D.  $|w - 360| \geq 4$
- E.  $|w - 360| = 4$

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The median weight of a box of cereal is 360 grams. This should be an allowable value of  $w$ . Substituting 360 for  $w$  into each answer choice, the only true results are:

$$\begin{aligned} |w - 360| &\geq 4 \\ |360 - 360| &\geq 4 \\ 0 &\geq 4 \\ \text{and:} \\ |w + 360| &\leq 4 \\ |360 + 360| &\leq 4 \\ 720 &\leq 4 \end{aligned}$$

Notice that any positive value for  $w$  satisfies the second inequality above. Since  $w$  must be between 356 and 364, the first inequality above is the only reasonable choice.

**QUESTION 576** What values of  $x$  make the following statement true?

$$|x - 3| < 9$$

- A.  $-12 < x < 6$
- B.  $x < 12$
- C.  $6 < x < 12$
- D.  $-6 < x < 12$
- E.  $-3 < x < 9$

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Solve the inequality by adding 3 to both sides to get  $x < 12$ . Since it is absolute value,  $x - 3 > -9$  must also be solved by adding 3 to both sides so:  $x > -6$  so combined.

**QUESTION 577**

If  $-1 < w < 1$ , all of the following must also be greater than  $-1$  and less than 1 EXCEPT for which choice?

- A.  $w/2$
- B.  $w^2$
- C.  $|w|$
- D.  $|w|^{0.5}$
- E.  $3w/2$

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

$3w/2$  will become greater than 1 as soon as  $w$  is greater than two thirds. It will likewise become less than  $-1$  as soon as  $w$  is less than negative two thirds. All the other options always return values between  $-1$  and 1.

**QUESTION 578** Solve

for  $z$ .

$$|z - 3| \geq 5$$

- A.  $-2 \leq z \leq 8$
- B.  $z \geq 8$
- C.  $-3 \leq z \leq 5$
- D.  $z \leq -3$  or  $z \geq 5$
- E.  $z \leq -2$  or  $z \geq 8$

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Absolute value problems always have two sides: one positive and one negative.

First, take the problem as is and drop the absolute value signs for the positive side:  $z - 3 \geq 5$ . When the original inequality is multiplied by  $-1$  we get  $z - 3 \leq -5$ .

Solve each inequality separately to get  $z \leq -2$  or  $z \geq 8$  ( the inequality sign flips when multiplying or dividing by a negative number).

We can verify the solution by substituting in 0 for  $z$  to see if we get a true or false statement. Since  $-3 \geq 5$  is always false we know we want the two outside inequalities, rather than their intersection.

**QUESTION 579** If  $x + 1 < 4$  and  $y - 2 < -1$ , then which of the following could be the value of  $x + y$ ?

- A. 0
- B. 8
- C. 16
- D. 4
- E. 12

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

To solve this problem, add the two equations together:

$$x + 1 < 4 \quad y - 2 < -1$$

$$x + 1 + y - 2 < 4 - 1$$

$$x + y - 1 < 3 \quad x + y <$$

$$4$$

The only answer choice that satisfies this equation is 0, because 0 is less than 4.

**QUESTION 580**

If  $17 - x > 19$ , which of the following could be a value of  $x$ ?

- A.  $-2$
- B.  $0$
- C.  $2$
- D.  $4$
- E.  $-4$

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

In order to solve this inequality, you must isolate  $x$  on one side of the equation.

$$17 - x > 19$$

$$17 > 19 + x$$

$$-2 > x$$

Therefore, the only option that solves the inequality is  $-4$ .

**QUESTION 581** What values of  $x$  make the statement

$$|5x - 9| \geq 6 \text{ true?}$$

$$x \geq 3, x \leq \frac{3}{5}$$

$$x \geq 4, x \leq -\frac{1}{2}$$

$$x \geq 6, x \leq \frac{1}{3}$$

$$x \geq 15, x \leq \frac{2}{5}$$

$$x \geq 5, x \leq \frac{1}{5}$$

A.

B. C.

D. E.

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

First, solve the inequality  $5x - 9 \geq 6$ :

$$5x - 9 \geq 6$$

$$5x \geq 15$$

$$x \geq 3$$

Since we are dealing with absolute value,  $5x - 9 \leq -6$ , must also be true; therefore:

$$5x - 9 \leq -6$$

$$5x \leq 3$$

$$x \leq \frac{3}{5}$$

**QUESTION 582**  $(\sqrt{8})^{-x} < 2$ . Which of the following values could be  $x$ ?

A.  $-3$

B.  $-4$

C.  $-1$

D. All of the answers choices are valid.

E.  $-2$

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:



The equation simplifies to  $x > -1.41 - 1$  is the answer.

### QUESTION 583

Solve for  $x$   $3x +$

$$7 \geq -2x + 4$$

$$x \geq -\frac{3}{5}$$

$$x \leq -\frac{3}{5}$$

$$x \leq \frac{3}{5}$$

$$x \geq \frac{3}{5}$$

A.

B. C.

D.

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

$$3x + 7 \geq -2x + 4$$

$$3x \geq -2x - 3$$

$$5x \geq -3$$

$$x \geq -\frac{3}{5}$$



**QUESTION 584** We have  $x^2 - 4 < 0$ , find the solution set for this inequality.

A.  $x = 0$

B.  $x > -2$

C.  $x > 2, x < -2$

D.  $x < 2$

E.  $-2 < x < 2$

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:  $x^2 - 4 < 0 \Rightarrow x^2 < 4$

$$\Rightarrow -2 < x < 2$$

### QUESTION 585

Fill in the circle with either  $<$ ,  $>$ , or  $=$  symbols:

$$(x - 3) \times \frac{x^2 - 9}{x + 3} \text{ for } x \neq 3.$$

$$(x - 3) > \frac{x^2 - 9}{x + 3}$$

$$(x - 3) < \frac{x^2 - 9}{x + 3}$$

$$(x - 3) = \frac{x^2 - 9}{x + 3}$$

- A.
- B. C.
- D. None of the other answers are correct.
- E. The rational expression is undefined.

**Correct Answer: C**

**Section: Math**  
**Explanation**

**Explanation/Reference:**

Explanation:

$$(x - 3) \times \frac{x^2 - 9}{x + 3}$$

Let use simplify the second expression. We know that:

$$(x^2 - 9) = (x + 3)(x - 3)$$

So we can cancel out as follows:

$$\frac{x^2 - 9}{x + 3} = \frac{(x + 3)(x - 3)}{(x + 3)} = x - 3$$

$$(x - 3) = \frac{x^2 - 9}{x + 3}$$

#### QUESTION 586

What is the greatest value of x that makes

$$-45 \leq \frac{x - 7}{-6} \leq -22$$

a true statement?

- A. -125
- B. -139
- C. -90D. 277
- E. 228

**Correct Answer: D**

**Section: Math**  
**Explanation**

**Explanation/Reference:**

Explanation:

Find the solution set of the three-part inequality as follows:

$$-45 \leq \frac{x - 7}{-6} \leq -22$$

$$-45 \times (-6) \geq \frac{x - 7}{-6} \times (-6) \geq -22 \times (-6)$$

$$270 \geq x - 7 \geq 132$$

$$270 + 7 \geq x - 7 + 7 \geq 132 + 7$$

$$277 \geq x \geq 139$$

The greatest possible value of x is the upper bound of the solution set, which is 277.

#### QUESTION 587

What is the least value of x that makes





$$-45 \leq \frac{x-7}{-6} \leq -22$$

a true statement?

- A. 90
- B. -228
- C. 139
- D. -277
- E. 125

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Find the solution set of the three-part inequality as follows:

$$-45 \leq \frac{x-7}{-6} \leq -22$$

$$-45 \times (-6) \geq \frac{x-7}{-6} \times (-6) \geq -22 \times (-6)$$

$$270 \geq x - 7 \geq 132$$

$$270 + 7 \geq x - 7 + 7 \geq 132 + 7$$

$$277 \geq x \geq 139$$

The least possible value of x is the lower bound of the solution set, which is 139.

**QUESTION 588**

Give the solution set of the inequality:

$$-7 \leq -\frac{3}{4}x < -4$$

$$(3, 5\frac{1}{4}]$$

$$(5\frac{1}{3}, 9\frac{1}{3}]$$

$$[-9\frac{1}{3}, -5\frac{1}{3})$$

$$[-5\frac{1}{4}, -3)$$

- A.
- B. C.
- D.
- E. None of the other responses gives the correct answer.

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Divide each of the three expressions by  $-\frac{3}{4}$ , or equivalently, multiply each by its reciprocal,  $-\frac{4}{3}$ :



$$-7 \leq -\frac{3}{4}x < -4$$

$$-7 \times \left(-\frac{4}{3}\right) \geq -\frac{3}{4}x \times \left(-\frac{4}{3}\right) > -4 \times \left(-\frac{4}{3}\right)$$

$$\frac{28}{3} \geq x > \frac{16}{3}$$

$$5\frac{1}{3} < x \leq 9\frac{1}{3}$$

or interval form,

$$\left(5\frac{1}{3}, 9\frac{1}{3}\right]$$

#### QUESTION 589

Give the solution set of the following inequality:

$$32 < \frac{x-4}{5} < 42$$

- A. None of the other responses gives the correct answer.  
 B. (164, 214) C. (148, 188) D. (133, 173)  
 E. (180, 230)

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

$$32 < \frac{x-4}{5} < 42$$

$$32 \times 5 < \frac{x-4}{5} \times 5 < 42 \times 5$$

$$160 < x - 4 < 210$$

$$160 + 4 < x - 4 + 4 < 210 + 4$$

$$164 < x < 214$$

or, in interval notation, (164, 214).

#### QUESTION 590

Which of the following numbers could be a solution to the inequality  $3x < x < -2x$ ?

- A.  $\frac{1}{2}$   
 B. 0  
 C. 3  
 D. 2  
 E. -4

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

In order for a negative multiple to be greater than a number and a positive multiple to be less than that number, that number must be negative itself. -4 is the only negative number available, and thus the correct answer.

#### QUESTION 591

Each of the following is equivalent to  $xy/z * (5(x + y))$  EXCEPT:

- A.  $5x^2 + y^2/z$
- B.  $xy(5y + 5x)/z$
- C.  $xy(5x + 5y)/z$
- D.  $5x^2y + 5xy^2/z$

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Choice a is equivalent because we can say that technically we are multiplying two fractions together:  $(xy)/z$  and  $(5(x + y))/1$ . We multiply the numerators together and the denominators together and end up with  $xy(5x + 5y)/z$ .  $xy(5y + 5x)/z$  is also equivalent because it is only simplifying what is inside the parentheses and switching the order – the commutative property tells us this is still the same expression.  $5x^2y + 5xy^2/z$  is equivalent as it is just a simplified version when the numerators are multiplied out. Choice  $5x^2 + y^2/z$  is not equivalent because it does not account for all the variables that were in the given expression and it does not use FOIL correctly.

**QUESTION 592** Let  $S$  be the set of numbers that contains all of values of  $x$  such that  $2x + 4 < 8$ . Let  $T$  contain all of the values of  $x$  such that  $-2x + 3 < 8$ . What is the sum of all of the integer values that belong to the intersection of  $S$  and  $T$ ?

- A. -2
- B. 0
- C. 2
- D. -3
- E. -7

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

First, we need to find all of the values that are in the set  $S$ , and then we need to find the values in  $T$ . Once we do this, we must find the numbers in the intersection of  $S$  and  $T$ , which means we must find the values contained in BOTH sets  $S$  and  $T$ .

$S$  contains all of the values of  $x$  such that  $2x + 4 < 8$ . We need to solve this inequality.  $2x + 4 < 8$

Subtract 4 from both sides.

$$2x < 4$$

Divide by 2.

$$x < 2$$

Thus,  $S$  contains all of the values of  $x$  that are less than (but not equal to) 2.

Now, we need to do the same thing to find the values contained in  $T$ .

$$-2x + 3 < 8$$

Subtract 3 from both sides. –

$$-2x < 5$$

Divide both sides by  $-2$ . Remember, when multiplying or dividing an inequality by a negative number, we must switch the sign.

$$x > -5/2$$

Therefore,  $T$  contains all of the values of  $x$  that are greater than  $-5/2$ , or  $-2.5$ .

Next, we must find the values that are contained in both  $S$  and  $T$ . In order to be in both sets, these numbers must be less than 2, but also greater than  $-2.5$ . Thus, the intersection of  $S$  and  $T$  consists of all numbers between  $-2.5$  and 2. The question asks us to find the sum of the integers in the intersection of  $S$  and  $T$ . This means we must find all of the integers between  $-2.5$  and 2.

The integers between  $-2.5$  and 2 are the following:  $-2$ ,  $-1$ ,  $0$ , and  $1$ . We cannot include 2, because the values in  $S$  are LESS than but not equal to 2.

Lastly, we add up the values  $-2$ ,  $-1$ ,  $0$ , and  $1$ . The sum of these is  $-2$ . The answer is  $-2$ .

**QUESTION 593**

The Spanish club wants to make and sell some pizzas for a fundraiser. It will cost \$300 to rent the equipment to make the pizzas and \$2 worth of ingredients to make each pizza. The pizzas will be sold for \$5.50 a piece.

How many pizzas must be made and sold for the Spanish club to make a profit of at least \$600?

- A. 86

- B. 258
- C. 134
- D. 120
- E. 40

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Let  $N$  be the number of pizzas made and sold. Each pizza will require \$2 worth of ingredients, so the ingredients in total will cost  $2N$ . Add this to the cost to rent the equipment and the cost will be  $2N + 300$ . The pizzas will cost \$5.50, each so the money raised will be  $5.5N$ .

The profit will be the difference between the revenue and the cost –

$$5.5N - (2N + 300)$$

The Spanish club wants a profit of at least \$600, so we set up and solve the inequality:

$$5.5N - (2N + 300) \geq 600$$

$$5.5N - 2N - 300 \geq 600$$

$$3.5N - 300 \geq 600$$

$$3.5N - 300 + 300 \geq 600 + 300$$

$$3.5N \geq 900$$

$$3.5N \div 3.5 \geq 900 \div 3.5$$

$$N \geq 257.14$$

The Spanish club must sell at least 258 pizzas to earn a profit.

**QUESTION 594**

Solve the inequality.

$$4 - 2n \leq 1$$

$$n \geq \frac{-3}{2}$$

$$n \leq \frac{-3}{2}$$

$$n \leq \frac{13}{2}$$

$$n \geq \frac{13}{2}$$

$$n \geq \frac{13}{2}$$

- A.
- B.
- C.
- D.
- E.

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

$$4 - 2n \leq 1$$

$$4 - 2n - 4 \leq 1 - 4$$

$$-2n \leq -3$$

$$\frac{-2n}{-2} \leq \frac{-3}{-2}$$

\*Notice that when we multiply or divide both sides by a negative number the inequality sign changes orientation.

$$n \geq \frac{3}{2}$$

#### QUESTION 595

Solve for x:  $7x +$

$$12 > 3x - 13$$
 A.

$$x < -\frac{1}{4}$$

$$x < -\frac{25}{4}$$

$$x > -\frac{35}{8}$$

$$x > -\frac{25}{4}$$

$$x > -\frac{12}{25}$$

B. C.

D. E.

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Begin by moving all of the x values to the left side of the inequality:

$$7x + 12 > 3x - 13$$

becomes

$$4x + 12 > -13$$

Next, move the 12 to the right side:

$$4x > -25$$

Finally, divide both sides by 4:

$$x > -\frac{25}{4}$$

#### QUESTION 596

Solve for x:  $4x -$

$$23 < 7x + 5$$

$$x > \frac{18}{3}$$

$$x > -\frac{28}{3}$$

$$x < \frac{31}{4}$$

$$x < \frac{18}{3}$$

$$x < -\frac{28}{3}$$

A.

B. C.

D. E.

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

First, move the  $x$  values to the left side on the inequality:

$$4x - 23 < 7x + 5$$

becomes

$$-3x - 23 < 5$$

Next, move the  $-23$  to the right side:

$$-3x < 28$$

Finally, divide by  $-3$ . Remember: you must flip the inequality sign when you multiply or divide by a negative number.

$$x > -\frac{28}{3}$$

**QUESTION 597**

Solve for  $x$ :  $17x +$

$$122 > 20x - 22$$
 A.

$$x < \frac{137}{3}$$

B.  $x > \frac{130}{4}$

C.  $x > 48$

D.  $x < 48$

E.  $x < 92$

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

First, get the  $x$  factors on the left side of the inequality:

$$17x + 122 > 20x - 22$$

becomes

$$-3x + 122 > -22$$

Next, subtract 122 from both sides:

$$-3x > -144$$

Now, divide by  $-3$ . Remember: Dividing or multiplying by a negative number requires you to flip the inequality sign:  $x < 48$

**QUESTION 598**

Solve the inequality

$$\frac{3x}{5} > 6$$

A.  $x > 9$

B.  $x > 10$

C.  $x < 10$

D.  $x > 3$

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

First, multiplying each side of the equality by 5 gives  $3x > 30$ . Next, dividing each side of the inequality by 3 will solve for  $x$ ;  $x > 10$ .

**QUESTION 599** What is the solution set of the inequality  $3x + 8 < 35$ ?

- A.  $x < 35$
- B.  $x < 9$
- C.  $x < 27$
- D.  $x > 27$
- E.  $x > 9$

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

We simplify this inequality similarly to how we would simplify an equation

$$3x + 8 - 8 < 35 - 8$$

$$\frac{3x}{3} < \frac{27}{3}$$

Thus  $x < 9$

**QUESTION 600** What is a solution set of the inequality  $2x + 12 > 42$ ?

- A.  $x > 4$
- B.  $x > \frac{3}{2}$
- C.  $x > 15$
- D.  $x < 15$
- E.  $x < 9$

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

In order to find the solution set, we solve  $2x + 12 > 42$  as we would an equation:

$$2x + 12 > 42 \quad 2x > 30 \quad x > 15$$

Therefore, the solution set is any value of  $x > 15$ .

**QUESTION 601**

Find the solution to the following equation if  $x = 3$ :

$$y = (4x^2 - 2)/(9 - x^2)$$

- A. 0
- B. 3
- C. 6
- D. no possible solution

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Substituting 3 in for x, you will get 0 in the denominator of the fraction. It is not possible to have 0 be the denominator for a fraction so there is no possible solution to this equation.

**QUESTION 602**

$$h(x) = \frac{28}{x+4}$$

For which of the following values of x is the above function undefined?

- A. 0
- B. 28
- C. None of the other answers
- D. -4
- E. 4

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

A fraction is considered undefined when the denominator equals 0. Set the denominator equal to zero and solve for the variable.

$$x + 4 = 0 \quad x = -4$$

**QUESTION 603**

Consider the equation

$$\frac{x+9}{x} + \frac{x+3}{x-2} = \frac{4x+11}{x}$$

Which of the following is true?

- A. The equation has exactly one solution, which is positive.
- B. The equation has exactly one solution, which is negative.
- C. The equation has no solution.
- D. The equation has exactly two solutions, which are of like sign.
- E. The equation has exactly two solutions, which are of unlike sign.

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Multiply the equation on both sides by LCM  $\frac{x(x-2)}{1}$ :

$$\frac{x+9}{x} + \frac{x+3}{x-2} = \frac{4x+11}{x}$$

$$\frac{x(x-2)}{1} \times \frac{x+9}{x} + \frac{x(x-2)}{1} \times \frac{x+3}{x-2} = \frac{x(x-2)}{1} \times \frac{4x+11}{x}$$

$$(x-2)(x+9) + x(x+3) = (x-2)(4x+11)$$

$$(x^2 + 7x - 18) + (x^2 + 3x) = 4x^2 + 3x - 22$$

$$4x^2 + 3x - 22 = x^2 + 7x - 18 + x^2 + 3x$$

$$4x^2 + 3x - 22 = 2x^2 + 10x - 18$$

$$4x^2 + 3x - 22 - 2x^2 - 10x + 18 = 2x^2 + 10x - 18 - 2x^2 - 10x + 18$$

$$2x^2 - 7x - 4 = 0$$

$$(x-4)(2x+1) = 0$$



$$x - 4 = 0$$

$$x = 4 \text{ or}$$

$$2x + 1 = 0$$

$$2x = -1$$

$$x = -\frac{1}{2}$$

Substitution confirms that these are the solutions.  
There are two solutions of unlike sign.

**QUESTION 604** Which of the following equations has no solution?

- A.  $6 - |x + 8| = 8$
- B.  $6 - |x + 6| = 8$
- C.  $6 - |x + 2| = 8$
- D.  $6 - |x| = 8$
- E. Each of the equations in the other responses has no solution

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The problem is basically asking for what value of A the equation

$$6 - |x + A| = 8$$

has no solution.

We can simplify as follows:

$$6 - |x + A| - 6 = 8 - 6$$

$$-|x + A| = 2$$

$$|x + A| = -2$$

Since the absolute value of a number must be nonnegative, regardless of the value of A, this equation can never have a solution. Therefore, the correct response is that none of the given equations has a solution.

**QUESTION 605**

Consider the equation

$$\frac{4}{y+3} = \frac{y+6}{10}$$

Which of the following is true?

- A. The equation has no real solutions.
- B. The equation has exactly one real solution, which is negative.
- C. The equation has exactly two real solutions, which are of like sign.
- D. The equation has exactly two real solutions, which are of unlike sign.
- E. The equation has exactly one real solution, which is positive.

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Multiply both sides by LCD  $\frac{10(y+3)}{1}$

$$\frac{4}{y+3} = \frac{y+6}{10}$$

$$\frac{4}{y+3} \times \frac{10(y+3)}{1} = \frac{y+6}{10} \times \frac{10(y+3)}{1}$$

$$\begin{aligned}
 4 \times 10 &= (y + 6)(y + 3) y^2 + \\
 9y + 18 &= 40 y^2 + 9y + 18 - \\
 40 &= 40 - 40 y^2 + 9y - 22 = \\
 0 &(y + 11)(y - 2) = 0
 \end{aligned}$$

$$\begin{aligned}
 y + 11 &\Rightarrow y = -11 \\
 \text{or } y - 2 &= 0 \Rightarrow y \\
 &= 2
 \end{aligned}$$

There are two solutions of unlike sign.

**QUESTION 606** All of the following equations have no solution except for which one?

- A.  $4x + 3(x - 10) = 2x + 5(x - 4)$
- B.  $4x + 3(x - 10) = 2x + 5(x - 8)$
- C.  $4x + 3(x - 10) = 2x + 5(x - 6)$
- D.  $4x + 3(x - 10) = 2x + 5(x - 10)$
- E.  $4x + 3(x - 10) = 2x + 5(x - 12)$

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Since all of the equations have the same symbols save for one number, the problem is essentially as follows:

For what value of A does the equation  $4x + 3(x - 10) = 2x + 5(x - A)$  have a solution set other than the empty set? We can simplify as follows:

$$4x + 3x - 30 = 2x + 5x - 5A$$

$$7x - 30 = 7x - 5A$$

$$-30 = -5A$$

If  $-5A$  and  $-30$  are not equivalent expressions, the solution set is the empty set. If  $-5A$  and  $-30$  are equivalent expressions, the solution set is the set of all real numbers; this happens if and only if:  $-5A = -30$

$$-5A \div (-5) = -30 \div (-5)$$

$$A = 6$$

Therefore, the only equation among the given choices whose solution set is not the empty set is the equation

$$4x + 3(x - 10) = 2x + 5(x - 6)$$

which is the correct choice.

**QUESTION 607** Which of the following equations has no real solutions?

$$14 - \sqrt[4]{x-7} = -7$$

$$-14 - \sqrt[4]{x-7} = 7$$

- A.
- B.
- C. Each of the equations given in the other choices has at least one real solution.

$$14 - \sqrt[4]{x-7} = -7$$

$$-14 - \sqrt[4]{x-7} = 7$$

- D.
- E.

**Correct Answer:** B

**Section:** Math

**Explanation**

# Explanation/Reference:

Explanation:

We can examine each individually.

$$14 - \sqrt[3]{x-7} = -7$$

$$14 - \sqrt[3]{x-7} + 7 + \sqrt[3]{x-7} = -7 + 7 + \sqrt[3]{x-7}$$

$$21 = \sqrt[3]{x-7}$$

$$21^3 = (\sqrt[3]{x-7})^3$$

$$x - 7 = 9,261$$

$$x = 9,268$$

This equation has a solution.

$$-14 - \sqrt[3]{x-7} = 7$$

$$-14 - \sqrt[3]{x-7} - 7 + \sqrt[3]{x-7} = 7 - 7 + \sqrt[3]{x-7}$$

$$-21 = \sqrt[3]{x-7}$$

$$(-21)^3 = (\sqrt[3]{x-7})^3$$

$$x - 7 = -9,261$$

$$x = -9,254$$

This equation has a solution.

$$14 - \sqrt[4]{x-7} = -7$$

$$14 - \sqrt[4]{x-7} + 7 + \sqrt[4]{x-7} = -7 + 7 + \sqrt[4]{x-7}$$

$$21 = \sqrt[4]{x-7}$$

$$21^4 = (\sqrt[4]{x-7})^4$$

$$x - 7 = 194,481$$

$$x = 194,488$$

This equation has a solution.

$$-14 - \sqrt[4]{x-7} = 7$$

$$-14 - \sqrt[4]{x-7} - 7 + \sqrt[4]{x-7} = 7 - 7 + \sqrt[4]{x-7}$$

$$-21 = \sqrt[4]{x-7}$$

This equation has no solution, since a fourth root of a number must be nonnegative.

The correct choice is  $-14 - \sqrt[4]{x-7} = 7$ .



## QUESTION 608

Solve  $|3 - 4x| < 0$ .

A. No solutions

$$x < \frac{3}{4}$$

$$x > \frac{4}{3}$$

$$x < \frac{4}{3}$$

$$x > \frac{3}{4}$$

B.

C.

D.

E.

**Correct Answer:** A

**Section:** Math

**Explanation**

## Explanation/Reference:

Explanation:

By definition, the absolute value of an expression can never be less than 0. Therefore, there are no solutions to the above expression.

**QUESTION 609** If  $6x = 42$  and  $xk = 2$ , what is the value of  $k$ ?

- A. 5
- B.  $\frac{1}{6}$
- C.  $\frac{2}{7}$
- D.  $\frac{1}{7}$
- E. 7

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Solve the first equation for  $x$  by dividing both sides of the equation by 6; the result is 7. Solve the second equation for  $k$  by dividing both sides of the equation by  $x$ , which we now know is 7. The result is  $\frac{2}{7}$ .

**QUESTION 610**

If  $4x + 5 = 13x + 4 - x - 9$ , then  $x =$ ?

- A.  $\frac{5}{8}$
- B. 0
- C.  $-\frac{5}{4}$
- D.  $\frac{5}{4}$
- E. 8

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation

Start by combining like terms.

$$4x + 5 = 13x + 4 - x - 9$$

$$4x + 5 = 12x - 5$$

$$-8x = -10 \quad x =$$

$$\frac{5}{4}$$

**QUESTION 611** If  $3 - 3x < 20$ , which of the following could not be a value of  $x$ ?

- A. -5
- B. -4
- C. -2
- D. -3
- E. -6

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

First we solve for  $x$ .

Subtracting 3 from both sides gives us  $-3x < 17$ .

Dividing by  $-3$  gives us  $x > -17/3$ .  $-6$  is less than  $-17/3$ .

#### QUESTION 612

Let  $x$  be a number. Increasing  $x$  by twenty percent yields that same result as decreasing the product of four and  $x$  by five. What is  $x$ ?

- A.  $25/14$
- B.  $50/7$
- C.  $25/19$
- D.  $100/19$
- E.  $25/7$

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The problem tells us that increasing  $x$  by twenty percent gives us the same thing that we would get if we decreased the product of four and  $x$  by five. We need to find expressions for these two situations, and then we can set them equal and solve for  $x$ .

Let's find an expression for increasing  $x$  by twenty percent. We could represent this as  $x + 20\%x = x + 0.2x = 1.2x = 6x/5$ .

Let's find an expression for decreasing the product of four and  $x$  by five. First, we must find the product of four and  $x$ , which can be written as  $4x$ . Then we must decrease this by five, so we must subtract five from  $4x$ , which could be written as  $4x - 5$ .

Now we must set the two expressions equal to one another.

$$6x/5 = 4x - 5$$

Subtract  $6x/5$  from both sides. We can rewrite  $4x$  as  $20x/5$  so that it has a common denominator with  $6x/5$ . 0

$$= 20x/5 - 6x/5 - 5 = 14x/5 - 5$$

$$0 = 14x/5 - 5$$

Now we can add five to both sides.

$$5 = 14x/5$$

Now we can multiply both sides by  $5/14$ , which is the reciprocal of  $14/5$ .

$$5(5/14) = (14x/5)(5/14) = x$$

$$25/14 = x$$

The answer is  $25/14$ .



#### QUESTION 613

If  $4xs = v$ ,  $v = ks$ , and  $sv \neq 0$ , which of the following is equal to  $k$ ?

- A.  $xv$
- B.  $x$
- C.  $4x$
- D.  $4xv$
- E.  $2xv$

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The question gives two equalities and one inequality. The inequality ( $sv \neq 0$ ) simply says that neither  $s$  nor  $v$  is 0. The two equalities tell us that  $4xs$  and  $ks$  are both equal to  $v$ , which means that  $4xs$  and  $ks$  must be equal to each other that is  $4xs = ks$ . Dividing both sides by  $s$  gives  $4x = k$ , which is our solution.

#### QUESTION 614

If  $bx + c = e - ax$ , then what is  $x$ ?

- A.  $(b + a)/(e - c)$
- B.  $(e + c)/(b + a)$
- C.  $(b - a)/(e + c)$
- D.  $(e - c)/(b - a)$
- E.  $(e - c)/(b + a)$

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

To solve for  $x$ :

$$bx + c = e - ax$$

$$bx + ax = e - c$$

$$x(b + a) = e - c$$

$$x = (e - c)/(b + a)$$

**QUESTION 615**

$$\sqrt{x^2 - 7} = 3$$

What is  $x$ ?

- A. 9/7
- B. 3/7
- C. 4
- D. -9
- E. 3

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

To solve, remove the radical by squaring both sides

$$(\sqrt{x^2 - 7})^2 = 3^2$$

$$x^2 - 7 = 9$$

$$x^2 = 16$$

**QUESTION 616**

$$\sqrt{3x} = 9$$

What is  $x$ ?

- A. -3
- B. 9
- C. 3
- D. -27
- E. 27

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

To solve, remove the radical by squaring both sides

$$(\sqrt{3x})^2 = 9^2$$

$$3x = 81 \quad x = 81/3$$

$$= 27$$

#### QUESTION 617

$$\sqrt{(8y)} + 18 = 4$$

What is  $y$ ?

- A. 2
- B. 24.5
- C. -2
- D. -24.5
- E. 14

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

First, simplify the equation:

$$\sqrt{(8y)} + 18 = 4$$

$$\sqrt{(8y)} = -14$$

Then square both sides

$$(\sqrt{8y})^2 = -14^2$$

$$8y = 196 \quad y =$$

$$196/8 = 24.5$$

**QUESTION 618** If  $y = 4$  and  $6y = 10z + y$ , then  $z =$ ?

- A. 4
- B. 6
- C. 30
- D. 2
- E. 24

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

1. Substitute  $y$  in the equation for 4.
2. You now have  $6 \times 4 = 10z + 4$
3. Simplify the equation:  $24 = 10z + 4$
4. Subtract 4 from both sides:  $24 - 4 = 10z + 4 - 4$
5. You now have  $20 = 10z$
6. Divide both sides by 10 to solve for  $z$ .
7.  $z = 2$ .

#### QUESTION 619

A sequence of numbers is 2, 5, 8, 11. Assuming it follows the same pattern, what would be the value of the 20<sup>th</sup> number?

- A. 56
- B. 50
- C. 59
- D. 61
- E. 55

**Correct Answer:** C

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

This goes up at a constant number between values, making it an arithmetic sequence. The first number is 2, with a difference of 3. Plugging this into the arithmetic equation you get  $A_n = 2 + 3(n - 1)$ . Plugging in 20 for  $n$ , you get a value of 59.

**QUESTION 620**

The first four numbers of a sequence are 5, 10, 20, 40. Assuming the pattern continues, what is the 6<sup>th</sup> term of the sequence? A.

140

- B. 80
- C. 60
- D. 50
- E. 160

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Looking at the sequence you can see that it doubles each term, making it a geometric sequence. Since it doubles  $r = 2$  and the first term is 5. Plugging this into the geometric equation you get  $A_n = 5(2)^{n-1}$ . Setting  $n = 6$ , you get 160 as the 6<sup>th</sup> term.

**QUESTION 621** Given  $f(x) = x^2 - 9$ . What are the zeroes of the function?

- A. 3
- B. -3, 0, 3
- C. 0
- D. -3, 3
- E. 0, 3

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The zeroes of the equation are where  $f(x) = 0$  (aka x-intercepts). Setting the equation equal to zero you get  $x^2 = 9$ . Since a square makes a negative number positive,  $x$  can be equal to 3 or -3.

**QUESTION 622** Give the lines  $y = 0.5x + 3$  and  $y = 3x - 2$ . What is the  $y$  value of the point of intersection?

- A. 6
- B. 7



- C. 3
- D. 2
- E. 4

**Correct Answer:** E

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

In order to solve for the x value you set both equations equal to each other ( $0.5x + 3 = 3x - 2$ ). This gives you the x value for the point of intersection at  $x = 2$ . Plugging  $x = 2$  into either equation gives you  $y = 4$ .

**QUESTION 623** 10 gallons of paint will cover  $75 \text{ ft}^2$ . How many gallons of paint will be required to paint the area of a rectangular wall that has a height of 8 ft and a length of 24 ft?

- A. 31.4 gallons
- B. 14.2 gallons
- C. 22.8 gallons
- D. 25.6 gallons
- E. 17 gallons

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

First we need the area of the rectangle.  $24 \times 8 = 192$ . So now we know that 10 gallons will cover  $75 \text{ ft}^2$  and x gallons will cover  $192 \text{ ft}^2$ . We set up a simple ratio and cross multiply to find that  $74x = 1920$ .  $x = 25.6$

**QUESTION 624** What number decreased by 7 is equal to 10 increased by 7?

- A. 27
- B. 24
- C. 10
- D. 17
- E. 15

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

The best way to solve this problem is to translate it into an equation, “decreased” meaning subtract and “increased” meaning add:

$$x - 7 = 10 + 7 \quad x = 24$$

**QUESTION 625** If  $a\%b = (2b + 3a)/(6ab)$ , what would have a greater value,  $2\%3$  or  $3\%2$ ?

- A.  $3\%2$
- B. Cannot be determined

- C.  $2\%3$   
D. They are the same

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

First find  $2\%3 = (2 \times 3 + 3 \times 2)/(6 \times 2 \times 3) = 12/36 = 1/3$ , then  $3\%2 = (2 \times 2 + 3 \times 3)/(6 \times 3 \times 2) = 13/36$  which is greater.

**QUESTION 626** If  $5 + x$  is 5 more than 5, what is the value of  $2x$ ?

- A. 20  
B. 5  
C. 15  
D. 10

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

5 more than 5 = 10

$5 + x = 10$

Subtract 5 from each side of the equation:  $x = 5 \rightarrow 2x = 10$



**QUESTION 627** In a group of 24 children, there are twice as many girls as there are boys. How many boys are there?

- A. 14  
B. 8  
C. 16  
D. 12  
E. 10

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Since there are twice as many girls as boys, we know that  $2b = g$ .

Since there are total, we know that  $b + g = 24$ . Substituting the first equation into the second equation yields

$b + 2b = 24$

$3b = 24$   $b =$

8

**QUESTION 628** For what value of  $x$  does  $4(3x - 2) = 12$ ?

- A.  $5/3$   
B.  $2/3$

- C.  $\frac{5}{6}$   
D.  $\frac{1}{2}$

**Correct Answer:** A

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

We have to solve the equation  $4(3x - 2) = 12$ . First, we can distribute the left side.

$$4(3x) - 4(2) = 12$$

$$12x - 8 = 12$$

Then we add 8 to both sides.

$$12x = 20 \text{ Divide both sides by}$$

$$12.$$

$$x = 20/12$$

Simplify  $20/12$  by dividing the numerator and denominator by 4.

$$x = 20/12 = 5/3 \text{ The answer is } 5/3.$$

#### QUESTION 629

If  $11 + 3x$  is 29, what is  $2x$ ?

- A. 2  
B. 12  
C. 6  
D. 36

**Correct Answer:** B

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

First, solve for  $x$ :

$$11 + 3x = 29$$

$$29 - 11 = 3x$$

$$18 = 3x \quad x = 6$$

Then, solve for  $2x$ :

$$2x = 2 \times 6 = 12$$

#### QUESTION 630

$$\frac{x+2}{3} = \frac{x}{3}$$

Solve for  $x$ .

- A.  $-3$   
B. 4  
C.  $-2$   
D. No solutions  
E. 3

**Correct Answer:** D

**Section:** Math

**Explanation**

**Explanation/Reference:**

Explanation:

Cross multiplying leaves  $3x + 6 = 3x$ , which is not possible.

**QUESTION 631**

Steve sells cars. His monthly salary is \$1,000. He gets a \$500 commission for each car he sells. If Steve wants to make \$7,500 this month, how many cars would he have to sell?

- A. 11
- B. 14
- C. 12
- D. 10
- E. 13

**Correct Answer: E**

**Section: Math**

**Explanation**

**Explanation/Reference:**

Explanation:

Let  $y$  = money earned and  $x$  = number of cars sold

So  $y = 500x + 1000$

$7500 = 500x + 1000$  and solving shows that he needs to sell 13 cars to make \$7,500.

**QUESTION 632** Adapted from Essays on Early Ornithology and Kindred Subjects by James R. McClymont (1920)

The voyagers named it the Angra de Santa Elena, and it may have been the bay which is now known as St. Helen's Bay. But it is worthy of note that the G. de Sta. Ellena of the Cantino Chart is laid down in a position which corresponds rather with that of Table Bay than with that of St. Helen's Bay.

The Portuguese came into contact with the inhabitants of the country adjacent to the anchorage. These people had tawny complexions, and carried wooden spears tipped with horn – assagais of a kind – and bows and arrows. They also used foxes' tails attached to short wooden handles. We are not informed for what purposes the foxes' tails were used. Were they used to brush flies away, or were they insignia of authority? The food of the natives was the flesh of whales, seals, and antelopes (gazellas), and the roots of certain plants. Crayfish or 'Cape lobsters' abounded near the anchorage.

The author of the roteiro affirms that the birds of the country resembled the birds in Portugal, and that amongst them were cormorants, larks, turtle-doves, and gulls. The gulls are called "guayvotas," but "guayvotas" is probably another instance of the eccentric orthography of the author and equivalent to "gaivotas."

In December the squadron reached the Angra de São Bràs, which was either Mossel Bay or another bay in close proximity to Mossel Bay. Here penguins and seals were in great abundance. The author of the roteiro calls the penguins "sotelycairos," which is more correctly written "sotilicarios" by subsequent writers. The word is probably related to the Spanish "sotil" and the Latin "subtilis," and may contain an allusion to the supposed cunning of the penguins, which disappear by diving when an enemy approaches.

The sotilicarios, says the chronicler, could not fly because there were no quill-feathers in their wings; in size they were as large as drakes, and their cry resembled the braying of an ass. Castanheda, Goes, and Osorio also mention the sotilicario in their accounts of the first voyage of Vasco da Gama, and compare its flipper to the wing of a bat – a not wholly inept comparison, for the under-surface of the wings of penguins is wholly devoid of feathery covering. Manuel de Mesquita Perestrello, who visited the south coast of Africa in 1575, also describes the Cape penguin. From a manuscript of his Roteiro in the Oporto Library, one learns that the flippers of the sotilicario were covered with minute feathers, as indeed they are on the upper surface and that they dived after fish, upon which they fed, and on which they fed their young, which were hatched in nests constructed of fishbones. There is nothing to cavil at in these statements, unless it be that which asserts that the nests were constructed of fishbones, for this is not in accordance with the observations of contemporary naturalists, who tell us that the nests of the Cape Penguin (*Spheniscus demersus*) are constructed of stones, shells, and debris. It is, therefore, probable that the fishbones which Perestrello saw were the remains of repasts of seals.

Seals, says the roteiro, were in great number at the Angra de São Bràs. On one occasion the number was counted and was found to be three thousand. Some were as large as bears and their roaring was as the roaring of lions. Others, which were very small, bleated like kids. These differences in size and in voice may be explained by differences in the age and in the sex of the seals, for seals of different species do not usually resort to the same locality. The seal which formerly frequented the south coast of Africa – for it is, I believe, no longer a denizen of that region – was that which is known to naturalists as *Arctocephalus delalandii*, and, as adult males sometimes attain eight and a half feet in length, it may well be described as of the size of a bear. Cubs from six to eight months of age measure about two feet and a half in length. The Portuguese caught anchovies in the bay, which they salted to serve as provisions on the voyage. They anchored a second time in the Angra de São Bràs in March, 1499, on their homeward voyage.

Yet one more allusion to the penguins and seals of the Angra de São Bràs is of sufficient historical interest to be mentioned. The first Dutch expedition to Bantam weighed anchor on the 2nd of April, 1595, and on the 4th of August of the same year the vessels anchored in a harbor called "Ague Sambras," in eight or nine fathoms of water, on a sandy bottom. So many of the sailors were sick with scurvy – "thirty or thirty-three," said the narrator, "in one ship" – that it was necessary to find fresh fruit for them. "In this bay," runs the English translation of the narrative, "lieth a small Island wherein are many birds called Pyncuins and sea Wolves that are taken with men's hands." In the original Dutch narrative by Willem Lodewyckszoon, published in Amsterdam in 1597, the name of the birds appears as "Pinguijns." As it is used in the passage, the underlined word "denizen" most nearly means \_\_\_\_\_.

- A. force
- B. explorer
- C. inhabitant
- D. menace
- E. predator

**Correct Answer:** C  
**Section:** Reading  
**Explanation**

**Explanation/Reference:**  
Explanation:

“Denizen” means inhabitant; the author does not believe that species of seal is an inhabitant of the region any more. "Menace" means threat.

**QUESTION 633**

The \_\_\_\_\_ behavior of the demonstrators became even more apparent when they all chained themselves together when the authorities came on scene.

- A. indolent
- B. spurious
- C. individual
- D. recalcitrant
- E. cohesive

**Correct Answer:** D  
**Section:** Reading  
**Explanation**

**Explanation/Reference:**  
Explanation:

Choices A and B indicate lazy or not genuine, respectively, which is not the case, or they wouldn't be there demonstrating. Choice C grammatically fits, but the individuality of the act becomes lost when chaining them together. Choice E, “cohesive,” or sticking together certainly fits and is correct; however, this is not the best choice. Choice D, “recalcitrant,” is the best choice as it includes “stubbornly resisting authority,” which further matches the action following the arrival of the authorities.

**QUESTION 634** The \_\_\_\_\_ dress of the performers was considered \_\_\_\_\_ by the censors.

- A. matching . . . unfashionable
- B. ostentatious . . . repugnant
- C. overly revealing . . . acceptable
- D. uniform . . . haughty
- E. color of . . . errant

**Correct Answer:** B  
**Section:** Reading  
**Explanation**

**Explanation/Reference:**  
Explanation:

We know that censors typically judge with a view to suppress so we're probably looking for two negatives in this case. Starting with that proposition, Choices B and C are the only possibilities. The second negative eliminates Choice C, making Choice B correct.

**QUESTION 635** It is absolutely \_\_\_\_\_ that the individual assigned to defuse a bomb be extremely \_\_\_\_\_.

- A. essential . . . mature
- B. alright . . . nervous
- C. necessary . . . excited
- D. warranted . . . tired
- E. critical . . . dexterous

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Here again, the strategy is to divide and conquer. Only Choices A, C, and E qualify as being suited with absolutely. This leaves the second blank. Now the qualities for someone to defuse a bomb are almost a given. Choice A, “mature,” is not something good as it is tantamount to feeble – much shaking of the hands is not a great characteristic to have as a bomb technician. Choice C, “excited,” is just as bad as too mature and shaking. This only leave Choice E, “dexterous,” or someone with skillful hands.

**QUESTION 636** She was not normally invited to serve as a critic because she had a \_\_\_\_\_ toward \_\_\_\_\_.

- A. desire. . .reading
- B. bent. . .commonplace
- C. proclivity. . .castigation
- D. tendency. . .wayward
- E. philosophy. . .everything

**Correct Answer: C**

**Section: Reading**

**Explanation**

**Explanation/Reference:**

Explanation:

The key word is not indicating some flawed qualification in the service of being a critic. In looking at the last blank first, we see that there is only one actual negative; Choice C, “castigation,” which means to “chastise severely,” which is not a particularly good quality for a critic to possess.

**QUESTION 637** The problem with scoring well on too many SAT practice tests is the tendency toward \_\_\_\_\_.

- A. success
- B. complacency
- C. burn-out
- D. supremacy
- E. celerity

**Correct Answer: B**

**Section: Reading**

**Explanation**

**Explanation/Reference:**

Explanation:

Choice E, “celerity,” looks plausible and could be, but the development of speed won’t be the worst thing to develop. However, Choice B, “complacency,” or self-satisfaction can give a false sense of readiness and should be avoided.

**QUESTION 638** Throughout history great civilizations including the Egyptians, Romans, and Greeks can trace their downfalls to a certain societal \_\_\_\_\_ and general failing of moral values.

- A. hierarchy
- B. bliss
- C. indifference
- D. decadence
- E. latitude

**Correct Answer: D**

**Section: Reading**

**Explanation**

**Explanation/Reference:**

Explanation:

The key word is “and” including a “failing of moral values.” Choice D, “decadence” certainly fits in with the loss of moral values.

**QUESTION 639** Had Einstein not been such a \_\_\_\_\_ mathematician, many of our engineering Accomplishments may have taken many years before even reaching the drawing board.

- A. prodigious
- B. superb
- C. qualified
- D. prophetic
- E. prosaic

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Actually all of the answer choices lend themselves to this question. Remember SAT is looking for the best choice and Choice A, “prodigious” or extraordinary in degree, is the only choice actually rising to the occasion to praise such an accomplished mathematician.

**QUESTION 640** Had it not been for his \_\_\_\_\_ prowess, Muhammad Ali, formerly known as Cassius Clay, would not be considered one of the worlds’ greatest fighters of all time.

- A. elocutionary
- B. prestidigitation
- C. ponderous
- D. poetical
- E. pugilistic



**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Although Ali was certainly known for his elocution, seeming prestidigitation in the ring, and his poetical ravings, he would not have reached the heights of boxing success had it not been for his “pugilistic” or boxing prowess, Choice E.

**QUESTION 641** Were I indeed \_\_\_\_\_, I likely would not still be teaching, for I would have long ago played the winning lottery numbers and be traveling the world sending postcards to the classroom.

- A. fortuitous
- B. clairvoyant
- C. prescient
- D. philanthropic
- E. perspicacious

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Choice B, “clairvoyant,” seems like a shoe-in for this questions, but a clairvoyant only has greater powers of perception, not foreknowledge. Choice C, “prescient,” incorporates the needed ability to know events in advance of the occurrence to properly pick winning numbers in a lottery.

**QUESTION 642** Given the seeming \_\_\_\_\_ of alternatives to fossil fuels, it seems rather \_\_\_\_\_ to continue on our current path without fully directing our collective resources to develop independence from questionable suppliers.

- A. gluttony. . .reticent
- B. plethora. . .pernicious
- C. readiness. . .curious
- D. availability. . .understandable
- E. capacity. . .forgiving

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

A quick look at the first blank options doesn't yield much reduction of choices. In fact, any of them might be correct. Remembering that the tone of the sentence is bent toward the negative, we're looking for a fit for the second blank that is negative. Only Choice B, "pernicious," qualifies as it means harmful.

**QUESTION 643** Given the \_\_\_\_\_ nature of movie stars, I suppose one should not question the divorce rate among them, but question whether it is a character flaw developed in the business, or a trait necessary to enter the business.

- A. grandiose
- B. capricious
- C. ideological
- D. indulgent
- E. pernicious

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Choice D, "indulgent," seems plausible, but if movie stars were truly indulgent, they wouldn't mind the indiscretions of their mate. Choice B, "capricious," or unpredictable and impulsive best describes the character flaw causing this problem.

**QUESTION 644**

Notwithstanding much educated \_\_\_\_\_, even as we speak, there is no \_\_\_\_\_ relationship between current levels of hydrocarbon output and ozone deterioration.

- A. speculation. . .tenuous
- B. conjecture. . .proven
- C. evidence. . .speculative
- D. argument. . .rational
- E. confusion. . .systematic

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Choices C, D, and E, "evidence," "argument," and "confusion," respectively, disqualify them as choices based on the first word choice. The qualifier as much educated doesn't match with argument or confusion. Educated folk tend to present, not argue; and if it was a much educated prospective, there likely wouldn't be confusion. Considering much educated "evidence" would pretty much settle the discussion if it is truly evidence. This leaves only Choices A and B. Choice A has "tenuous" as a second word, and "weak" doesn't fit the sentence. Choice B, "conjecture" and "proven," is the best choice.

**QUESTION 645** Jennifer liked third period best as her English professor was a most \_\_\_\_\_ fellow; so much so that there was often no time left for student input, which suited her fine.



- A. garrulous
- B. ingenious
- C. superlative
- D. felicitous
- E. facetious

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Choices A and E are the only real qualifiers as to there being no time left for student input. Choice E, “facetious,” means jocular, and the good professor would likely be in jeopardy of losing his job were this the case. Choice A, “garrulous” or given to prosy rambling, fits the more typical English professor.

**QUESTION 646**

The paparazzi received many sizeable offers for the pictures of Fergie in the \_\_\_\_\_ act of topless bathing in Capri.

- A. embarrassing
- B. ignoble
- C. hypocritical
- D. degenerative
- E. hedonistic

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Choice A, “embarrassing,” certainly qualifies but may be too simplistic for an SAT question. Be guarded against picking the first factually correct choice. Choice C, “hypocritical,” might qualify if we were told she typically spoke against such acts, but we aren’t. Choice D, “degenerative,” suggests a degraded act or a sexual perversion, and topless bathing generally would not meet such criteria, particularly in an area where such practice was commonplace. Choice E, “hedonistic,” seems to fit with the exception that a singular incident does not a lifestyle devoted to pleasure make. Choice B, “ignoble,” fits nicely, particularly since she represented the royal family.

**QUESTION 647** It seems America has not lacked for presidents who as a result of their own \_\_\_\_\_ have performed acts that most considered insensitive, corrupt, and immoral.

- A. grandiloquence
- B. fortitude
- C. effluvia
- D. demagoguery
- E. hubris

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Although many presidents are guilty of Choice A, “grandiloquence” or pompous speaking, and Choice D, “demagoguery” or politically appealing to the emotions or prejudice of a people, these acts don’t typically qualify someone to perform the type acts represented. However, as pride goeth before a fall, Choice E, “hubris” or excessive pride, certainly sets one up for this type failure.

**QUESTION 648** It probably wasn’t the singular \_\_\_\_\_ remark, but the \_\_\_\_\_ effect of hearing the same stories every day forced her to resign what had been a very lucrative position.

- A. off-colored. . .genuine

- B. errant. . .overall
- C. defamatory. . .cumulative
- D. encouraging. . .negativeE. negative. . .monotonous

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Any time we speak of repetition, an adding up or cumulative effect is present. As Choice C qualifies exactly on the second word choice, we need qualify only the first blank. “Defamatory” or injurious to the reputation makes it a certain winner.

#### QUESTION 649

Living in a constant state of \_\_\_\_\_ is understandable given the \_\_\_\_\_ of pronouncing the CEO’s name incorrectly twice during his introduction.

- A. friction. . .fact
- B. prohibition. . . intimation
- C. fear. . .irreverence
- D. consternation. . .debacle
- E. nihilism. . .onus

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Alright, we need to look for something that pronouncing the CEO’s name incorrectly might cause and what that error might be called (other than suicidal). Choice D, “consternation” or an intense state of fear, certainly trumps pure “fear” as in Choice C. And, most certainly, mispronouncing the CEO’s name is certainly a “debacle,” disaster, or fiasco.

#### QUESTION 650

The supervisor was absolutely \_\_\_\_\_ on the issue of wearing a tie and coat in the office; I mean, she was absolutely \_\_\_\_\_.

- A. obdurate. . .implacable
- B. persistent. . .moved
- C. passionate. . .vehement
- D. malleable. . .fixated
- E. mawkish. . .impassioned

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

We need two words that are synonymous. Choices A and C are the only two real qualifiers. Choice C, “passionate,” doesn’t tell us whether she was in favor of or against the wearing of a tie and coat that would be almost incongruent with “absolutely” feeling that way. . . unless you worked in a casual garment business. Choice A, “obdurate” or stubbornly resistant and “implacable” or not capable of being appeased or changed, makes it the best choice.

#### QUESTION 651

The drill instructor at the Marine Corps Recruiting Depot was quick to correct the \_\_\_\_\_ recruit when he was referred to as “dude.”

- A. rascal
- B. imperious
- C. impudent
- D. gregarious

E. loquacious

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

We're looking for a word that defines the recruit who misspoke to the drill instructor. Although I can think of several, let's look only at the given possibilities. Choice D, "gregarious" or social or companionable, might describe the nature of the individual, it doesn't match with the specific act. Choice E, "loquacious" or very talkative is a given, but again, lends nothing to this egregious act. Choice C, "impudent" or insolent or contemptuously rude better fits the occasion and presents the best answer.

**QUESTION 652**

It is indeed a social commentary that so-called reality shows top the charts in viewer counts, thus confirming the suspicion that the \_\_\_\_\_ taste of the American television viewer is easily satisfied.

A. corrupt

B. incorrigible

C. indomitable

D. plebeian

E. incredulous

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Choice A, "corrupt" or 'morally debased,' is actually too strong to fit the tone of the sentence. We're not talking about Jerry Springer. Choice D, "plebeian" or ordinary satisfies the simplicity of the sentence.

**QUESTION 653** Each year I am reminded of our blessings as I view the \_\_\_\_\_ of food abundant at our table.

A. mixture

B. gluttony

C. bounty

D. plethora

E. decadence

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Although Choices B and C, "gluttony" and "bounty," seem plausible, gluttony has to do with over-consumption and bounty relates to generosity. Choice D "plethora" means excess and is the best fit for the sentence.

**QUESTION 654**

The depth and \_\_\_\_\_ of Lillian's performance was most noteworthy; she presented works from ragtime to jazz to classical.

A. duration

B. polish

C. scope

D. intensity

E. articulation

**Correct Answer:** C

**Section:** Reading  
**Explanation**

**Explanation/Reference:**

Explanation:

Although Choice E, “articulation,” appears to fit, it is more appropriately used with speaking, and the examples are clearly musical, making Choice C, “scope,” correct.

**QUESTION 655**

Once the newspaper \_\_\_\_\_ their sources were flawed, they \_\_\_\_\_ the target of their article by issuing a full retraction.

- A. realized. . .exonerated
- B. suspected. . .blasted
- C. understood. . .haranged
- D. rejected. . .issued
- E. disproved. . .comforted

**Correct Answer:** A

**Section:** Reading  
**Explanation**

**Explanation/Reference:**

Explanation:

The key word here is the opening “Once” which sets up a change. This should clue you to look for companions for the action in question; in this case the printing of a retraction. We know newspapers don’t like to do this, and so something must have forced them into it. Choice C, “understood,” could match the first blank, but only Choice A exonerated matches both the first and second blanks.

**QUESTION 656** His \_\_\_\_\_ behavior toward her caused a considerable riff in the organization, partially because of the size of the company and partially because he was a married man with children.

- A. untoward
- B. snide
- C. mysterious
- D. periodic
- E. obsequious

**Correct Answer:** E

**Section:** Reading  
**Explanation**

**Explanation/Reference:**

Explanation:

Given the response of the organization, the only adjective rising to the level to stimulate such action is Choice E, “obsequious,” or excessively attentive, particularly given his marital status.

**QUESTION 657** He was held up to small children as an \_\_\_\_\_, one who is worthy of imitation, principally because of his self-sacrificing dedication to helping others – clearly his \_\_\_\_\_ made him deserving of such claim.

- A. enigma. . .heart
- B. exemplar. . .altruism
- C. egotist. . .devotion
- D. emancipator. . .thrift
- E. idol. . .immortality

**Correct Answer:** B

**Section:** Reading  
**Explanation**

**Explanation/Reference:**

Explanation:

Clearly we are looking for two positives, the first of which must be exemplary. Only Choices B and D, “exemplar” and “emancipator” qualify. The second blank need also be positive, and only Choice B “altruism” or concern for others qualifies.

**QUESTION 658** His proclivity for \_\_\_\_\_ had at one time made him a suspect in every open case of vandalism, but it also made him mentally qualified for the specialized unit in the military whose job it was to reduce \_\_\_\_\_ munitions.

- A. trouble. . .reliance
- B. gang membership. . .built up
- C. extirpation. . .stockpiled
- D. intimidation. . .depleted
- E. opulence. . .droll

**Correct Answer: C**

**Section: Reading**

**Explanation**

**Explanation/Reference:**

Explanation:

We’re looking for a first word match that would align with the crime of destruction or vandalism. Choices A, B, and C “trouble,” “gang membership,” and “extirpation” all qualify. The second blank should relate to the destruction of a certain type of munitions. Again, Choices B and C “built up” and “stockpiled” are possible. Now we’re down to making a choice between two possible choices. Since “extirpation” means destruction and is more specific to the crime of vandalism than simply belonging to a gang, Choice C is correct.

**QUESTION 659**

The \_\_\_\_\_ aroma of the bark of this shrub make it \_\_\_\_\_ year round whether the leaves have fallen or not.

- A. stark. . .indistinguishable
- B. subtle. . .anomalistic
- C. pungent. . .recognizable
- D. hidden. . .obtrusive
- E. sickening. . .reticent



**Correct Answer: C**

**Section: Reading**

**Explanation**

**Explanation/Reference:**

Explanation:

We’re looking for a complementary pair; either two negatives or two positives and given the overall tone of the sentence, try positive first. In this case, only “pungent” meaning strong and “recognizable” meaning recognizing makes Choice C correct.

**QUESTION 660** As the grass roots movement gained momentum, outside forces attempted to infiltrate and change the direction of the original purpose so the sponsor recommended we adopt a \_\_\_\_\_, making it clear to the public our motives and purpose.

- A. manifesto
- B. declaration
- C. statement
- D. mandate
- E. invocation

**Correct Answer: A**

**Section: Reading**

**Explanation**

**Explanation/Reference:**

Explanation:

A “manifesto” is a public declaration of policy or views and matches exactly what the sponsor recommended. Choices B and D, “declaration” and “statement,” respectively, don’t carry the specific meaning delineating policy or views as does “manifesto.”

**QUESTION 661**

Given the research available today on how students learn differently, teachers need to have an \_\_\_\_\_ bag of tricks to successfully engage them all.

- A. enormous
- B. expansive
- C. available
- D. impromptu
- E. eclectic

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Although the teacher’s bag of tricks certainly needs to be A “enormous,” B “expansive,” C “available,” and D “impromptu,” none of these relate to the diversity of learning styles mentioned in the sentence. Choice E, “eclectic,” means drawing on or from varied sources, which is the best choice for this question.

**QUESTION 662**

Children today are being taught to be \_\_\_\_\_ of any abnormality including strangers, standing packages, or simply anything out of the order; not for merely their own good, but for the good of the community – such are the times we now live in.

- A. skittish
- B. wary
- C. shy
- D. impudent
- E. challenging

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Given the tone of the sentence, only one choice meets the demands of the blank. Choice B, “wary,” which means to be careful in guarding against danger or deception is the only selection that fully complies with the demand of the sentence.

**QUESTION 663**

In general, new breakthroughs in scientific and biological research allow us to identify origins of many viruses of formerly \_\_\_\_\_ origins.

- A. escapable
- B. mysterious
- C. abstract
- D. useful
- E. memorable

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Choice B, “mysterious,” indicates that the origin of many viruses are discovered now only through new research methods.

**QUESTION 664** Hitherto impossible research has been made \_\_\_\_\_ by the new technology recently engineered by her company with greatly enhanced scope and depth of mapping the core of the earth.

- A. commonplace
- B. controversial
- C. problematic
- D. feasible
- E. resolute

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Given that the technology is new, it would hardly be Choice A, “commonplace,” and since we’re looking for a positive word – remembering that important tool of monitoring the tone of the sentence – Choice D, “feasible,” is the best choice.

**QUESTION 665** The dissimilarities are absolutely striking; even though she is \_\_\_\_\_, she has few friends, and even though she is a \_\_\_\_\_ stylist, few customers ask for her when booking.

- A. cute. . .fair
- B. amiable. . .consummate
- C. professional. . .haphazard
- D. nice. . .radical
- E. magnificent. . .futuristic

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

We’re clearly looking for two qualifiers here: one regarding her ability to make friends as an offset to having few of them; two regarding her profession as a stylist and an offset to her having few requesting customers. Remembering the clue phrase “even though” is telling us that the word we’re looking for is again, an offset to the conditions that follow that phrase. In the first blank, all choices are possible, although Choice B, “amiable,” means easy to get along with, a really good match to the friendship issue. The second blank is the easier to eliminate bad choices and since “consummate” means complete or perfect, it is a good fit to her professional qualifications notwithstanding her lack of requesting customers.

**QUESTION 666** Sales literature that provide excessively complex and irrelevant numbers tend to \_\_\_\_\_ the real facts and generate sales by causing buyers to accept \_\_\_\_\_ data in lieu of the real and truthful information so hidden.

- A. obscure. . .spurious
- B. hide. . .rational
- C. confuse. . .representational
- D. elucidate. . .faulty
- E. define. . .questionable

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Since the conditions set are “excessively complex and irrelevant,” we are going to looking for two negatives. Looking at the first blank, only Choices A, B, and C are negative. Looking for a negative in the second blank, only “spurious” in that group of three qualify, making Choice A, “obscure,” which means dim, hazy, or vague and “spurious,” which means not genuine the best choice.

**QUESTION 667**

Only his truest and most \_\_\_\_\_ fans remained faithful followers following the news of his steroid use.

- A. reticent
- B. vocal

- C. demonstrative
- D. boisterous
- E. ardent

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Only Choice E represents something other than volume or noise. “Ardent,” or characterized by warmth of feeling is the stand-alone qualifier.

**QUESTION 668** It was her need to \_\_\_\_\_ that caused her to become an \_\_\_\_\_; the belief that the government was corrupt and the constant censorship being the two principal causes for move.

- A. express. . .outcast
- B. release. . .icon
- C. expose. . .outsider
- D. expatiate. . .expatriate
- E. control. . .anarchist

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

We’re looking for a cause-and-effect relationship here, and that relationship has to do with the beliefs about the corrupt government and the fact that she is constantly censored. Someone who is censored has a need to present, and toward that end, Choices A, B, C, and D all qualify. Since we also know that her action involved moving, we can reduce the choices based on the second blank to Choices C and D. Further looking at the result of her actions and the subtleties of the sentence, we find that the censorship is recurring. So, in fine-tuning the first blank, we look for the word that best indicates a repetitive action. That choice is D, “expatiate,” which means to speak or write at length indicating often, making Choice D the best selection.

**QUESTION 669** Not desirous of meeting his Maker in the middle of a poker game, Doc Holiday \_\_\_\_\_ placed an ace inside his vest as Bat Masterson shuffled the remaining cards.

- A. suspiciously
- B. coyly
- C. overtly
- D. furtively
- E. brazenly

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Clearly, we’re looking for a word that suggests not drawing attention to oneself or causing a distraction away from the shuffling. Choice B, “coyly,” might look like a possibility, but there is nothing shy or pretending shyness about hiding an ace in your vest opposite Bat Masterson. Choice D, “furtively,” which means slyly or secretly done is the best choice.

**QUESTION 670**

Given \_\_\_\_\_ politicians can generally raise campaign financing easier than challengers, Lt. Governor James should have the advantage.

- A. honest
- B. incumbent
- C. entrepreneurial



- D. opulent
- E. gregarious

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Choice E, “gregarious,” is an excellent distractor as it means social or companionable; a good trait for a politician to be sure, especially if he is raising money. But the gist of the sentence is not about qualifying a politician except in light of him or her being in office as opposed to a challenger. Choice B, “incumbent,” best qualifies for this distinction.

**QUESTION 671** Following the completion of an unusually arduous day at the office, Sue happily enjoyed the \_\_\_\_\_ experience of relaxing in the hot tub while watching television learning that she just won the state lottery.

- A. erratic
- B. superfluous
- C. halcyon
- D. untoward
- E. geriatric

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

We’re looking for a word that describes a most pleasant experience that causes much joy and is an offset to a difficult day. Choice C, “halcyon,” meaning prosperous or most pleasant certainly fits the bill on both counts – pleasant hot tub and prosperous winning of the lottery.

**QUESTION 672** I trust a proposal for matrimony would seem more \_\_\_\_\_ were it written in the sky, or written on a scoreboard, or written in a test question for the SAT prep; which is what I am formally doing now in asking Teresa for her hand in marriage.

- A. aggrandized
- B. sincere
- C. appreciated
- D. honorable
- E. cherished

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

While all of the choices should apply, the best selection for the test question is Choice A, “aggrandized,” which means to make great or greater, which is certainly my greatest hope.

**QUESTION 673**

Friends of the theater have long decried the \_\_\_\_\_ of the New York drama critics, whose reviews can determine the fate of a play in a single night.

- A. insensitivity
- B. provinciality
- C. intelligence
- D. power
- E. inaccuracy

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The missing word must fit the description of the critics given in the second half of the sentence. If they “can determine the fate of a play in a single night,” then clearly they have a lot of “power.”

**QUESTION 674**

The \_\_\_\_\_ manner in which the teacher candidate addressed the school board was a key factor in his rejection; the school board members agreed that enthusiasm is an essential quality in a teacher.

- A. pretentious
- B. solicitous
- C. superficial
- D. perfunctory
- E. combative

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Remember that a semicolon (;) often indicates that the two halves of the sentence restate or paraphrase the same idea. The second half of this sentence tells us that the members of the school board wanted “enthusiasm” in a teacher candidate. Therefore, the word that describes the candidate they rejected should mean the opposite of “enthusiastic.” “Perfunctory” fits the bill.

**QUESTION 675**

Her \_\_\_\_\_ writing style made it difficult to follow her thought processes – no surprise to her colleagues, who were familiar with her \_\_\_\_\_ manner of speech.

- A. precise . . arcane
- B. laborious . . tedious
- C. trite . . flippant
- D. convoluted . . circumlocutory
- E. ambiguous . . affected

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Since both blanks here describe something similar – the way this unnamed person communicates – the two words should be near-synonyms. And the words “difficult to follow her thought processes” make it clear that both missing words should mean “hard to understand, unnecessarily complicated.”

**QUESTION 676**

The giant squid is still \_\_\_\_\_ marine biologists, as it has never been seen alive, making it impossible to study in its natural habitat.

- A. fascinating to
- B. enigmatic to
- C. dangerous to
- D. exploited by
- E. famous among

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

This sentence has a cause-and-effect relationship, as indicated by the word “as.” If the squid “has never been seen alive,” one could logically conclude that it would be “enigmatic.

**QUESTION 677** Advertising can increase sales of a \_\_\_\_\_ product, but it cannot create demand for a bad one; consumers may buy a \_\_\_\_\_ item because of advertising – but only once.

- A. good . . new
- B. reliable . . costly
- C. useful . . valuable
- D. needless . . single
- E. well-made . . badly made

**Correct Answer:** E**Section:** Reading**Explanation****Explanation/Reference:**

Explanation:

Both halves of the sentence make much the same point – that people will buy good products but not bad ones. Only the words in Choice E fit this idea.

**QUESTION 678** Like Truman, who was never considered a major national figure until Roosevelt’s death made him president, Ford attained national prominence only after \_\_\_\_\_ thrust him into the presidency.

- A. personal ambition
- B. outside circumstances
- C. popular acclaim
- D. political intrigue
- E. public demand

**Correct Answer:** B**Section:** Reading**Explanation****Explanation/Reference:**

Explanation:

Obviously, the structure of this sentence is similarity. We want a phrase to fit in the blank that will match the description of how both Truman and Ford attained prominence. You don’t need to know history; just realize that Ford’s case must have resembled Truman’s, in which pure accident (or “outside circumstances”) made him president.

**QUESTION 679** Thus far, predictions that global \_\_\_\_\_ would lead to mass starvation have proven false; however, in the years to come, population \_\_\_\_\_ may yet prove to be one of the world’s greatest problems.

- A. pollution . . expansion
- B. overcrowding . . growth
- C. poverty . . density
- D. deforestation . . control
- E. warfare . . stabilization

**Correct Answer:** B**Section:** Reading**Explanation****Explanation/Reference:**

Explanation:

The word “however” tells you that the two halves of the sentence contrast with one another. The first half says that “predictions” of “mass starvation have proven false”; the second half says that, in the future, (something) “may yet prove to be one of the world’s greatest problems.” Thus, the contrast involves the idea that a problem which doesn’t exist now may come to exist in the future; the same problem is being discussed in the both parts of the sentence. Choice B, then, makes sense because “global overcrowding” and “population growth” describe the same problem.

**QUESTION 680**

Amelia Earhart’s hope of being the first woman to fly around the globe was \_\_\_\_ when she disappeared in the middle of her \_\_\_\_ journey.

- A. thwarted . . ill-fated
- B. realized . . triumphant
- C. fulfilled . . historic
- D. controversial . . hazardous
- E. postponed . . famous

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

If she disappeared during the journey, then clearly her hope of flying around the globe was “thwarted,” Choice A. “Ill-fated” is the logical word to use to describe a trip that ends this way (worse than losing your luggage).

**QUESTION 681**

The idea of “children’s literature” \_\_\_\_ in the late eighteenth century, when educators first decided that children needed special \_\_\_\_ of their own.

- A. emerged . . books
- B. changed . . reading
- C. grew . . treatment
- D. developed . . training
- E. receded . . teaching

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

If it wasn’t until the late eighteenth century that educators decided children needed books of their own, then that must have been when the idea of children’s literature “emerged,” Choice A.

**QUESTION 682**

In some of the poorest neighborhoods of New York City, community gardens are springing up as \_\_\_\_ the filth and desolation of their urban surroundings.

- A. an affirmation of
- B. a validation of
- C. a reaction to
- D. an amplification of
- E. a celebration of

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Only “reaction” makes sense as a description of the relationship between a garden and surroundings that are full of “filth and desolation.”

**QUESTION 683** The neighborhood group’s rendering of the proposed office complex \_\_\_\_ the \_\_\_\_ of the project: as they appeared on the drawing, the proposed office buildings appeared to dwarf the rest of the downtown area.

- A. minimized . . grandiosity
- B. accentuated . . beauty
- C. underscored . . vastness
- D. trivialized . . enormity
- E. revealed . . immensity

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The second half of the sentence shows that “vastness” is the dominant quality of the proposed office complex.

**QUESTION 684**

Twentieth-century Japan faced the question of how to \_\_\_\_ the best of modern civilization without losing the benefits of Japan’s \_\_\_\_ way of life.

- A. reject . . ancient
- B. adopt . . outmoded
- C. assimilate . . traditional
- D. incorporate . . contemporary
- E. reshape . . historic

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The sentence describes something that twentieth-century Japan wanted to do; therefore, it must be referring to a desirable combination of the best of the old and the new. Choice C makes sense because it refers to “assimilating,” that is, absorbing, what is good in modern life while retaining what is “traditional.” A negative word like “outmoded,” Choice B, wouldn’t fit this context.

**QUESTION 685**

The proposal to forbid the use of indoor furniture on front porches has divided the town along \_\_\_\_ lines: the affluent feel the old couches are eyesores, while those who cannot afford new outdoor furniture are \_\_\_\_ about what they feel is an attempt to restrict their lifestyle.

- A. political . . nonplussed
- B. aesthetic . . dismayed
- C. class . . pleased
- D. racial . . angry
- E. socioeconomic . . incensed

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Because the second half of the sentence contrasts “the affluent” with “those who cannot afford new outdoor furniture,” we can see that the first blank should be filled with a word referring to class or economic differences. This narrows the possibilities to Choices C and E. Choice C doesn’t work because an attempt to restrict someone’s lifestyle wouldn’t logically make them feel “pleased.”

**QUESTION 686** In his politics, Aristotle characterizes Plato’s support of collectivism as \_\_\_\_ and \_\_\_\_ the unity of the city; not only would it be difficult to institute and enforce, but the absence of private property would lead to bickering among the citizens.

- A. commendable . . deleterious to
- B. controversial . . essential to

- C. impractical . . detrimental to
- D. divisive . . indifferent toward
- E. unattainable . . supportive of

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The two words in this answer choice nicely paraphrase the two points made later in the sentence: “impractical” = “difficult to institute,” and “detrimental to . . . unity” = “lead[ing] to bickering”

**QUESTION 687**

The bright coloration of American coot chicks is an anomaly: although colorful plumage is usually \_\_\_\_\_ to newborn birds because it may attract predators, among this species it appears to be \_\_\_\_\_, because parents are more likely to notice and care for brightly-colored offspring.

- A. pernicious . . fatal
- B. dangerous . . unnecessary
- C. deleterious . . favorable
- D. beneficial . . advantageous
- E. detrimental . . helpful

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The words “anomaly” and “although” both suggest that the second half of the sentence is built around a contrast between the role colorful plumage usually plays among birds and the role it actually plays in this particular species. Thus, the two words we want must be nearly opposite in meaning, as the two words in Choice E are.

**QUESTION 688** Unlike the American worker, who expects to work for several different firms during his or her career, until recently the Japanese worker regarded employment as \_\_\_\_\_ commitment.

- A. a lifetime
- B. a significant
- C. a bilateral
- D. an economic
- E. a moral

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The word “Unlike” shows us that the two halves of the sentence will contrast with one another. The idea of a “lifetime” commitment nicely contrasts with the idea of changing jobs several times.

**QUESTION 689**

Andre’s gift for music seemed to be \_\_\_\_\_; both his mother and grandfather before him had been famed concert pianists.

- A. simulated
- B. innate
- C. accidental
- D. inexplicable
- E. prodigious

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

If musical talent runs in Andre's family, then it would be logical to consider his gift inborn, inherited, or “innate.”

**QUESTION 690** The many obvious lapses in the author's research make it \_\_\_\_\_ to accept the \_\_\_\_\_ of his conclusions.

- A. easy . . accuracy
- B. impossible . . meaning
- C. attractive . . logic
- D. questionable . . structure
- E. difficult . . validity

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

A simple cause-and-effect relationship is required here; if the research contains “many obvious lapses,” then accepting its conclusions would certainly be “difficult.”

**QUESTION 691** Her wildlife movies unflinchingly capture the \_\_\_\_\_ of the animal kingdom: predators stalking their prey, singling out the weak, young, and very old as easy kills, and the cold-blooded killing which is a necessity of life in the wild.

- A. brutality
- B. romance
- C. color
- D. mystery
- E. grandeur



**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

All we need here is a word that summarizes the tone of the second half of the sentence. A word like “violence,” “bloodthirstiness,” or “brutality” will work.

**QUESTION 692** Although the Internet was originally created to facilitate scientific research and emergency communication, today most people consider it \_\_\_\_\_ enterprise, offering services marketed as sources of information and entertainment.

- A. a commercial
- B. a private
- C. an obsolete
- D. an insidious
- E. an institutional

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

If the Internet today offers “services” that are “marketed,” then it is clearly a “commercial” (that is, for-profit) enterprise.

**QUESTION 693** Her character was completely \_\_\_\_\_ ; she was totally devoid of \_\_\_\_\_.

- A. prosaic .. dullness
- B. prudent .. affection
- C. passive .. inertia
- D. impassive .. emotion
- E. saintly .. virtue

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

To be impassive (without feelings) is to be totally devoid of (lacking in) emotion.

**QUESTION 694**

To succeed in the training program requires great \_\_\_\_\_ ; you have to endure many months of rigorous exercise.

- A. reluctance
- B. creativity
- C. diffidence
- D. insensitivity
- E. tenacity

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

To endure many months of training you need great tenacity, or persistence.

**QUESTION 695** Since eating that \_\_\_\_\_ amount of food I have become \_\_\_\_\_.

- A. substantial .. unchanged
- B. miniscule .. corpulent
- C. gargantuan .. emaciated
- D. prodigious .. bilious
- E. impeccable .. fastidious

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

If you eat a substantial amount of food, you will not be unchanged (unaffected). If you eat a miniscule amount, you will not become corpulent (excessively fat). If you eat a gargantuan (suitable to a giant) amount, you will certainly not become emaciated (thin to the point of starvation). But if you eat a prodigious (unusually enormous) amount, you are very likely to become bilious (sick to the stomach).

**QUESTION 696** The performer was exceedingly \_\_\_\_\_; she could juggle three apples at once.



- A. inept
- B. contentious
- C. complacent
- D. adroit
- E. astute

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

If the performer can juggle three apples at once, she is remarkably skillful, or adroit.

**QUESTION 697** I am \_\_\_\_\_ about the job; although the atmosphere is pleasant, the work is boring.

- A. ambivalent
- B. exultant
- C. timorous
- D. laconic
- E. reticent

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

A job that is both pleasant and boring is likely to arouse feelings that are mixed, or ambivalent.

**QUESTION 698** Herbert had none of the social graces; he was appallingly \_\_\_\_\_ .

- A. unlimbered
- B. underrated
- C. unfettered
- D. uncluttered
- E. uncouth

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Having no social graces means to be rude, or crude. The obvious answer is uncouth (uncultured, crude, boorish).

**QUESTION 699** The \_\_\_\_\_ shantytown was infested with vermin and \_\_\_\_\_ with disease.

- A. attractive .. riddled
- B. spurious .. infected
- C. squalid .. rife
- D. tidy .. inoculated
- E. lugubrious .. fraught

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

A shantytown is a collection of ramshackle dwellings that are often miserable, dirty, or squalid. Such places are likely to be rife, or filled, with disease.

**QUESTION 700** The gathering was anything but \_\_\_\_\_ ; the partygoers were in a(n) \_\_\_\_\_ mood.

- A. aggressive .. pushy
- B. modest .. humble
- C. gregarious .. loquacious
- D. mournful .. ebullient
- E. hostile .. frenetic

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The “anything but” construction calls for words that are opposites. The only answer choice that offers a pair of opposites is D, mournful (sad) and ebullient (joyful).

**QUESTION 701** The entering class was fairly \_\_\_\_\_ ; nearly all the students came from a \_\_\_\_\_ background.

- A. hostile .. receptive
- B. homogeneous .. similar
- C. formidable .. fastidious
- D. exemplary .. related
- E. parochial .. redundant

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Since the second clause of the sentence defines the first, the only possible answer must be a pair of synonyms. The only such pair is answer B, homogeneous (alike) and similar.

**QUESTION 702** When you are restive, you don't have much \_\_\_\_\_ .

- A. restlessness
- B. animosity
- C. equanimity
- D. motion
- E. equilibrium

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

When you are restive (nervous, upset), you may have at the same time restlessness, animosity, motion, or equilibrium, but you cannot have equanimity (evenness, peace of mind, or tranquility).

**QUESTION 703**

With speculative investments like oil wells and horse races, money is more easily made or lost; the gain is \_\_\_\_\_ with the risk.

- A. less
- B. greater
- C. equal
- D. better
- E. commensurate

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

In speculation, a gain is not necessarily greater or less or better with risk. It may occasionally be equal with the risk, but it is most usually commensurate (corresponding in extent of degree) with it.

**QUESTION 704** To tremble in the face of a storm is to \_\_\_\_\_.

- A. glower
- B. cower
- C. shower
- D. tower
- E. flower

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

“To tremble in the face of a storm” is to show fear or discomfort in a special way. Glower (to stare or scowl with sullen anger) does not connote fear or trembling; neither do shower, tower, or flower. To cower is to crouch, as from fear or cold, or to shrink and tremble.

**QUESTION 705** Eleanor steadfastly refused to change her stubborn ways; she remained \_\_\_\_\_ to the end.

- A. embattled
- B. regurgitating
- C. recalcitrant
- D. decalcified
- E. concomitant

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Embattled (fighting), regurgitating (bringing partly digested food back to the mouth), decalcified (having calcium removed from the system), and concomitant (accompanying, attendant) do not in any way suggest a steadfast refusal to submit to change. The only possible choice is recalcitrant (refusing to obey authority, stubbornly defiant).

**QUESTION 706**

Benjamin Franklin said that \_\_\_\_\_ is not always a virtue; there are times when you must speak up for yourself.

- A. pride
- B. forthrightness
- C. sham
- D. prudery
- E. modesty

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The context of this sentence suggests that “not speaking up for yourself” is not always good; in other words, the missing term has something to do with self-effacement. Only modesty can fill this gap properly.

**QUESTION 707** They \_\_\_\_\_ their offer of aid when they became disillusioned with the project

- A. expanded
- B. redoubled
- C. bolstered
- D. constrained
- E. rescinded

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The sentence describes people who are disillusioned with a project. They are therefore most likely to rescind, or withdraw, their offer of aid.

**QUESTION 708**

The firm’s books were out of balance; there was a (n) \_\_\_\_\_ between the amount of physical inventory and the amount of calculated inventory.

- A. anachronism
- B. enigma
- C. discredit
- D. discrepancy
- E. dissension

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

If the “books were out of balance,” there had to be some sort of differential between the two inventories. Only the last two choices pertain to any differential. Dissension, however, is a difference in feelings; discrepancy (inconsistency) fits the context.

**QUESTION 709**

As a \_\_\_\_\_ he was a disaster, for his students rarely understood his lectures; yet he was a \_\_\_\_\_ scholar.

- A. dean .. banal
- B. philosopher .. failed

- C. teacher .. formidable
- D. professor .. second-rate
- E. speaker .. contemptuous

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Yet indicates that the second clause will have a meaning that contrasts with that of the first clause. In the first clause, someone is a disaster. The only choice for the second blank that contrasts with that idea is formidable, meaning that he was a first-rate scholar.

**QUESTION 710** Far from the \_\_\_\_\_ crowds of the city, I find refuge at my \_\_\_\_\_ cabin on Big Lake.

- A. pervasive .. dominant
- B. aggressive .. listless
- C. petrified .. motivating
- D. overwhelming .. secluded
- E. extensive .. scanty

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The logic of this sentence is based on contrast; the clues are crowds, refuge, and cabin. In Choices A and B, the first substitution works, but the second is meaningless. In Choices C and E, neither word makes sense in context.

**QUESTION 711** The professor's oldest colleague was selected to give the \_\_\_\_\_ at the funeral.

- A. eulogy
- B. elegy
- C. epigraph
- D. eponymy
- E. epitaph

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

What is the name of the kind of talk that is delivered at a funeral? Eulogy. If you know this, the answer pops out at you. If you did not know it, consider each of the choices in their turn. Epigraph is a quote at the beginning of a piece of writing. Eponymy is something with the same name as something else. Epitaph is what is written on a gravestone. That leaves (A) and (B). Elegy is a poem written in memory. You don't "give" a poem. That leaves (A), the correct answer.

**QUESTION 712**

The new team member's \_\_\_\_\_ was an encouragement to the rest of the team, who had become \_\_\_\_\_ by the string of defeats.

- A. enthusiasm. .elated
- B. vigor. .inundated
- C. ebullience. .dispirited
- D. dourness. .undone

E. excessiveness. .downcast

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

On this dual-blank sentence, let's do the first blank first since we know that the blank was an encouragement to the rest of the team. Good spirits would be an encouragement to the rest of the team. You can eliminate (D) and (E). As for the second blank, what does a string of defeats do to a team? It discourages them. (A), elated, does not match this. Nor does (B), inundated. But (C), dispirited, fits well and you've already eliminated (D) and (E). Choice C is the best answer.

**QUESTION 713** By the end of the campaign both candidates had resorted to \_\_\_\_\_ the other.

- A. commending
- B. denigrating
- C. mollifying
- D. conceding
- E. swindling

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

You might not know what resorted means, but if you know it's a negative word, you can make an educated guess. Which of the answer choices is also a negative verb? (A), (C), and (D) are not. (E) is not a good answer because swindling has nothing to do with campaigning. Choice B is the best choice.

**QUESTION 714** The cat \_\_\_\_\_ crept across the lawn, gracefully \_\_\_\_\_ the dog.

- A. felicitously. .enticing
- B. swiftly. .defeating
- C. acrobatically. .apprehending
- D. maladroitly. .undermining
- E. deftly. .eluding

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The second half of the sentence gives more clues, so you ought to start here. What are cats most likely to do to dogs? Avoid them, probably which will lead you to (E), the correct answer. But for good measure, let's eliminate the other possibilities. For a cat to undermine a dog isn't logical. Being undermined is something that happens to humans or projects, so you can definitely eliminate (D). One could say that a cat enticed a dog to do something, but it isn't good usage simply to say that the cat enticed the dog. Eliminate (A). Is it likely for a cat to gracefully apprehend a dog? No. Eliminate (C).

**QUESTION 715** The storyteller's \_\_\_\_\_ anecdotes earned her the \_\_\_\_\_ attention of the crowd.

- A. compelling. .rapt
- B. pointed. .spellbound
- C. moribund. .lucid
- D. poignant. .abrasive
- E. meandering. .distracted

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Attack the second blank first. The most likely adjective to describe attention will be something like undivided or rapt. (A), which includes rapt, is the answer. (B), which includes spellbound, is also possible. But pointed anecdotes doesn't make sense, so the answer is (A).

**QUESTION 716** The bill became bogged down in a(n) \_\_\_\_\_ of contentious issues in a Senate subcommittee.

- A. marsh
- B. sequence
- C. iota
- D. conundrum
- E. quagmire

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

You know the word is going to be negative: both bogged and contentious tell you so. Eliminate (B). Now think that the word is basically going to mean mess. You can eliminate (A) and (C). Conundrum is a confusing problem, not really a messy situation. (E) is the best answer.

**QUESTION 717**

The outcome of the race seemed \_\_\_\_\_ before the leader's misstep on the final leg gave her competitors a(n) \_\_\_\_\_ of winning the title.

- A. dubious. .prospect
- B. inevitable. .hope
- C. indubitable. .air
- D. assured. .expectation
- E. partial. .endeavor

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Here the first blank seems more approachable. The reference to a clear leader indicates that the outcome was known. Eliminate (A) and (E). For the second blank, the clue is that the leader misstepped and so rest of the competitors must have gotten a chance at the title, but they weren't assured a victory. Eliminate (D) and (C). The answer is (B).

**QUESTION 718**

Though the new pharmaceutical regime was intended to be beneficial, its actual effect was \_\_\_\_\_, a result the medical community \_\_\_\_\_.

- A. harmful. .heralded
- B. abundant. .castigated
- C. fortuitous. .ignored
- D. detrimental. .lamented
- E. negative. .projected

**Correct Answer:** D

**Section:** Reading

**Explanation****Explanation/Reference:**

Explanation:

Consider the first blank. The word though indicates that the drug was intended to be beneficial but ultimately was not. Do any of the answer choices mean not beneficial? (A), (D), and (E) do. How would the medical community respond to a bad result? Ostensibly they would think that a bad result was bad. That eliminates (A) and (E). This leaves (D).

**QUESTION 719** The life of the lightening bug is \_\_\_\_\_ to human eyes: They live only twenty-four hours.

- A. ludicrous
- B. ephemeral
- C. epic
- D. ecstatic
- E. incandescent

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

A life that only lasts 24 hours is what in comparison to a normal human life? It is short. Which of the answer choices contains the notion of shortness in its meaning? (B), ephemeral, does.

**QUESTION 720**

The kangaroo species \_\_\_\_\_ in the new environment where there was an abundant supply of food and a(n) \_\_\_\_\_ of predators.

- A. stagnated. .excess
- B. bolstered. .paucity
- C. exploded. .abundance
- D. flagged. .absence
- E. flourished. .dearth



**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

What is a species likely to do in an environment? It either grows in number or diminishes in number. Each of the first words, except in (B), could mean one of those things. Eliminate (B). When you discover that there is an abundance of food, you know that the first word will suggest that the kangaroos increased in numbers. Eliminate (A) and (D). Now you need the second part of the sentence. To grow in numbers, the kangaroos will need an absence or near absence of predators. Eliminate (C). You are left with (E).

**QUESTION 721** With her speech, the politician attempted to \_\_\_\_\_ the fears of the \_\_\_\_\_ citizens.

- A. intensify. .disingenuous
- B. ignore. .alarmed
- C. assuage. .concerned
- D. quell. .disaffected
- E. exploit. .serene

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**



Explanation:

The best clue in this sentence is “fears.” Citizens with fears can only be concerned or alarmed. That leaves (B) and (C). It’s not particularly logical to say that a speech is designed to ignore something. On the other hand, it is common to use assuage with fears. The best answer is (C).

**QUESTION 722**

The fencing champion was \_\_\_\_\_ with her rapier, but in most other sports she was rather \_\_\_\_\_.

- A. adroit. .awkward
- B. adept. .lithe
- C. tenacious. .passable
- D. incompetent. .clumsy
- E. deft. .skillful

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Let’s attack the first blank. If the female is a fencing champion then she must be skillful with her rapier (her sword). Which of the first answer choices matches skillful? Choices A, B, and E do. C is possible but not likely. As for the second blank, the conjunction but indicates that her skillfulness in fencing is in contrast to her lack of skill in other sports. Which of the remaining second answer choices matches with this pre-guess? Only awkward, Choice A, does.

**QUESTION 723**

Jane Goodall was at first a (n) \_\_\_\_\_ in her field, but since then she has received many accolades for her work.

- A. acolyte
- B. maverick
- C. luminary
- D. charlatan
- E. miser



**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

There is a contrast drawn in the sentence between receiving accolades – praise, awards and Jane Goodall’s initial standing in her field. She must have met with a lack of support or outright disapproval. Eliminate (E) because it is illogical. Eliminate (C) because it goes with, rather than against, accolades. An acolyte is someone who assists a clergyman, so you can eliminate (A). You are left with (B) and (D). A charlatan is a fake, an incompetent. If the sentence said, “Some people thought she was a \_\_\_\_\_,” charlatan might work, but it says she actually was “a \_\_\_\_\_.” She couldn’t have been a fake and later gotten awards. Eliminate (D). You are left with (B), a maverick, an independent thinker, a dissenter, a pioneer.

**QUESTION 724**

Alston was impressed by the philosopher’s lecture, but Mario thought the lecture was better characterized as \_\_\_\_\_ than as erudite.

- A. translucent
- B. recondite
- C. impeccable
- D. specious
- E. fictitious

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

This sentence is contrasting the views of Alston and Mario (the conjunction but clues you into this fact). Alston thinks that the lecture was impressive, which probably means smart, accurate, logical. Mario's view is in contrast to this. You can eliminate (A) and (C). Recondite is not likely to be a word to describe a lecture, so eliminate (B). You are left with specious or fictitious. Specious means logically false; fictitious comes from fiction, and presumably the philosopher didn't tell a story but rather made an argument. Choice D is the best answer.

#### QUESTION 725

The senior official \_\_\_\_\_ at the insinuation that his country's international trade policies were directly \_\_\_\_\_ the region's economic woes.

- A. balked. .responsible for
- B. wrinkled. .at fault for
- C. staggered. .inhibiting
- D. blundered. .implicated in
- E. riled. .accountable to

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

If you know that insinuation is a negative word, you can guess that the first blank will describe a logical response to a negative thing. Balk is a common word in this situation, but if you don't know that use the process of elimination. You can eliminate (B) and probably (D) because they are not negative words. Move to the next blank. If the official's response is negative, it's most logical that he is accused of having something to do with the economic woes. Eliminate (C). That leaves (A) and (E) as the most likely answers. But you don't "rile" at something; it's not good usage. Eliminate (E) and you are left with (A).

#### QUESTION 726

When Rob became interested in electricity, his clear-headed father considered the boy's fancy to be instructive as well as amusing; so he heartily encouraged his son, and Rob never lacked batteries, motors, or supplies of any sort that his experiments might require.

He fitted up the little back room in the attic as his workshop, and from thence, a network of wires soon ran throughout the house. Not only had every outside door its electric bell, but every window was fitted with a burglar alarm; moreover, no one could cross the threshold of any interior room without registering the fact in Rob's work- shop. The gas was lighted by an electric fob; a chime, connected with an erratic clock in the boy's room, woke the servants at all hours of the night and caused the cook to give warning; a bell rang whenever the postman dropped a letter into the box; there were bells, bells, bells everywhere, ringing at the right time, the wrong time and all the time. And there were telephones in the different rooms, too, through which Rob could call up the different members of the family just when they did not wish to be disturbed.

His mother and sisters soon came to vote the boy's scientific craze a nuisance; but his father was delighted with these evidences of Rob's skill as an electrician and insisted that he be allowed perfect freedom in carrying out his ideas.

Which is the best selection describing the social commentary inferred in the passage?

- A. Father knows best.
- B. Father makes the decisions as head of household.
- C. Mother provides input taken into consideration by father.
- D. Mother has half decision-making authority over the children.
- E. Sisters have a vote in the family business as do all family members

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Although Choice B looks accurate, there is nothing to be inferred as this is what the reader sees directly from the passage. Choice A qualifies as the best selection as it is only inferred that father knows best.

#### QUESTION 727

When Rob became interested in electricity, his clear-headed father considered the boy's fancy to be instructive as well as amusing; so he heartily encouraged his son, and Rob never lacked batteries, motors, or supplies of any sort that his experiments might require.

He fitted up the little back room in the attic as his workshop, and from thence, a network of wires soon ran throughout the house. Not only had every outside door its electric bell, but every window was fitted with a burglar alarm; moreover, no one could cross the threshold of any interior room without registering the fact in Rob's work- shop. The gas was lighted by an electric fob; a chime, connected with an erratic clock in the boy's room, woke the servants at all hours of the night and caused the cook to give warning; a bell rang whenever the postman dropped a letter into the box; there were bells, bells, bells everywhere, ringing at the right time, the wrong time and all the time. And there were telephones in the different rooms, too, through which Rob could call up the different members of the family just when they did not wish to be disturbed.

His mother and sisters soon came to vote the boy's scientific craze a nuisance; but his father was delighted with these evidences of Rob's skill as an electrician and insisted that he be allowed perfect freedom in carrying out his ideas.

The author's purpose for the second paragraph is:

- A. to show how ingenious Rob was
- B. to evidence that Rob lacked for no supplies.
- C. to represent just how far Rob's experiments went
- D. to fully develop the latitude father gave and the control he had.
- E. to show just how intrusive the experiments were, much to the chagrin of all inhabitants

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The author uses this paragraph to fully demonstrate the latitude given to Rob but as importantly, the control, as head of household, father has on the house.

#### QUESTION 728

When Rob became interested in electricity, his clear-headed father considered the boy's fancy to be instructive as well as amusing; so he heartily encouraged his son, and Rob never lacked batteries, motors, or supplies of any sort that his experiments might require.

He fitted up the little back room in the attic as his workshop, and from thence, a network of wires soon ran throughout the house. Not only had every outside door its electric bell, but every window was fitted with a burglar alarm; moreover, no one could cross the threshold of any interior room without registering the fact in Rob's work- shop. The gas was lighted by an electric fob; a chime, connected with an erratic clock in the boy's room, woke the servants at all hours of the night and caused the cook to give warning; a bell rang whenever the postman dropped a letter into the box; there were bells, bells, bells everywhere, ringing at the right time, the wrong time and all the time. And there were telephones in the different rooms, too, through which Rob could call up the different members of the family just when they did not wish to be disturbed.

His mother and sisters soon came to vote the boy's scientific craze a nuisance; but his father was delighted with these evidences of Rob's skill as an electrician and insisted that he be allowed perfect freedom in carrying out his ideas.

Paragraph three performs which of the following functions?

- A. shows that mother and sister's input is valuable and heralded
- B. shows father is willing to listen and alter decisions if warranted
- C. postulates the notion that perhaps the experiments have gone too far
- D. demonstrates the continuing grip father has over the entire household
- E. warrants a rethinking of the continuous supplying of materials to Rob



**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Notwithstanding Rob's mother and sisters feel that the experiments are a nuisance, father still holds firm in his decision to allow things to continue, reinforcing the control father has over the entire house.

#### QUESTION 729

In conclusion, it seized first the corpse of the daughter, and thrust it up the chimney, as it was found; then that of the old lady, which it immediately hurled through the window headlong.

As the ape approached the casement with its mutilated burden, the sailor shrank aghast to the rod, and, rather gliding than clambering down it, hurried at once home – dreading the consequences of the butchery, and gladly abandoning, in his terror, all solicitude about the fate of the Ourang-Outang. The words heard by the party upon the staircase were the Frenchman's exclamations of horror and affright, commingled with the fiendish jabberings of the brute.

I have scarcely anything to add. The Ourang-Outang must have escaped from the chamber, by the rod, just before the break of the door. It must have closed the window as it passed through it. It was subsequently caught by the owner himself, who obtained for it a very large sum at the Jardin des Plantes. Le Don was instantly released, upon our narration of the circumstances (with some comments from Dupin) at the bureau of the Prefect of Police. This functionary, however well disposed to my friend, could not altogether conceal his chagrin at the turn which affairs had taken, and was fain to indulge in a sarcasm or two, about the propriety of every person minding his own business. The word "solicitude" in 1st paragraph most nearly means

- A. interest.
- B. curiosity.
- C. concern.
- D. anger.
- E. fear

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The sailor, having seen the murderous scene, lost all concern for the well-being of his animal.

#### QUESTION 730

In conclusion, it seized first the corpse of the daughter, and thrust it up the chimney, as it was found; then that of the old lady, which it immediately hurled through the window headlong.

As the ape approached the casement with its mutilated burden, the sailor shrank aghast to the rod, and, rather gliding than clambering down it, hurried at once home – dreading the consequences of the butchery, and gladly abandoning, in his terror, all solicitude about the fate of the Ourang-Outang. The words heard by the party upon the staircase were the Frenchman’s exclamations of horror and affright, commingled with the fiendish jabberings of the brute.

I have scarcely anything to add. The Ourang-Outang must have escaped from the chamber, by the rod, just before the break of the door. It must have closed the window as it passed through it. It was subsequently caught by the owner himself, who obtained for it a very large sum at the Jardin des Plantes. Le Don was instantly released, upon our narration of the circumstances (with some comments from Dupin) at the bureau of the Prefect of Police. This functionary, however well disposed to my friend, could not altogether conceal his chagrin at the turn which affairs had taken, and was fain to indulge in a sarcasm or two, about the propriety of every person minding his own business. The word “brute” at the end of 1st paragraph

- A. the fiend.
- B. the sailor.
- C. the Ourang-Outang.
- D. the party.
- E. the Frenchman.

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:



The word “brute” refers back to the animal whose animal noises or “fiendish jabberings” were heard from the chamber.

#### QUESTION 731

In conclusion, it seized first the corpse of the daughter, and thrust it up the chimney, as it was found; then that of the old lady, which it immediately hurled through the window headlong.

As the ape approached the casement with its mutilated burden, the sailor shrank aghast to the rod, and, rather gliding than clambering down it, hurried at once home – dreading the consequences of the butchery, and gladly abandoning, in his terror, all solicitude about the fate of the Ourang-Outang. The words heard by the party upon the staircase were the Frenchman’s exclamations of horror and affright, commingled with the fiendish jabberings of the brute.

I have scarcely anything to add. The Ourang-Outang must have escaped from the chamber, by the rod, just before the break of the door. It must have closed the window as it passed through it. It was subsequently caught by the owner himself, who obtained for it a very large sum at the Jardin des Plantes. Le Don was instantly released, upon our narration of the circumstances (with some comments from Dupin) at the bureau of the Prefect of Police. This functionary, however well disposed to my friend, could not altogether conceal his chagrin at the turn which affairs had taken, and was fain to indulge in a sarcasm or two, about the propriety of every person minding his own business.

Which selection best rephrases “I have scarcely anything to add” starting of 2nd paragraph?

- A. I only have a little bit more to tell.
- B. I’m afraid of what I have left to tell.
- C. I’m concerned I can’t add much more.
- D. I don’t know anything else to add.
- E. I’ve told you everything I know.

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

“I have scarcely anything to add” is almost a euphemism but literally means, having solved the mystery, “I don’t know anything else to add.”

#### QUESTION 732

In conclusion, it seized first the corpse of the daughter, and thrust it up the chimney, as it was found; then that of the old lady, which it immediately hurled through the window headlong.

As the ape approached the casement with its mutilated burden, the sailor shrank aghast to the rod, and, rather gliding than clambering down it, hurried at once home – dreading the consequences of the butchery, and gladly abandoning, in his terror, all solicitude about the fate of the Ourang-Outang. The words heard by the party upon the staircase were the Frenchman’s exclamations of horror and affright, commingled with the fiendish jabberings of the brute.

I have scarcely anything to add. The Ourang-Outang must have escaped from the chamber, by the rod, just before the break of the door. It must have closed the window as it passed through it. It was subsequently caught by the owner himself, who obtained for it a very large sum at the Jardin des Plantes. Le Don was instantly released, upon our narration of the circumstances (with some comments from Dupin) at the bureau of the Prefect of Police. This functionary, however well disposed to my friend, could not altogether conceal his chagrin at the turn which affairs had taken, and was fain to indulge in a sarcasm or two, about the propriety of every person minding his own business.

Which selection best describes the action referred to by “break of the door” 2nd paragraph?

- A. The door was broken into by using a rod.
- B. The party broke down the door.
- C. The party entered through the door broken by the brute.
- D. The Ourang-Outang broke the door to gain entry.
- E. The sailor broke into the chamber allowing the Ourang-Outang to follow.

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

We know the Ourang-Outang did not break the door because it escaped from the window just before the door was broken. Since everyone else had already escaped or was dead, only someone from the outside could have broken the door. The party of people investigating the noises coming from the chamber had to break down the door to gain entrance.

#### QUESTION 733

Your knowledge of English Literature – to which I am indebted for the first faithful and intelligent translation of my novels into the Italian language – has long since informed you, that there are certain important social topics which are held to be forbidden to the English novelist (no matter how seriously and how delicately he may treat them), by a narrow-minded minority of readers, and by the critics who flatter their prejudices. You also know, having done me the honor to read my books; that I respect my art far too sincerely to permit limits to be wantonly assigned to it, which are imposed in no other civilized country on the face of the earth. When my work is undertaken with a pure purpose, I claim the same liberty which is accorded to a writer in a newspaper, or to a clergyman in a pulpit; knowing, by previous experience, that the increase of readers and the lapse of time will assuredly do me justice, if I have only written well enough to deserve it.

What is the overall mood of this passage?

- A. incipient
- B. witty
- C. sarcastic
- D. curious
- E. angry

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The author is angered that he has to write for a foreign audience as the critics of the time in his homeland refuse to endorse his treatment of a social occurrence.

#### QUESTION 734

Your knowledge of English Literature – to which I am indebted for the first faithful and intelligent translation of my novels into the Italian language – has long since informed you, that there are certain important social topics which are held to be forbidden to the English novelist (no matter how seriously and how delicately he may treat them), by a narrow-minded minority of readers, and by the critics who flatter their prejudices. You also know, having done me the honor to read my books; that I respect my art far too sincerely to permit limits to be wantonly assigned to it, which are imposed in no other civilized country on the face of the earth. When my work is undertaken with a pure purpose, I claim the same liberty which is accorded to a writer in a newspaper, or to a clergyman in a pulpit; knowing, by previous experience, that the increase of readers and the lapse of time will assuredly do me justice, if I have only written well enough to deserve it.

Which statement least describes the author’s feelings about English critics?

- A. They are not educated enough to understand the social implications of these writings.
- B. They think more of their artificial airs than of dealing with current social issues.
- C. They do not know how to deal with enlightened authors so they forbid the reading of them.

- D. They wish their country to remain sheltered and backward by restricting authors' freedoms.  
E. They are wont to hold others who express views in various forums to the same restrictions as literary authors.

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

All of the selections represent some feelings expressed by the author in dealing with the issue of censorship with the exception of Choice A.

#### QUESTION 735

Your knowledge of English Literature – to which I am indebted for the first faithful and intelligent translation of my novels into the Italian language – has long since informed you, that there are certain important social topics which are held to be forbidden to the English novelist (no matter how seriously and how delicately he may treat them), by a narrow-minded minority of readers, and by the critics who flatter their prejudices. You also know, having done me the honor to read my books; that I respect my art far too sincerely to permit limits to be wantonly assigned to it, which are imposed in no other civilized country on the face of the earth. When my work is undertaken with a pure purpose, I claim the same liberty which is accorded to a writer in a newspaper, or to a clergyman in a pulpit; knowing, by previous experience, that the increase of readers and the lapse of time will assuredly do me justice, if I have only written well enough to deserve it.

Which selections best indicates how the author believes he will be vindicated?

- A. when sufficient people cry out for more liberal values  
B. when moral values deteriorate over time  
C. when well recognized enough to command acceptance  
D. when enough readers read over a prolonged period of time  
E. when the limiting country lessens its hold on literary writers

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:



The author states “that the increase of readers and the lapse of time will assuredly do me justice,” which is supported by Choice D.

#### QUESTION 736

But the Dust-Bin was going down then, and your father took but little, excepting from a liquid point of view. Your mother's object in those visits was of a house-keeping character, and you was set on to whistle your father out. Sometimes he came out, but generally not. Come or not come, however, all that part of his existence which was unconnected with open Waitering was kept a close secret, and was acknowledged by your mother to be a close secret, and you and your mother flitted about the court, close secrets both of you, and would scarcely have confessed under torture that you know your father, or that your father had any name than Dick (which wasn't his name, though he was never known by any other), or that he had kith or kin or chick or child.

Perhaps the attraction of this mystery, combined with your father's having a damp compartment, to himself, behind a leaky cistern, at the Dust Bin, a sort of a cellar compartment, with a sink in it, and a smell, and a plate-rack, and a bottlerack, and three windows that didn't match each other or anything else, and no daylight, caused your young mind to feel convinced that you must grow up to be a Waiter too; but you did feel convinced of it, and so did all your brothers, down to your sister. Every one of you felt convinced that you was born to the Waitering.

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What is being inferred by “your father took but little, excepting from a liquid point of view” At the starting of 1st paragraph?

- A. He rarely appropriated anything other than liquids.  
B. He was unable to procure anything of a substantial nature.



- C. He was only allowed to consume liquids as opposed to solids.
- D. He was not inclined to food only alcohol.
- E. He was on a restricted diet comprised of liquids only.

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Given the tone of the article, hard times had befallen the family, which has a universal tendency to cause depression and turning to alcohol for relief. Such was the case for father.

#### QUESTION 737

But the Dust-Bin was going down then, and your father took but little, excepting from a liquid point of view. Your mother's object in those visits was of a house-keeping character, and you was set on to whistle your father out. Sometimes he came out, but generally not. Come or not come, however, all that part of his existence which was unconnected with open Waitering was kept a close secret, and was acknowledged by your mother to be a close secret, and you and your mother flitted about the court, close secrets both of you, and would scarcely have confessed under torture that you know your father, or that your father had any name than Dick (which wasn't his name, though he was never known by any other), or that he had kith or kin or chick or child.

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The discussion of visits to father's compartment in 1st paragraph suggests that

- A. the family bonds were strong.
- B. suitable income made it possible to maintain two well-furnished homes.
- C. there was little romance between husband and wife.
- D. there was not the intention of hiding a familial relationship.
- E. the family often met to perform routine tasks as a family.

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The key here is that we are told that the "object in those visits was of a house-keeping character." Had they been of a romantic nature, the child would not have been there to summon the father out with a whistle.

#### QUESTION 738

But the Dust-Bin was going down then, and your father took but little, excepting from a liquid point of view. Your mother's object in those visits was of a house-keeping character, and you was set on to whistle your father out. Sometimes he came out, but generally not. Come or not come, however, all that part of his existence which was unconnected with open Waitering was kept a close secret, and was acknowledged by your mother to be a close secret, and you and your mother flitted about the court, close secrets both of you, and would scarcely have confessed under torture that you know your father, or that your father had any name than Dick (which wasn't his name, though he was never known by any other), or that he had kith or kin or chick or child.

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Overall, what is the author referring when he writes "Perhaps the attraction of this mystery" Starting of 2nd paragraph?

- A. the idea that no one was to know his father's name
- B. the fact that no one knew that his father was married and apparently weren't allowed to
- C. the situation of only visiting his father instead of living together with approval from the wife
- D. the entire secrecy of the lifestyle of his family notwithstanding the compartment
- E. the compartment his father kept and lived alone in even though it didn't seem like much

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Not any one element is specifically referred to prior to the statement. The entire element of shrouded secrecy that no one could know the father's real name, that no one was supposed to know that he was married or had children, that family visits had to be kept secret were all contributing factors. Because of syntax, the compartment did not enter into the mystery as the author added the compartment information following "combined."

#### QUESTION 739

But the Dust-Bin was going down then, and your father took but little, excepting from a liquid point of view. Your mother's object in those visits was of a house-keeping character, and you was set on to whistle your father out. Sometimes he came out, but generally not. Come or not come, however, all that part of his existence which was unconnected with open Waitering was kept a close secret, and was acknowledged by your mother to be a close secret, and you and your mother flitted about the court, close secrets both of you, and would scarcely have confessed under torture that you know your father, or that your father had any name than Dick (which wasn't his name, though he was never known by any other), or that he had kith or kin or chick or child.

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At this stage of your career, what was your feelings one day when your father came home to your mother in open broad daylight, of itself an act of Madness on the part of a Waiter, and took to his bed (leastwise, your mother and family's bed), with the statement that his eyes were devilled kidneys. Physicians being in vain, your father expired, after repeating at intervals for a day and a night, when gleams of reason and old business fitfully illuminated his being, "Two and two is five. And three is sixpence." Interred in the parochial department of the neighbouring churchyard, and accompanied to the grave by as many Waiters of long standing as could spare the morning time from their soiled glasses (namely, one), your bereaved form was attired in a white neckaneker [sic], and you was took on from motives of benevolence at The George and Gridiron, theatrical and supper. Here, supporting nature on what you found in the plates(which was as it happened, and but too often thoughtlessly, immersed in mustard), and on what you found in the glasses (which rarely went beyond driblets and lemon), by night you dropped asleep standing, till you was cuffed awake, and by day was set to polishing every individual article in the coffee-room. Your couch being sawdust; your counterpane being ashes of cigars. Here, frequently hiding a heavy heart under the smart tie of your white neck ankecher (or correctly speaking lower down and more to the left), you picked up the rudiments of knowledge from an extra, by the name of Bishops, and by calling plate-washer, and gradually elevating your mind with chalk on the back of the corner-box partition, until such time as you used the inkstand when it was out of hand, attained to manhood, and to be the Waiter that you find yourself.

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What purpose was served by the detailed description of the compartment (2nd paragraph)?

- A. informs the reader of a level of economic expectation for a waiter at this time
- B. provides a window into the lifestyle the father is able to provide his family
- C. provides a rationale for the wife to come over and perform house-keeping
- D. explains why father would not want his real identity known to others



E. allows the reader to understand more fully the mystery surrounding the desire to become a waiter

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Although most of the selections provide some tangential information as to the rationale for the description being so detailed, the result is that it informs the reader of a lifestyle that could be expected for a waiter at this time. We are not told about the lifestyle of the remainder of the family or what their living conditions are.

#### QUESTION 740

But the Dust-Bin was going down then, and your father took but little, excepting from a liquid point of view. Your mother's object in those visits was of a house-keeping character, and you was set on to whistle your father out. Sometimes he came out, but generally not. Come or not come, however, all that part of his existence which was unconnected with open Waitering was kept a close secret, and was acknowledged by your mother to be a close secret, and you and your mother flitted about the court, close secrets both of you, and would scarcely have confessed under torture that you know your father, or that your father had any name than Dick (which wasn't his name, though he was never known by any other), or that he had kith or kin or chick or child.

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At this stage of your career, what was your feelings one day when your father came home to your mother in open broad daylight, of itself an act of Madness on the part of a Waiter, and took to his bed (leastwise, your mother and family's bed), with the statement that his eyes were devilled kidneys. Physicians being in vain, your father expired, after repeating at intervals for a day and a night, when gleams of reason and old business fitfully illuminated his being, "Two and two is five. And three is sixpence." Interred in the parochial department of the neighbouring churchyard, and accompanied to the grave by as many Waiters of long standing as could spare the morning time from their soiled glasses (namely, one), your bereaved form was attired in a white neckaneker [sic], and you was took on from motives of benevolence at The George and Gridiron, theatrical and supper. Here, supporting nature on what you found in the plates(which was as it happened, and but too often thoughtlessly, immersed in mustard), and on what you found in the glasses (which rarely went beyond driblets and lemon), by night you dropped asleep standing, till you was cuffed awake, and by day was set to polishing every individual article in the coffee-room. Your couch being sawdust; your counterpane being ashes of cigars. Here, frequently hiding a heavy heart under the smart tie of your white neck ankecher (or correctly speaking lower down and more to the left), you picked up the rudiments of knowledge from an extra, by the name of Bishops, and by calling plate-washer, and gradually elevating your mind with chalk on the back of the corner-box partition, until such time as you used the inkstand when it was out of hand, attained to manhood, and to be the Waiter that you find yourself.

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All of the following may indicate why the author states the father coming home is an "act of Madness" in 2nd paragraph EXCEPT:

- A. it is broad daylight and not a visit under the shroud of darkness.
- B. it is during the day when he should be working.
- C. he risks exposing that he has a wife and family.
- D. it is likely someone will find out who he really is.
- E. it is feasible that he will cause the son to lose his job.

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

All of the choices indicate some risk that has been previously set out by the author in leading up to this moment. In fact, the author purposely gives us adequate information such that without it being specifically stated, we would wonder what his thinking is coming home to his family's house during broad daylight. There is no information, suggesting that the son would lose his job.

#### QUESTION 741

But the Dust-Bin was going down then, and your father took but little, excepting from a liquid point of view. Your mother's object in those visits was of a house-keeping character, and you was set on to whistle your father out. Sometimes he came out, but generally not. Come or not come, however, all that part of his existence which was unconnected with open Waitering was kept a close secret, and was acknowledged by your mother to be a close secret, and you and your mother flitted about the court, close secrets both of you, and would scarcely have confessed under torture that you know your father, or that your father had any name than Dick (which wasn't his name, though he was never known by any other), or that he had kith or kin or chick or child.

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At this stage of your career, what was your feelings one day when your father came home to your mother in open broad daylight, of itself an act of Madness on the part of a Waiter, and took to his bed (leastwise, your mother and family's bed), with the statement that his eyes were devilled kidneys. Physicians being in vain, your father expired, after repeating at intervals for a day and a night, when gleams of reason and old business fitfully illuminated his being, "Two and two is five. And three is sixpence." Interred in the parochial department of the neighbouring churchyard, and accompanied to the grave by as many Waiters of long standing as could spare the morning time from their soiled glasses (namely, one), your bereaved form was attired in a white neckankecher [sic], and you was took on from motives of benevolence at The George and Gridiron, theatrical and supper. Here, supporting nature on what you found in the plates(which was as it happened, and but too often thoughtlessly, immersed in mustard), and on what you found in the glasses (which rarely went beyond driblets and lemon), by night you dropped asleep standing, till you was cuffed awake, and by day was set to polishing every individual article in the coffee-room. Your couch being sawdust; your counterpane being ashes of cigars. Here, frequently hiding a heavy heart under the smart tie of your white neck ankecher (or correctly speaking lower down and more to the left), you picked up the rudiments of knowledge from an extra, by the name of Bishops, and by calling plate-washer, and gradually elevating your mind with chalk on the back of the corner-box partition, until such time as you used the inkstand when it was out of hand, attained to manhood, and to be the Waiter that you find yourself.

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The use of the term "expired" in 2nd paragraph in lieu of "died" is an example of

- A. litotes.
- B. anaphora.
- C. hyperbole.
- D. understatement.
- E. allegory.

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

This is classic understatement in that the literal sense of what is said falls detectably short of the magnitude of what is being talked about. Litotes, another form of understatement, is not correct because there was no negative relief employed.

#### QUESTION 742

But the Dust-Bin was going down then, and your father took but little, excepting from a liquid point of view. Your mother's object in those visits was of a house-keeping character, and you was set on to whistle your father out. Sometimes he came out, but generally not. Come or not come, however, all that part of his existence which was unconnected with open Waitering was kept a close secret, and was acknowledged by your mother to be a close secret, and you and your mother flitted about the court, close secrets both of you, and would scarcely have confessed under torture that you know your father, or that your father had any name than Dick (which wasn't his name, though he was never known by any other), or that he had kith or kin or chick or child.

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At this stage of your career, what was your feelings one day when your father came home to your mother in open broad daylight, of itself an act of Madness on the part of a Waiter, and took to his bed (leastwise, your mother and family's bed), with the statement that his eyes were devilled kidneys. Physicians being in vain, your father expired, after repeating at intervals for a day and a night, when gleams of reason and old business fitfully illuminated his being, "Two and two is five. And three is sixpence." Interred in the parochial department of the neighbouring churchyard, and accompanied to the grave by as many Waiters of long standing as could spare the morning time from their soiled glasses (namely, one), your bereaved form was attired in a white neckankecher [sic], and you was took on from motives of benevolence at The George and Gridiron, theatrical and supper. Here, supporting nature on what you found in the plates(which was as it happened, and but too often thoughtlessly, immersed in mustard), and on what you found in the glasses (which rarely went beyond driblets and lemon), by night you dropped asleep standing, till you was cuffed awake, and by day was set to polishing every individual article in the coffee-room. Your couch being sawdust; your counterpane being ashes of cigars. Here, frequently hiding a heavy heart under the smart tie of your white neck ankecher (or correctly speaking lower down and more to the left), you picked up the rudiments of knowledge from an extra, by the name of Bishops, and by calling plate-washer, and gradually elevating your mind with chalk on the back of the corner-box partition, until such time as you used the inkstand when it was out of hand, attained to manhood, and to be the Waiter that you find yourself.

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Why does the language "Two and two is five. And three is sixpence" 3rd paragraph illuminate rather than confuse the character of the father on his deathbed?

- A. It is reasonable that a father would be concerned about his family's finances following his death.
- B. It is normal for a dying person to speak of money or fortune upon their deathbed.
- C. It indicates that he wanted his wife and son to be sure to get the money from the compartment.
- D. It was the amount being communicated that should be paid for his burial.
- E. It was his practice the whole of his daily vocation.

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

As a waiter, it would be his job every day to count back change to patrons at the conclusion of each meal. What is a universal truth is that upon one's deathbed, given general circumstances, during times of conscience interludes people often speak in jargon related to their vocations.

#### QUESTION 743

But the Dust-Bin was going down then, and your father took but little, excepting from a liquid point of view. Your mother's object in those visits was of a house-keeping character, and you was set on to whistle your father out. Sometimes he came out, but generally not. Come or not come, however, all that part of his existence which was unconnected with open Waitering was kept a close secret, and was acknowledged by your mother to be a close secret, and you and your mother flitted about the court, close secrets both of you, and would scarcely have confessed under torture that you know your father, or that your father had any name than Dick (which wasn't his name, though he was never known by any other), or that he had kith or kin or chick or child.

Perhaps the attraction of this mystery, combined with your father's having a damp compartment, to himself, behind a leaky cistern, at the Dust Bin, a sort of a cellar compartment, with a sink in it, and a smell, and a plate-rack, and a bottlerack, and three windows that didn't match each other or anything else, and no daylight, caused your young mind to feel convinced that you must grow up to be a Waiter too; but you did feel convinced of it, and so did all your brothers, down to your sister. Every one of you felt convinced that you was born to the Waitering.

At this stage of your career, what was your feelings one day when your father came home to your mother in open broad daylight, of itself an act of Madness on the part of a Waiter, and took to his bed (leastwise, your mother and family's bed), with the statement that his eyes were devilled kidneys. Physicians being in vain, your father expired, after repeating at intervals for a day and a night, when gleams of reason and old business fitfully illuminated his being, "Two and two is five. And three is sixpence." Interred in the parochial department of the neighbouring churchyard, and accompanied to the grave by as many Waiters of long standing as could spare the morning time from their soiled glasses (namely, one), your bereaved form was attired in a white neckankecher [sic], and you was took on from motives of benevolence at The George and Gridiron, theatrical and supper. Here, supporting nature on what you found in the plates(which was as it happened, and but too often thoughtlessly, immersed in mustard), and on what you found in the glasses (which rarely went beyond driblets and lemon), by night you dropped asleep standing, till you was cuffed awake, and by day was set to polishing every individual article in the coffee-room. Your couch being sawdust; your counterpane being ashes of cigars. Here, frequently hiding a heavy heart under the smart tie of your white neck ankecher (or correctly speaking lower down and more to the left), you picked up the rudiments of knowledge from an extra, by the name of Bishops, and by calling plate-washer, and gradually elevating your mind with chalk on the back of the corner-box partition, until such time as you used the inkstand when it was out of hand, attained to manhood, and to be the Waiter that you find yourself.

I could wish here to offer a few respectful words on behalf of the calling so long the calling of myself and family, and the public interest in which is but too often very limited. We are not generally understood. No, we are not. Allowance enough is not made for us. For, say that we ever show a little drooping listlessness of spirits, or what might be termed indifference or apathy. Put it to yourself what would your own state of mind be, if you was one of an enormous family every member of which except you was always greedy, and in a hurry. Put it to yourself that you was regularly replete with animal food at the slack hours of one in the day and again at nine p.m., and that the repleter [sic] you was, the more voracious all your fellow-creatures came in. Put it to yourself that it was your business, when your digestion was well on, to take a personal interest and sympathy in a hundred gentlemen fresh and fresh (say, for the sake of argument, only a hundred), whose imaginations was given up to grease and fat and gravy and melted butter, and abandoned to questioning you about cuts of this, and dishes of that, each of 'em going on as if him and you and the bill of fare was alone in the world.

What is meant by "supporting nature" in the passage?

- A. being an environmentalist
- B. giving to causes of the parish following the death of the father
- C. because the George and Gridiron was an outdoor theatrical and supper establishment
- D. staying alive on what could be scraped from plates and glasses
- E. keeping the cycle of life in balance with working and supplying his mother's needs

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

It would appear that newly hired waiters, which was the case as the George and Gridiron gave him the job out of benevolence upon his father's death, were paid so little that to literally survive, they would support "nature" by eating whatever leftovers could be scraped from plates and glasses of patrons.

#### QUESTION 744

But the Dust-Bin was going down then, and your father took but little, excepting from a liquid point of view. Your mother's object in those visits was of a house-keeping character, and you was set on to whistle your father out. Sometimes he came out, but generally not. Come or not come, however, all that part of his existence which was unconnected with open Waitering was kept a close secret, and was acknowledged by your mother to be a close secret, and you and your mother flitted about the court, close secrets both of you, and would scarcely have confessed under torture that you know your father, or that your father had any name than Dick (which wasn't his name, though he was never known by any other), or that he had kith or kin or chick or child.

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At this stage of your career, what was your feelings one day when your father came home to your mother in open broad daylight, of itself an act of Madness on the part of a Waiter, and took to his bed (leastwise, your mother and family's bed), with the statement that his eyes were devilled kidneys. Physicians being in vain, your father expired, after repeating at intervals for a day and a night, when gleams of reason and old business fitfully illuminated his being, "Two and two is five.

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Which selection best describes the overall purpose of the author in 1st two paragraphs?

- A. to establish how the main character became a waiter
- B. to establish that the life of a waiter was harsh
- C. to illuminate the lifestyle of a waiter during the time of this writing
- D. to share the hardships of the wife of a waiter
- E. to offer some explanation as to the secrecy shrouding the father

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The entire section identified either the mysterious lifestyle that enticed the main character into becoming a waiter, explained how he got the job following his father's death, or gave insights as to his lifestyle as a waiter. All of the information provided by the author was to establish the reasoning and experiences of this character.

#### QUESTION 745

But the Dust-Bin was going down then, and your father took but little, excepting from a liquid point of view. Your mother's object in those visits was of a house-keeping character, and you was set on to whistle your father out. Sometimes he came out, but generally not. Come or not come, however, all that part of his existence which was unconnected with open Waitering was kept a close secret, and was acknowledged by your mother to be a close secret, and you and your mother flitted about the court, close secrets both of you, and would scarcely have confessed under torture that you know your father, or that your father had any name than Dick (which wasn't his name, though he was never known by any other), or that he had kith or kin or chick or child.

Perhaps the attraction of this mystery, combined with your father's having a damp compartment, to himself, behind a leaky cistern, at the Dust Bin, a sort of a cellar compartment, with a sink in it, and a smell, and a plate-rack, and a bottlerack, and three windows that didn't match each other or anything else, and no daylight, caused your young mind to feel convinced that you must grow up to be a Waiter too; but you did feel convinced of it, and so did all your brothers, down to your sister. Every one of you felt convinced that you was born to the Waitering.

At this stage of your career, what was your feelings one day when your father came home to your mother in open broad daylight, of itself an act of Madness on the part of a Waiter, and took to his bed (leastwise, your mother and family's bed), with the statement that his eyes were devilled kidneys. Physicians being in vain, your father expired, after repeating at intervals for a day and a night, when gleams of reason and old business fitfully illuminated his being, “Two and two is five. And three is sixpence.” Interred in the parochial department of the neighbouring churchyard, and accompanied to the grave by as many Waiters of long standing as could spare the morning time from their soiled glasses (namely, one), your bereaved form was attired in a white neckaneker [sic], and you was took on from motives of benevolence at The George and Gridiron, theatrical and supper. Here, supporting nature on what you found in the plates(which was as it happened, and but too often thoughtlessly, immersed in mustard), and on what you found in the glasses (which rarely went beyond driblets and lemon), by night you dropped asleep standing, till you was cuffed awake, and by day was set to polishing every individual article in the coffee-room. Your couch being sawdust; your counterpane being ashes of cigars. Here, frequently hiding a heavy heart under the smart tie of your white neck ankecher (or correctly speaking lower down and more to the left), you picked up the rudiments of knowledge from an extra, by the name of Bishops, and by calling plate-washer, and gradually elevating your mind with chalk on the back of the corner-box partition, until such time as you used the inkstand when it was out of hand, attained to manhood, and to be the Waiter that you find yourself.

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What term best describes the overall tone toward waiters in this excerpt?

- A. satiric
- B. empathetic
- C. belittling
- D. apologetic
- E. informational



**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Empathetic means experiencing the feelings and thoughts of another. The narrator states he was himself called to be a waiter qualifying him to empathize with the main character.

#### QUESTION 746

The main purpose of this story is to appeal to the reader's interest in a subject which has been the theme of some of the greatest writers, living and dead – but which has never been, and can never be, exhausted, because it is a subject eternally interesting to all mankind. Here is one more book that depicts the struggle of a human creature, under those opposing influences of Good and Evil, which we have all felt, which we have all known.

It has been my aim to make the character of “Magdalen,” which personifies this struggle, a pathetic character even in its perversity and its error; and I have tried hard to attain this result by the least obtrusive and the least artificial of all means – by a resolute adherence throughout to the truth as it is in Nature. This design was no easy one to accomplish; and it has been a great encouragement to me (during the publication of my story in its periodical form) to know, on the authority of many readers, that the object which I had proposed to myself, I might, in some degree, consider as an object achieved.

Round the central figure in the narrative other characters will be found grouped, in sharp contrast – contrast, for the most part, in which I have endeavored to make the element of humor mainly predominant. I have sought to impart this relief to the more serious passages in the book, not only because I believe myself to be justified in doing so by the laws of Art – but because experience has taught me (what the experience of my readers will doubtless confirm) that there is no such moral phenomenon as unmixed tragedy to be found in the world around us. Look where we may, the dark threads and the light cross each other perpetually in the texture of human life.

What selection best identifies the device utilized as a whole in the opening first paragraph?

- A. allegory
- B. rhetorical question
- C. allusion
- D. epic
- E. antagonist

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The author is presenting an allusion to the Garden of Evil wherein the age-old battle of Good versus Evil had its origins.

#### QUESTION 747

The main purpose of this story is to appeal to the reader's interest in a subject which has been the theme of some of the greatest writers, living and dead – but which has never been, and can never be, exhausted, because it is a subject eternally interesting to all mankind. Here is one more book that depicts the struggle of a human creature, under those opposing influences of Good and Evil, which we have all felt, which we have all known.

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Which word best describes the meaning of “personifies” in 1st paragraph?

- A. contains the qualities of goodness
- B. represents as a human being
- C. embodies the basic evil within
- D. takes on the characteristics of a pathetic character
- E. exemplifies perversity

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Personifies” effectively is a personification wherein someone or thing (in this case Magdalen), represents as a human being this struggle between Good and Evil.

**QUESTION 748**

The main purpose of this story is to appeal to the reader’s interest in a subject which has been the theme of some of the greatest writers, living and dead – but which has never been, and can never be, exhausted, because it is a subject eternally interesting to all mankind. Here is one more book that depicts the struggle of a human creature, under those opposing influences of Good and Evil, which we have all felt, which we have all known.

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What does the author likely mean when he writes, “truth as it is in Nature” in 2nd paragraph?

- A. Natural things do not always appear as they seem.
- B. Nature changes often as does the character in the story.
- C. No matter what, Magdalen will be truthful.
- D. The struggle of Good and Evil as embodied by Nature is truth.
- E. Good and Evil are presented through Magdalen in her Natural characterization.

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Here, the author is saying that as the struggle was established in the beginning of time and has manifested itself throughout the ages in Nature, the struggle is a basic truth of nature.

**QUESTION 749**

The main purpose of this story is to appeal to the reader’s interest in a subject which has been the theme of some of the greatest writers, living and dead – but which has never been, and can never be, exhausted, because it is a subject eternally interesting to all mankind. Here is one more book that depicts the struggle of a human creature, under those opposing influences of Good and Evil, which we have all felt, which we have all known.

It has been my aim to make the character of “Magdalen,” which personifies this struggle, a pathetic character even in its perversity and its error; and I have tried hard to attain this result by the least obtrusive and the least artificial of all means – by a resolute adherence throughout to the truth as it is in Nature. This design was no easy one to accomplish; and it has been a great encouragement to me (during the publication of my story in its periodical form) to know, on the authority of many readers, that the object which I had proposed to myself, I might, in some degree, consider as an object achieved.

Round the central figure in the narrative other characters will be found grouped, in sharp contrast – contrast, for the most part, in which I have endeavored to make the element of humor mainly predominant. I have sought to impart this relief to the more serious passages in the book, not only because I believe myself to be justified in doing so by the laws of Art – but because experience has taught me (what the experience of my readers will doubtless confirm) that there is no such moral phenomenon as unmixed tragedy to be found in the world around us. Look where we may, the dark threads and the light cross each other perpetually in the texture of human life.

Why does the author believe he is justified in using humor in the work being referenced?

- A. only because it is his artistic freedom to do so
- B. because this art must represent life and life is humorous
- C. because there are no pure lines between Good and Evil or humor and tragedy
- D. because the human characteristics of Magdalen have to show both sides of humanity to be truly representative and accepted as realistic by the readerE. just to show that he can master both the serious and humorous aspects of writing and to do so in a singular work is commendable

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The author tells us that he believes that “there is no such moral phenomenon as unmixed tragedy to be found in the world around us” meaning that there are no pure lines between Good and Evil or humor and tragedy.

**QUESTION 750**

The main purpose of this story is to appeal to the reader's interest in a subject which has been the theme of some of the greatest writers, living and dead – but which has never been, and can never be, exhausted, because it is a subject eternally interesting to all mankind. Here is one more book that depicts the struggle of a human creature, under those opposing influences of Good and Evil, which we have all felt, which we have all known.

It has been my aim to make the character of “Magdalen,” which personifies this struggle, a pathetic character even in its perversity and its error; and I have tried hard to attain this result by the least obtrusive and the least artificial of all means – by a resolute adherence throughout to the truth as it is in Nature. This design was no easy one to accomplish; and it has been a great encouragement to me (during the publication of my story in its periodical form) to know, on the authority of many readers, that the object which I had proposed to myself, I might, in some degree, consider as an object achieved.

Round the central figure in the narrative other characters will be found grouped, in sharp contrast – contrast, for the most part, in which I have endeavored to make the element of humor mainly predominant. I have sought to impart this relief to the more serious passages in the book, not only because I believe myself to be justified in doing so by the laws of Art – but because experience has taught me (what the experience of my readers will doubtless confirm) that there is no such moral phenomenon as unmixed tragedy to be found in the world around us. Look where we may, the dark threads and the light cross each other perpetually in the texture of human life.

Which selection best identifies the device used in the phrase “the dark threads and the light cross each other perpetually in the texture of human life” at the end of 3rd paragraph?

- A. alliteration
- B. allusion
- C. allegory
- D. simile
- E. metaphor

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The phrase, “the dark threads and the light cross each other perpetually in the texture of human life” is a metaphor for the mixing and intertwining of Good and Evil across the impure lines as they present themselves through Nature.

#### QUESTION 751

The main purpose of this story is to appeal to the reader's interest in a subject which has been the theme of some of the greatest writers, living and dead – but which has never been, and can never be, exhausted, because it is a subject eternally interesting to all mankind. Here is one more book that depicts the struggle of a human creature, under those opposing influences of Good and Evil, which we have all felt, which we have all known.

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What is the overall purpose of this passage?

- A. to explain the balance in Nature between Good and Evil
- B. to identify the character of Magdalen as possessing Natural characteristics
- C. to introduce the reader to a new work and explain his artistic rationale
- D. to delineate the significance of the age-old battle between Good and Evil
- E. to dimension the similarities between humor and tragedy

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The author is taking an opportunity to explain to his readers directly as to why he has taken a particular approach to this new undertaking and explain his rationale for how he developed this main character, Magdalen.

#### QUESTION 752

In compliance with the request of a friend of mine, who wrote me from the East, I called on good-natured, garrulous old Simon Wheeler, and inquired after my friend's friend, Leonidas W. Smiley, as requested to do, and I hereunto append the result. I have a lurking suspicion that Leonidas W. Smiley is a myth; that my friend never knew such a personage; and that he only conjectured that, if I asked old Wheeler about him, it would remind him of his infamous Jim Smiley, and he would go to work and bore me nearly to death with some infernal reminiscence of him as long and tedious as it should be useless to me. If that was the design, it certainly succeeded.

I found Simon Wheeler dozing comfortably by the barroom stove of the old, dilapidated tavern in the ancient mining camp of Angel's, and I noticed that he was fat and bald-headed, and had an expression of winning gentleness and simplicity upon his tranquil countenance. He roused up and gave me good-day. I told him a friend of mine had commissioned me to make some inquiries about a cherished companion of his boyhood named Leonidas W.

Smiley – Rev. Leonidas W. Smiley – a young minister of the Gospel, who he had heard was at one time a resident of Angel's Camp. I added that, if Mr. Wheeler could tell me anything about this Rev. Leonidas W. Smiley, I would feel under many obligations to him.

In context, the word “garrulous” in 1st paragraph most nearly means

- A. rich.
- B. friendly.
- C. talkative.
- D. rotund.
- E. flamboyant.

**Correct Answer: C**

**Section: Reading**

**Explanation**

**Explanation/Reference:**

Explanation:

We can look at a variety of context clues to figure out this simple vocabulary question. We are forewarned by the author that he suspects there to be a consequence of a long, drawn-out storytelling; the narrator even tells us that it did, in fact, happen as he had suspected. We know through reading that Wheeler was then talkative.

#### QUESTION 753

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Smiley – Rev. Leonidas W. Smiley – a young minister of the Gospel, who he had heard was at one time a resident of Angel's Camp. I added that, if Mr. Wheeler could tell me anything about this Rev. Leonidas W. Smiley, I would feel under many obligations to him.

What can we infer about what the author thinks of his friend from the East by the statement, “I have a lurking suspicion that Leonidas W. Smiley is a myth” 1st paragraph?

- A. His friend is mistaken about the existence of Smiley.
- B. His friend may be playing a practical joke on him.
- C. He believes his friend wants revenge for some earlier misgivings.
- D. His friend knows that Smiley and he will strike a friendship.
- E. Smiley will, as a result of his friend referring him, will show him a rousing good time.

**Correct Answer: B**

**Section: Reading**

**Explanation**

**Explanation/Reference:**

Explanation:

It appears from the language that our narrator has a fair amount of disbelief about what he is being told by his friend from the East. In fact, as he doubts the existence of the individual in question, it is reasonable to infer he believes his friend from the East is playing a practical joke on him.

#### QUESTION 754

In compliance with the request of a friend of mine, who wrote me from the East, I called on good-natured, garrulous old Simon Wheeler, and inquired after my friend's friend, Leonidas W. Smiley, as requested to do, and I hereunto append the result. I have a lurking suspicion that Leonidas W. Smiley is a myth; that my friend never knew such a personage; and that he only conjectured that, if I asked old Wheeler about him, it would remind him of his infamous Jim Smiley, and he would go to work and bore me nearly to death with some infernal reminiscence of him as long and tedious as it should be useless to me. If that was the design, it certainly succeeded.

I found Simon Wheeler dozing comfortably by the barroom stove of the old, dilapidated tavern in the ancient mining camp of Angel's, and I noticed that he was fat and bald-headed, and had an expression of winning gentleness and simplicity upon his tranquil countenance. He roused up and gave me good-day. I told him a friend of mine had commissioned me to make some inquiries about a cherished companion of his boyhood named Leonidas W.

Smiley – Rev. Leonidas W. Smiley – a young minister of the Gospel, who he had heard was at one time a resident of Angel's Camp. I added that, if Mr. Wheeler could tell me anything about this Rev. Leonidas W. Smiley, I would feel under many obligations to him.

What information does the narrator relate prior to the retelling of the meeting of Simon Wheeler?



- A. The story likely to be heard would feasibly be boring and long.
- B. The information he might hear would be of no general interest to him.
- C. Any story he might hear from Wheeler would likely be long.
- D. It was a fact that all his suspicions regarding Wheeler proved true.
- E. Somehow there might be a story about Jim Smiley to be perhaps told by Wheeler.

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

All of the choices other than D speak of maybe or might. The narrator point-blank tells the reader that his suspicions regarding Wheeler did prove true.

#### QUESTION 755

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What is the significance of the information “he was fat and bald-headed, and had an expression of winning gentleness and simplicity upon his tranquil countenance” in 2nd paragraph to the narrator?

- A. The narrator was hesitant about meeting someone unknown and his countenance settled his nerves.
- B. Wheeler's unassuming nature allowed the narrator to let his guard down to Wheeler's garrulous side.
- C. This made the narrator feel reassured that his friend from the East was serious.
- D. This allowed the narrator to be reassured due to Wheeler's “tranquil countenance.”
- E. Wheeler's winning gentleness calmed the narrator allowing an open discussion as to his business.



**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

We are not given to believe that the narrator was at all concerned about the character of the stranger he was to solicit, but he did have concerns regarding the outcome of their meeting. The tranquil countenance and overall good-natured presentation would allow the narrator to be less apprehensive about being lured into long, boring, irrelevant stories. . .but alas.

#### QUESTION 756

He was a uncommon small man, he really was. Certainly not so small as he was made out to be, but where IS your Dwarf as is? He was a most uncommon small man, with a most uncommon large Ed; and what he had inside that Ed, nobody ever known but himself: even supposing himself to have ever took stock of it, which it would have been a stiff job for even him to do.

The kindest little man as never grown! Spirited, but not proud. When he travelled with the Spotted Baby though he knew himself to be a natural Dwarf, and knew the Baby's spots to be put upon him artificial, he nursed that Baby like a mother.

You never heard him give a ill-name to a Giant. He DID allow himself to break out into strong language respecting the Fat Lady from Norfolk; but that was an affair of the 'art; and when a man's 'art has been trifled with by a lady, and the preference give to a Indian, he isn't master of his actions.

He was always in love, of course; every human natural phenomenon is. And he was always in love with a large woman; I never known the Dwarf as could be got to love a small one. Which helps to keep 'em the Curiosities they are.

One single idea he had in that Ed of his, which must have meant something, or it wouldn't have been there. It was always his opinion that he was entitled to property. He never would put his name to anything. He had been taught to write, by the young man without arms, who got his living with his toes (quite a writing master HE was, and taught scores in the line), but Chops would have starved to death, afore he'd have gained a bit of bread by putting his hand to a paper. This is the more curious to bear in mind, because HE had no property, nor hope of property, except his house and a sarsen. When I say his house, I mean the box, painted and got up outside like a regular six-roomer, that he used to creep into, with a diamond ring (or quite as good to look at) on his forefinger, and ring a little bell out of what the Public believed to be the Drawing-room winder. And when I say a sarsen, I mean a Chaney sarsen in which he made a collection for himself at the end of every Entertainment. His cue for that, he took from me: “Ladies and gentlemen, the little man will now walk three times round the Cairawan, and retire behind the curtain.” When he said anything important, in private life, he mostly wound it up with this form of words, and they was generally the last thing he said to me at night afore he went to bed.

He had what I consider a fine mind – a poetic mind. His ideas respecting his property never come upon him so strong as when he sat upon a barrel-organ and had the handle turned. Arter the vibration had run through him a little time, he would screech out, “Toby, I feel my property coming – grind away! I'm counting my guineas by thousands, Toby – grind away! Toby, I shall be a man of fortune! I feel the Mint a jingling in me, Toby, and I'm swelling out into the Bank of England!” Such is the influence of music on a poetic mind. Not that he was partial to any other music but a barrel-organ; on the contrary, hated it.

He had a kind of a everlasting grudge aging the Public: which is a thing you may notice in many phenomenon that get their living out of it. What riled him most in the nature of his occupation was, that it kept him out of Society. He was continually saying, “Toby, my ambition is, to go into Society. The curse of my position towards the Public is, that it keeps me out of Society. This doesn’t signify to a low beast of a Indian; he isn’t formed for Society. This doesn’t signify to a Spotted Baby; HE isn’t formed for Society. I am.”

Which best depicts the type of writing represented by this excerpt?

- A. informational
- B. persuasive
- C. argumentative
- D. interrogatory
- E. expository

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The style is expository in that it is telling a story. Although the piece may qualify as a social commentary, so far as the excerpt is concerned, expository is the best choice.

#### QUESTION 757

He was a uncommon small man, he really was. Certainly not so small as he was made out to be, but where IS your Dwarf as is? He was a most uncommon small man, with a most uncommon large Ed; and what he had inside that Ed, nobody ever known but himself: even supposing himself to have ever took stock of it, which it would have been a stiff job for even him to do.

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For what purpose does the narrator most likely describe the Dwarf’s character in 2nd and 3rd paragraph?

- A. establishes the character as being quite normal save for size
- B. establishes the character has a temper when it comes to love
- C. establishes the character has ability to fall in love
- D. establishes the character as a kind individual
- E. establishes the character as rather proud that his phenomenon is authentic

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

This section of the passage established most of the selections available, but collectively they establish that save for size, the Dwarf is in every way normal, even in affairs of the heart.

#### QUESTION 758

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What is the likely connection with property and belonging to society from the Dwarf's perspective?

- A. Owning property establishes a certain independence and freedoms not enjoyed by a phenomenon.
- B. Belonging to society provides one the opportunity to acquire property.
- C. Gaining enough wealth allows one to acquire property and property establishes one as a member of society.
- D. Joining society is predicated upon owning or being able to acquire property and earnings derived from a phenomenon performer will provide that opportunity shortly.
- E. The diamond ring or look alike exemplifies the property noted which is but a beginning to becoming a member of society.

**Correct Answer: C**

**Section: Reading**

**Explanation**

**Explanation/Reference:**

Explanation:

The link between property and belonging to society becomes more clear later in the passage as the Dwarf interchanges property and guineas, fortune, and Mint. Clearly, his predisposition to money is established as he collects incremental monies from the crowd, places the money in a sarsen in his house, and doesn't spend it on anything except an ample supply of food. As money is seen as the avenue to property, property assigns rights to societal membership.

#### QUESTION 759

He was a uncommon small man, he really was. Certainly not so small as he was made out to be, but where IS your Dwarf as is? He was a most uncommon small man, with a most uncommon large Ed; and what he had inside that Ed, nobody ever known but himself: even supposing himself to have ever took stock of it, which it would have been a stiff job for even him to do.

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The phrase "He had been taught to write, by the young man without arms" 4th paragraph" is an example of

- A. euphemism.

- B. allusion.
- C. rhetoric.
- D. irony.
- E. exposition.

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Clearly the fact that the Dwarf was taught to write by someone without arms qualifies as irony. None of the other devices approach legitimacy.

#### QUESTION 760

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The kindest little man as never grown! Spirited, but not proud. When he travelled with the Spotted Baby though he knew himself to be a natural Dwarf, and knew the Baby's spots to be put upon him artificial, he nursed that Baby like a mother. You never heard him give a ill-name to a Giant. He DID allow himself to break out into strong language respecting the Fat Lady from Norfolk; but that was an affair of the 'art; and when a man's 'art has been trifled with by a lady, and the preference give to a Indian, he isn't master of his actions.

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Which selection best interprets "Chops would have starved to death, afore he'd have gained a bit of bread by putting his hand to a paper" 4th paragraph

- A. He would starve before he would accept charity from anyone.
- B. He would starve before he would agree to anything.
- C. He would starve before signing a performance contract as a phenomenon.
- D. He would starve before borrowing money to buy bread.
- E. He would starve before wrapping paper around food showing distrust in the preparation of same.

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

This choice follows the overall theme of the excerpt. Given the propensity to save money by the Dwarf, it is well in keeping with his character that he would not borrow money, even if it meant going hungry. This would only put further from reach his securing sufficient property or fortune to be able to join society.

#### QUESTION 761

He was a uncommon small man, he really was. Certainly not so small as he was made out to be, but where IS your Dwarf as is? He was a most uncommon small man, with a most uncommon large Ed; and what he had inside that Ed, nobody ever known but himself: even supposing himself to have ever took stock of it, which it would have been a stiff job for even him to do.

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Which of the selections is the best indicator of the closeness of Toby to the Dwarf?

- A. Toby was the grinder of the barrel-organ.
- B. The Dwarf used Toby's closing line following his performances.
- C. Toby knew of his desires to join society.
- D. Toby knew of his sarsen where the Dwarf kept his collection.
- E. Toby was the last one the Dwarf spoke to before going to bed.

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

We are told "and they was generally the last thing he said to me at night afore he went to bed," which indicates that Toby was likely the last person the Dwarf was with nightly, creating a bond more significant than any other.

#### QUESTION 762

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The kindest little man as never grown! Spirited, but not proud. When he travelled with the Spotted Baby though he knew himself to be a natural Dwarf, and knew the Baby's spots to be put upon him artificial, he nursed that Baby like a mother. You never heard him give a ill-name to a Giant. He DID allow himself to break out into strong language respecting the Fat Lady from Norfolk; but that was an affair of the 'art; and when a man's 'art has been trifled with by a lady, and the preference give to a Indian, he isn't master of his actions.

He was always in love, of course; every human natural phenomenon is. And he was always in love with a large woman; I never known the Dwarf as could be got to love a small one. Which helps to keep 'em the Curiosities they are.

One single idea he had in that Ed of his, which must have meant something, or it wouldn't have been there. It was always his opinion that he was entitled to property. He never would put his name to anything. He had been taught to write, by the young man without arms, who got his living with his toes (quite a writing master HE was, and taught scores in the line), but Chops would have starved to death, afore he'd have gained a bit of bread by putting his hand to a paper. This is the more curious to bear in mind, because HE had no property, nor hope of property, except his house and a sarsen. When I say his house, I mean the box, painted and got up outside like a regular six-roomer, that he used to creep into, with a diamond ring (or quite as good to look at) on his forefinger, and ring a little bell out of what the Public believed to be the Drawing-room winder. And when I say a sarsen, I mean a Chaney sarsen in which he made a collection for himself at the end of every Entertainment. His cue for that, he took from me: "Ladies and gentlemen, the little man will now walk three times round the Cairawan, and retire behind the curtain." When he said anything important, in private life, he mostly wound it up with this form of words, and they was generally the last thing he said to me at night afore he went to bed.

He had what I consider a fine mind – a poetic mind. His ideas respecting his property never come upon him so strong as when he sat upon a barrel-organ and had the handle turned. Arter the vibration had run through him a little time, he would screech out, "Toby, I feel my property coming – grind away! I'm counting my guineas by thousands, Toby – grind away! Toby, I shall be a man of fortune! I feel the Mint a jingling in me, Toby, and I'm swelling out into the Bank of England!" Such is the influence of music on a poetic mind. Not that he was partial to any other music but a barrel-organ; on the contrary, hated it.

He had a kind of a everlasting grudge aging the Public: which is a thing you may notice in many phenomenon that get their living out of it. What riled him most in the nature of his occupation was, that it kept him out of Society. He was continually saying, "Toby, my ambition is, to go into Society. The curse of my position towards the Public is, that it keeps me out of Society. This doesn't signify to a low beast of a Indian; he isn't formed for Society. This doesn't signify to a Spotted Baby; HE isn't formed for Society. I am."

Which is the most likely reason for the author to include the paragraph concerning the barrel-organ in 5th paragraph?

- A. shows a personal side of the two characters other than performers
- B. allows the reader to better understand the relationship between the two characters
- C. establishes societal qualifications of the Dwarf related to poetry and music
- D. qualifies the strength of the Dwarf's desire and preoccupation with fortune
- E. provides a comic relief from the seriousness and somberness of the rest of the excerpt

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Each choice holds some truth and rationale for the inclusion of this paragraph. The reason Choice C is the best selection is because it matches the overall thought line of the excerpt. Every quality and motivation in all other parts of the excerpt are directed at the establishment of the Dwarf's qualifications to enter society, with the exception of property. This paragraph serves the same purpose in as much as it qualifies that the Dwarf has a poetical mind, certainly something a gentleman of society would possess. It also establishes that he enjoys music, albeit only barrel-organ music the fact of which might be overlooked given the likelihood that this was the only type music generally available to a traveling carnival.

#### QUESTION 763

He was a uncommon small man, he really was. Certainly not so small as he was made out to be, but where IS your Dwarf as is? He was a most uncommon small man, with a most uncommon large Ed; and what he had inside that Ed, nobody ever known but himself: even supposing himself to have ever took stock of it, which it would have been a stiff job for even him to do.

The kindest little man as never grown! Spirited, but not proud. When he travelled with the Spotted Baby though he knew himself to be a natural Dwarf, and knew the Baby's spots to be put upon him artificial, he nursed that Baby like a mother. You never heard him give a ill-name to a Giant. He DID allow himself to break out into strong language respecting the Fat Lady from Norfolk; but that was an affair of the 'art; and when a man's 'art has been trifled with by a lady, and the preference give to a Indian, he isn't master of his actions.

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Which selection best represents the device displayed in the overall excerpts but especially summated in the last paragraph in last paragraph?

- A. allegory
- B. allusion
- C. paradox
- D. epic
- E. choral

**Correct Answer: C**

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

As the title Going Into Society indicates, the entire motivation for saving money, obtaining property is to pave the way for joining society. The paradox is that the methodology by which he is able to over time obtain property is the very thing that keeps him out of society – his being a phenomenon.

#### QUESTION 764

He was a uncommon small man, he really was. Certainly not so small as he was made out to be, but where IS your Dwarf as is? He was a most uncommon small man, with a most uncommon large Ed; and what he had inside that Ed, nobody ever known but himself: even supposing himself to have ever took stock of it, which it would have been a stiff job for even him to do.

The kindest little man as never grown! Spirited, but not proud. When he travelled with the Spotted Baby though he knew himself to be a natural Dwarf, and knew the Baby's spots to be put upon him artificial, he nursed that Baby like a mother. You never heard him give a ill-name to a Giant. He DID allow himself to break out into strong language respecting the Fat Lady from Norfolk; but that was an affair of the 'art; and when a man's 'art has been trifled with by a lady, and the preference give to a Indian, he isn't master of his actions.

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One single idea he had in that Ed of his, which must have meant something, or it wouldn't have been there. It was always his opinion that he was entitled to property. He never would put his name to anything. He had been taught to write, by the young man without arms, who got his living with his toes (quite a writing master HE was, and taught scores in the line), but Chops would have starved to death, afore he'd have gained a bit of bread by putting his hand to a paper. This is the more curious to bear in mind, because HE had no property, nor hope of property, except his house and a sarsen. When I say his house, I mean the box, painted and got up outside like a regular six-roomer, that he used to creep into, with a diamond ring (or quite as good to look at) on his forefinger, and ring a little bell out of what the Public believed to be the Drawing-room winder. And when I say a sarsen, I mean a Chaney sarsen in which he made a collection for himself at the

end of every Entertainment. His cue for that, he took from me: “Ladies and gentlemen, the little man will now walk three times round the Cairawan, and retire behind the curtain.” When he said anything important, in private life, he mostly wound it up with this form of words, and they was generally the last thing he said to me at night afore he went to bed.

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Which of the selections best describes the general commentary on society represented in this excerpt?

- A. Society supports the acceptance of those outside their established parameter.
- B. Those in a minority position may expect to be accepted into society.
- C. After the attributes of society are acquired, including property, anyone may be accepted into society.
- D. Efforts to join society, though arduous, are readily achievable to those in minority.
- E. Societal norms errantly exclude any deviation to that established norm.

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

We clearly need to look for a negative here. By virtue, the carnival of phenomenon exists is a negative commentary on society and the values established by those so-called norms. Choice E is the only negative qualifier that represents this position.

#### QUESTION 765

He was a uncommon small man, he really was. Certainly not so small as he was made out to be, but where IS your Dwarf as is? He was a most uncommon small man, with a most uncommon large Ed; and what he had inside that Ed, nobody ever known but himself: even supposing himself to have ever took stock of it, which it would have been a stiff job for even him to do.

The kindest little man as never grown! Spirited, but not proud. When he travelled with the Spotted Baby though he knew himself to be a natural Dwarf, and knew the Baby’s spots to be put upon him artificial, he nursed that Baby like a mother. You never heard him give a ill-name to a Giant. He DID allow himself to break out into strong language respecting the Fat Lady from Norfolk; but that was an affair of the ‘art; and when a man’s ‘art has been trifled with by a lady, and the preference give to a Indian, he isn’t master of his actions.

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Which of the selections would make the best alternative title for this work?

- A. Society Bound
- B. The Unworthy Society
- C. The Journey into Society
- D. The Preoccupation with Society
- E. Property and Society

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

As the overall theme is the negative commentary on society and the virtues of the Dwarf, “The Unworthy Society” appropriately encapsulates this representation.

**QUESTION 766**

Sir Giles’s irritating reserve, not even excused by a word of apology, reached the limits of his endurance. He respectfully protested. “I regret to find, sir,” he said, “that I have lost my place in my employer’s estimation. The man to whom you confide the superintendence of your clerks and the transaction of your business has, I venture to think, some claim (under the present circumstances) to be trusted.” The banker was now offended on his side.

“I readily admit your claim,” he answered, “when you are sitting at your desk in my office. But, even in these days of strikes, co-operations, and bank holidays, an employer has one privilege left – he has not ceased to be a Man, and he has not forfeited a man’s right to keep his own secrets. I fail to see anything in my conduct which has given you just reason to complain.” Dennis, rebuked, made his bow in silence, and withdrew.

Did these acts of humility mean that he submitted? They meant exactly the contrary. He had made up his mind that Sir Giles Mountjoy’s motives should, sooner or later, cease to be mysteries to Sir Giles Mountjoy’s clerk. In

context, the words “irritating reserve” in first paragraph is best represented by the word

- A. anguish.
- B. tolerance.
- C. perturbation.
- D. patience.
- E. level of resistance

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

When Dennis’ patience ran out, he protested.

**QUESTION 767**

Sir Giles’s irritating reserve, not even excused by a word of apology, reached the limits of his endurance. He respectfully protested. “I regret to find, sir,” he said, “that I have lost my place in my employer’s estimation. The man to whom you confide the superintendence of your clerks and the transaction of your business has, I venture to think, some claim (under the present circumstances) to be trusted.” The banker was now offended on his side.

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Did these acts of humility mean that he submitted? They meant exactly the contrary. He had made up his mind that Sir Giles Mountjoy’s motives should, sooner or later, cease to be mysteries to Sir Giles Mountjoy’s clerk.

Which selection best describes the overall feeling expressed by Sir Giles in 2nd paragraph?

- A. He appreciates that as a valued employee, Dennis has a right to question his employer.
- B. Because of the right to strike, Dennis is perfectly justified in his query.
- C. Just because the employer/employee relationship has deteriorated due to employee rights, an employee still does not have the right to know all that is in an employers mind even if it doesn’t have to do with work specifically.
- D. He is very upset that business is not run as it used to be what with all the changes to appease the employee such as the right to strike, form unions, and have holidays from work.
- E. He is appalled that Dennis would even question him because he is not behind his desk at work.

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

It is clear that as a business owner, Sir Giles is not pleased with the current state of affairs as it relates to all of the concessions yielded by employers to employees. Employees now have the right to strike, form unions, and they are given holidays from work, clearly felt by Sir Giles to be the early stages of the absolute decline of commerce as it was once known.

**QUESTION 768**

Sir Giles’s irritating reserve, not even excused by a word of apology, reached the limits of his endurance. He respectfully protested. “I regret to find, sir,” he said, “that I have lost my place in my employer’s estimation. The man to whom you confide the superintendence of your clerks and the transaction of your business has, I venture to think, some claim (under the present circumstances) to be trusted.” The banker was now offended on his side.

“I readily admit your claim,” he answered, “when you are sitting at your desk in my office. But, even in these days of strikes, co-operations, and bank holidays, an employer has one privilege left – he has not ceased to be a Man, and he has not forfeited a man’s right to keep his own secrets. I fail to see anything in my conduct which has given you just reason to complain.” Dennis, rebuked, made his bow in silence, and withdrew.



Did these acts of humility mean that he submitted? They meant exactly the contrary. He had made up his mind that Sir Giles Mountjoy's motives should, sooner or later, cease to be mysteries to Sir Giles Mountjoy's clerk. In

context, the word “rebuked” is best represented by

- A. courteously disagreed.
- B. genuinely dissuaded.
- C. promptly challenged.
- D. cautiously opposed.
- E. sharply reprimanded.

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

To “rebuke” someone is to sharply reprimand them. Although the language used would not be considered particularly cutting today, the language and diction used place this excerpt some years back when conversation was more genteel, and the affront by Sir Giles to Dennis would have been scathing.

#### QUESTION 769

Sir Giles's irritating reserve, not even excused by a word of apology, reached the limits of his endurance. He respectfully protested. “I regret to find, sir,” he said, “that I have lost my place in my employer's estimation. The man to whom you confide the superintendence of your clerks and the transaction of your business has, I venture to think, some claim (under the present circumstances) to be trusted.” The banker was now offended on his side.

“I readily admit your claim,” he answered, “when you are sitting at your desk in my office. But, even in these days of strikes, co-operations, and bank holidays, an employer has one privilege left – he has not ceased to be a Man, and he has not forfeited a man's right to keep his own secrets. I fail to see anything in my conduct which has given you just reason to complain.” Dennis, rebuked, made his bow in silence, and withdrew.

Did these acts of humility mean that he submitted? They meant exactly the contrary. He had made up his mind that Sir Giles Mountjoy's motives should, sooner or later, cease to be mysteries to Sir Giles Mountjoy's clerk.

Which selection identifies the device exemplified with “Did these acts of humility mean that he submitted?” last paragraph?

- A. curio
- B. query
- C. submission
- D. rhetorical question
- E. obviate information

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The question asked that there is already a known answer to is considered rhetorical as it is unnecessary and usually used in literature for effect.

#### QUESTION 770

The spring is fairly with us now. Outside my laboratory window the great chestnut-tree is all covered with the big, glutinous, gummy buds, some of which have already begun to break into little green shuttlecocks. As you walk down the lanes you are conscious of the rich, silent forces of nature working all around you. The wet earth smells fruitful and luscious. Green shoots are peeping out everywhere. The twigs are stiff with their sap; and the moist, heavy English air is laden with a faintly resinous perfume. Buds in the hedges, lambs beneath them – everywhere the work of reproduction going forward!

I can see it without, and I can feel it within. We also have our spring when the little arterioles dilate, the lymph flows in a brisker stream, the glands work harder, winnowing and straining. Every year nature readjusts the whole machine. I can feel the ferment in my blood at this very moment, and as the cool sunshine pours through my window I could dance about in it like a gnat. So I should, only that Charles Sadler would rush upstairs to know what the matter was. Besides, I must remember that I am Professor Gilroy. An old professor may afford to be natural, but when fortune has given one of the first chairs in the university to a man of four-and-thirty he must try and act the part consistently.

In context, the word “glutinous” most nearly means?

- A. hungry.
- B. fertile.
- C. sticky.
- D. large.
- E. bloated.

**Correct Answer:** C  
**Section:** Reading  
**Explanation**

**Explanation/Reference:**  
Explanation:

The context clue here is just next door. “Gummy buds” is a continuation of the description began with “glutinous” and as we are generally given to know that something “gummy” is sticky, Choice C best fits.

#### QUESTION 771

The spring is fairly with us now. Outside my laboratory window the great chestnut-tree is all covered with the big, glutinous, gummy buds, some of which have already begun to break into little green shuttlecocks. As you walk down the lanes you are conscious of the rich, silent forces of nature working all around you. The wet earth smells fruitful and luscious. Green shoots are peeping out everywhere. The twigs are stiff with their sap; and the moist, heavy English air is laden with a faintly resinous perfume. Buds in the hedges, lambs beneath them – everywhere the work of reproduction going forward!

I can see it without, and I can feel it within. We also have our spring when the little arterioles dilate, the lymph flows in a brisker stream, the glands work harder, winnowing and straining. Every year nature readjusts the whole machine. I can feel the ferment in my blood at this very moment, and as the cool sunshine pours through my window I could dance about in it like a gnat. So I should, only that Charles Sadler would rush upstairs to know what the matter was. Besides, I must remember that I am Professor Gilroy. An old professor may afford to be natural, but when fortune has given one of the first chairs in the university to a man of four-and-thirty he must try and act the part consistently.

In 1st paragraph, the word “lambs” is an example of which device?

- A. allusion
- B. foreshadowing
- C. flashback
- D. metaphor
- E. simile

**Correct Answer:** D  
**Section:** Reading  
**Explanation**

**Explanation/Reference:**  
Explanation:



This is a fairly straightforward metaphor wherein “lambs” refers not to the literal ewe under one year of age, but a young plant.

#### QUESTION 772

The spring is fairly with us now. Outside my laboratory window the great chestnut-tree is all covered with the big, glutinous, gummy buds, some of which have already begun to break into little green shuttlecocks. As you walk down the lanes you are conscious of the rich, silent forces of nature working all around you. The wet earth smells fruitful and luscious. Green shoots are peeping out everywhere. The twigs are stiff with their sap; and the moist, heavy English air is laden with a faintly resinous perfume. Buds in the hedges, lambs beneath them – everywhere the work of reproduction going forward!

I can see it without, and I can feel it within. We also have our spring when the little arterioles dilate, the lymph flows in a brisker stream, the glands work harder, winnowing and straining. Every year nature readjusts the whole machine. I can feel the ferment in my blood at this very moment, and as the cool sunshine pours through my window I could dance about in it like a gnat. So I should, only that Charles Sadler would rush upstairs to know what the matter was. Besides, I must remember that I am Professor Gilroy. An old professor may afford to be natural, but when fortune has given one of the first chairs in the university to a man of four-and-thirty he must try and act the part consistently.

What can be inferred by the narrator’s choice of words, “gnat” 2nd paragraph to describe his dance?

- A. He is a man small in stature representing the size of a gnat.
- B. He is agile as are the physical characteristics of a gnat.
- C. He feels new as a gnat that has just been born in the spring.
- D. His dance would replicate the giddy, erratic flight pattern of the gnat.
- E. As a gnat is drawn to light, so is he drawn to the sunlight pouring through his window.

**Correct Answer:** D  
**Section:** Reading  
**Explanation**

**Explanation/Reference:**  
Explanation:

Here, the narrator is metaphorically speaking. As gnats don’t dance perse, they do fly erratically, and his dance would be just as unpredictable in form and grace.

#### QUESTION 773

Also the Emperor became more and more excited with curiosity, and with great suspense one awaited the hour, when according to mask-law, each masked guest must make himself known. This moment came, but although all other unmasked; the secret knight still refused to allow his features to be seen, till at last the Queen driven by curiosity, and vexed at the obstinate refusal; commanded him to open his Vizier. He opened it, and none of the high ladies and knights knew him. But from the crowded spectators, two officials advanced, who recognized the black dancer, and horror and terror spread in the saloon, as they said who the supposed knight was. It was the executioner of Bergen. But glowing with rage, the King commanded to seize the criminal and lead him to death, who had ventured to dance, with the queen; so disgraced the Empress, and insulted the crown. The culpable threw himself at the Emperor, and said: "Indeed I have heavily sinned against all noble guests assembled here, but most heavily against you my sovereign and my queen. The Queen is insulted by my haughtiness equal to treason, but no punishment even blood, will not be able to wash out the disgrace, which you have suffered by me. Therefore oh King! allow me to propose a remedy, to efface the shame, and to render it as if not done. Draw your sword and knight me, then I will throw down my gauntlet, to everyone who dares to speak disrespectfully of my king."

The phrase "and horror and terror spread in the saloon" (end of 1st paragraph) qualifies as what device?

- A. mockery
- B. allusion
- C. metaphor
- D. hyperbole
- E. litotes

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The device of "hyperbole" or overstatement is the device used here by the writer to give a sense of the egregious affront made to the court.

#### QUESTION 774

Also the Emperor became more and more excited with curiosity, and with great suspense one awaited the hour, when according to mask-law, each masked guest must make himself known. This moment came, but although all other unmasked; the secret knight still refused to allow his features to be seen, till at last the Queen driven by curiosity, and vexed at the obstinate refusal; commanded him to open his Vizier. He opened it, and none of the high ladies and knights knew him. But from the crowded spectators, two officials advanced, who recognized the black dancer, and horror and terror spread in the saloon, as they said who the supposed knight was. It was the executioner of Bergen. But glowing with rage, the King commanded to seize the criminal and lead him to death, who had ventured to dance, with the queen; so disgraced the Empress, and insulted the crown. The culpable threw himself at the Emperor, and said: "Indeed I have heavily sinned against all noble guests assembled here, but most heavily against you my sovereign and my queen. The Queen is insulted by my haughtiness equal to treason, but no punishment even blood, will not be able to wash out the disgrace, which you have suffered by me. Therefore oh King! allow me to propose a remedy, to efface the shame, and to render it as if not done. Draw your sword and knight me, then I will throw down my gauntlet, to everyone who dares to speak disrespectfully of my king."

All of the following would qualify to support the secret knight being labeled a "criminal" 1st paragraph EXCEPT:

- A. he was executioner of Bergen.
- B. he disobeyed the mask-law.
- C. he was physically in the saloon.
- D. he represented himself as a knight.
- E. he danced and fraternized with royalty.

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The job of executioner was not criminal; in fact it was a position required to obey the execution of the law.

#### QUESTION 775

Also the Emperor became more and more excited with curiosity, and with great suspense one awaited the hour, when according to mask-law, each masked guest must make himself known. This moment came, but although all other unmasked; the secret knight still refused to allow his features to be seen, till at last the Queen driven by curiosity, and vexed at the obstinate refusal; commanded him to open his Vizier. He opened it, and none of the high ladies and knights knew him. But from the crowded spectators, two officials advanced, who recognized the black dancer, and horror and terror spread in the saloon, as they said who the supposed knight was. It was the executioner of Bergen. But glowing with rage, the King commanded to seize the criminal and lead him to death, who had ventured to dance, with the queen; so disgraced the Empress, and insulted the crown. The culpable threw himself at the Emperor, and said: "Indeed I have heavily sinned against all noble guests assembled here, but most heavily against you my sovereign and my queen. The Queen is insulted by my haughtiness equal to treason, but no punishment even blood, will not be able to wash out the disgrace, which you have suffered by me. Therefore oh King! allow me to propose a remedy, to efface the shame, and to render it as if not done. Draw your sword and knight me, then I will throw down my gauntlet, to everyone who dares to speak disrespectfully of my king."

In context, the word “culpable” end of 1st paragraph is best represented by

- A. faker.
- B. imposter.
- C. scoundrel.
- D. offender.
- E. criminal.

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Context clues are found in the preceding sentence as the command was given to seize the “criminal.” In context then, “culpable” means criminal.

#### QUESTION 776

Here my friend, about whose madness I now saw, or fancied that I saw, certain indications of method, removed the peg which marked the spot where the beetle fell, to a spot about three inches to the westward of its former position. Taking, now, the tape measure from the nearest point of the trunk to the peg, as before, and continuing the extension in a straight line to the distance of fifty feet, a spot was indicated, removed, by several yards, from the point at which we had been digging.

Around the new position a circle, somewhat larger than in the former instance, was now described, and we again set to work with the spades. I was dreadfully weary, but, scarcely understanding what had occasioned the change in my thoughts, I felt no longer any great aversion from the labor imposed. I had become most unaccountably interested – nay, even excited. Perhaps there was something, amid all the extravagant demeanor of Legrand – some air of forethought, or of deliberation, which impressed me. I dug eagerly, and now and then caught myself actually looking, with something that very much resembled expectation, for the fancied treasure, the vision of which had demented my unfortunate companion. At a period when such vagaries of thought most fully possessed me, and when we had been at work perhaps an hour and a half, we were again interrupted by the violent howlings of the dog. His uneasiness, in the first instance, had been, evidently, but the result of playfulness or caprice, but he now assumed a bitter and serious tone. Upon Jupiter’s again attempting to muzzle him, he made furious resistance, and, leaping into the hole, tore up the mould frantically with his claws. In a few seconds he had uncovered a mass of human bones, forming two complete skeletons, intermingled with several buttons of metal, and what appeared to be the dust of decayed woolen. One or two strokes of a spade upturned the blade of a large Spanish knife, and, as we dug farther, three or four loose pieces of gold and silver coin came to light.

At sight of these the joy of Jupiter could scarcely be restrained, but the countenance of his master wore an air of extreme disappointment he urged us, however, to continue our exertions, and the words were hardly uttered when I stumbled and fell forward, having caught the toe of my boot in a large ring of iron that lay half buried in the loose earth.

We now worked in earnest, and never did I pass ten minutes of more intense excitement. During his interval we had fairly unearthed an oblong chest of wood, which, from its perfect preservation and wonderful hardness, had plainly been subjected to some mineralizing process – perhaps that of the Bi-chloride of Mercury. This box was three feet and a half long, three feet broad, and two and a half feet deep. It was firmly secured by bands of wrought iron, riveted, and forming a kind of open trelliswork over the whole. On each side of the chest, near the top, were three rings of iron – six in all – by means of which a firm hold could be obtained by six persons. Our utmost united endeavors served only to disturb the coffer very slightly in its bed. We at once saw the impossibility of removing so great a weight. Luckily, the sole fastenings of the lid consisted of two sliding bolts. These we drew back trembling and panting with anxiety. In an instant, a treasure of incalculable value lay gleaming before us. As the rays of the lanterns fell within the pit, there flashed upwards a glow and a glare, from a confused heap of gold and of jewels, that absolutely dazzled our eyes.

I shall not pretend to describe the feelings with which I gazed. Amazement was, of course, predominant. Legrand appeared exhausted with excitement, and spoke very few words. Jupiter’s countenance wore, for some minutes, as deadly a pallor as it is possible, in nature of things, for any negro’s visage to assume. He seemed stupefied thunder stricken. Presently he fell upon his knees in the pit, and, burying his naked arms up to the elbows in gold, let them there remain, as if enjoying the luxury of a bath.

It became necessary, at last, that I should arouse both master and valet to the expediency of removing the treasure. It was growing late, and it behooved us to make exertion, that we might get every thing housed before daylight. It was difficult to say what should be done, and much time was spent in deliberation – so confused were the ideas of all. We, finally, lightened the box by removing two thirds of its contents, when we were enabled, with some trouble, to raise it from the hole. The articles taken out were deposited among the brambles, and the dog left to guard them, with strict orders from Jupiter neither, upon any pretence, to stir from the spot, nor to open his mouth until our return.

Which selection best represents the phrase “Here my friend, about whose madness I now saw, or fancied that I saw, certain indications of method”?

- A. The narrator finally realized his friend has gone mad.
- B. The narrator discovered the method or cause of his friend’s madness.
- C. The narrator realizes that his friend went mad only temporarily.
- D. The narrator understood his friend’s methods as not mad.
- E. The narrator only believes his friend has gone mad.

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

By adding the phrase that he saw, “certain indications of method” indicates the narrator finally saw reason where before he had seen only madness. Because the author modifies usual syntax, the reader must remain actively engaged to follow the train of thought.

**QUESTION 777**

Here my friend, about whose madness I now saw, or fancied that I saw, certain indications of method, removed the peg which marked the spot where the beetle fell, to a spot about three inches to the westward of its former position. Taking, now, the tape measure from the nearest point of the trunk to the peg, as before, and continuing the extension in a straight line to the distance of fifty feet, a spot was indicated, removed, by several yards, from the point at which we had been digging.

Around the new position a circle, somewhat larger than in the former instance, was now described, and we again set to work with the spades. I was dreadfully weary, but, scarcely understanding what had occasioned the change in my thoughts, I felt no longer any great aversion from the labor imposed. I had become most unaccountably interested – nay, even excited. Perhaps there was something, amid all the extravagant demeanor of Legrand – some air of forethought, or of deliberation, which impressed me. I dug eagerly, and now and then caught myself actually looking, with something that very much resembled expectation, for the fancied treasure, the vision of which had demented my unfortunate companion. At a period when such vagaries of thought most fully possessed me, and when we had been at work perhaps an hour and a half, we were again interrupted by the violent howlings of the dog. His uneasiness, in the first instance, had been, evidently, but the result of playfulness or caprice, but he now assumed a bitter and serious tone. Upon Jupiter's again attempting to muzzle him, he made furious resistance, and, leaping into the hole, tore up the mould frantically with his claws. In a few seconds he had uncovered a mass of human bones, forming two complete skeletons, intermingled with several buttons of metal, and what appeared to be the dust of decayed woolen. One or two strokes of a spade upturned the blade of a large Spanish knife, and, as we dug farther, three or four loose pieces of gold and silver coin came to light.

At sight of these the joy of Jupiter could scarcely be restrained, but the countenance of his master wore an air of extreme disappointment he urged us, however, to continue our exertions, and the words were hardly uttered when I stumbled and fell forward, having caught the toe of my boot in a large ring of iron that lay half buried in the loose earth.

We now worked in earnest, and never did I pass ten minutes of more intense excitement. During his interval we had fairly unearthed an oblong chest of wood, which, from its perfect preservation and wonderful hardness, had plainly been subjected to some mineralizing process – perhaps that of the Bi-chloride of Mercury. This box was three feet and a half long, three feet broad, and two and a half feet deep. It was firmly secured by bands of wrought iron, riveted, and forming a kind of open trelliswork over the whole. On each side of the chest, near the top, were three rings of iron – six in all – by means of which a firm hold could be obtained by six persons. Our utmost united endeavors served only to disturb the coffer very slightly in its bed. We at once saw the impossibility of removing so great a weight. Luckily, the sole fastenings of the lid consisted of two sliding bolts. These we drew back trembling and panting with anxiety. In an instant, a treasure of incalculable value lay gleaming before us. As the rays of the lanterns fell within the pit, there flashed upwards a glow and a glare, from a confused heap of gold and of jewels, that absolutely dazzled our eyes.

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It became necessary, at last, that I should arouse both master and valet to the expediency of removing the treasure. It was growing late, and it behooved us to make exertion, that we might get every thing housed before daylight. It was difficult to say what should be done, and much time was spent in deliberation – so confused were the ideas of all. We, finally, lightened the box by removing two thirds of its contents, when we were enabled, with some trouble, to raise it from the hole. The articles taken out were deposited among the brambles, and the dog left to guard them, with strict orders from Jupiter neither, upon any pretence, to stir from the spot, nor to open his mouth until our return.

What can be inferred by “removed, by several yards, from the point at which we had been digging” 1st paragraph?

- A. The point for digging had been changed by several yards.
- B. The measurement of the tape had been incorrect initially.
- C. The previous diggings were failures.
- D. The digging mark was moved from the initial point.
- E. The exact spot to dig was not easy to measure.



**Correct Answer: C**

**Section: Reading**

**Explanation**

**Explanation/Reference:**

Explanation:

Although not directly stated, if any previous diggings would have been successful, there would not have been reason to continue marking and digging; ergo, previous diggings were failures.

**QUESTION 778**

Here my friend, about whose madness I now saw, or fancied that I saw, certain indications of method, removed the peg which marked the spot where the beetle fell, to a spot about three inches to the westward of its former position. Taking, now, the tape measure from the nearest point of the trunk to the peg, as before, and continuing the extension in a straight line to the distance of fifty feet, a spot was indicated, removed, by several yards, from the point at which we had been digging.

Around the new position a circle, somewhat larger than in the former instance, was now described, and we again set to work with the spades. I was dreadfully weary, but, scarcely understanding what had occasioned the change in my thoughts, I felt no longer any great aversion from the labor imposed. I had become most unaccountably interested – nay, even excited. Perhaps there was something, amid all the extravagant demeanor of Legrand – some air of forethought, or of deliberation, which impressed me. I dug eagerly, and now and then caught myself actually looking, with something that very much resembled expectation, for the fancied treasure, the vision of which had demented my unfortunate companion. At a period when such vagaries of thought most fully possessed me, and when we had been at work perhaps an hour and a half, we were again interrupted by the violent howlings of the dog. His uneasiness, in the first instance, had been, evidently, but the result of playfulness or caprice, but he now assumed a bitter and serious tone. Upon Jupiter's again attempting to muzzle him, he made furious resistance, and, leaping into the hole, tore up the mould frantically with his claws. In a few seconds he had uncovered a mass of human bones, forming two complete skeletons, intermingled with several buttons of metal, and what appeared to be the dust of decayed woolen. One or two strokes of a spade upturned the blade of a large Spanish knife, and, as we dug farther, three or four loose pieces of gold and silver coin came to light.

At sight of these the joy of Jupiter could scarcely be restrained, but the countenance of his master wore an air of extreme disappointment he urged us, however, to continue our exertions, and the words were hardly uttered when I stumbled and fell forward, having caught the toe of my boot in a large ring of iron that lay half buried in the loose earth.

We now worked in earnest, and never did I pass ten minutes of more intense excitement. During his interval we had fairly unearthed an oblong chest of wood, which, from its perfect preservation and wonderful hardness, had plainly been subjected to some mineralizing process – perhaps that of the Bi-chloride of Mercury. This box was three feet and a half long, three feet broad, and two and a half feet deep. It was firmly secured by bands of wrought iron, riveted, and forming a kind of open trelliswork over the whole. On each side of the chest, near the top, were three rings of iron – six in all – by means of which a firm hold could be obtained by six persons. Our utmost united endeavors served only to disturb the coffer very slightly in its bed. We at once saw the impossibility of removing so great a weight. Luckily, the sole fastenings of the lid consisted of two sliding bolts. These we drew back trembling and panting with anxiety. In an instant, a treasure of incalculable value lay gleaming before us. As the rays of the lanterns fell within the pit, there flashed upwards a glow and a glare, from a confused heap of gold and of jewels, that absolutely dazzled our eyes.



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It became necessary, at last, that I should arouse both master and valet to the expediency of removing the treasure. It was growing late, and it behooved us to make exertion, that we might get every thing housed before daylight. It was difficult to say what should be done, and much time was spent in deliberation – so confused were the ideas of all. We, finally, lightened the box by removing two thirds of its contents, when we were enabled, with some trouble, to raise it from the hole. The articles taken out were deposited among the brambles, and the dog left to guard them, with strict orders from Jupiter neither, upon any pretence, to stir from the spot, nor to open his mouth until our return.

At what point in the excerpt was there a marked mood change?

- A. between paragraphs 1 and 2
- B. between paragraphs 2 and 3
- C. between paragraphs 3 and 4
- D. between paragraphs 4 and 5
- E. between paragraphs 5 and 6

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The mood clearly changes between paragraphs 1 and 2. The narrator clearly explains he was tired, but “scarcely understanding what had occasioned the change in my thoughts.”

#### QUESTION 779

Here my friend, about whose madness I now saw, or fancied that I saw, certain indications of method, removed the peg which marked the spot where the beetle fell, to a spot about three inches to the westward of its former position. Taking, now, the tape measure from the nearest point of the trunk to the peg, as before, and continuing the extension in a straight line to the distance of fifty feet, a spot was indicated, removed, by several yards, from the point at which we had been digging.

Around the new position a circle, somewhat larger than in the former instance, was now described, and we again set to work with the spades. I was dreadfully weary, but, scarcely understanding what had occasioned the change in my thoughts, I felt no longer any great aversion from the labor imposed. I had become most unaccountably interested – nay, even excited. Perhaps there was something, amid all the extravagant demeanor of Legrand – some air of forethought, or of deliberation, which impressed me. I dug eagerly, and now and then caught myself actually looking, with something that very much resembled expectation, for the fancied treasure, the vision of which had demented my unfortunate companion. At a period when such vagaries of thought most fully possessed me, and when we had been at work perhaps an hour and a half, we were again interrupted by the violent howlings of the dog. His uneasiness, in the first instance, had been, evidently, but the result of playfulness or caprice, but he now assumed a bitter and serious tone. Upon Jupiter's again attempting to muzzle him, he made furious resistance, and, leaping into the hole, tore up the mould frantically with his claws. In a few seconds he had uncovered a mass of human bones, forming two complete skeletons, intermingled with several buttons of metal, and what appeared to be the dust of decayed woolen. One or two strokes of a spade upturned the blade of a large Spanish knife, and, as we dug farther, three or four loose pieces of gold and silver coin came to light.

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It became necessary, at last, that I should arouse both master and valet to the expediency of removing the treasure. It was growing late, and it behooved us to make exertion, that we might get every thing housed before daylight. It was difficult to say what should be done, and much time was spent in deliberation – so confused were the ideas of all. We, finally, lightened the box by removing two thirds of its contents, when we were enabled, with some trouble, to raise it from the hole. The articles taken out were deposited among the brambles, and the dog left to guard them, with strict orders from Jupiter neither, upon any pretence, to stir from the spot, nor to open his mouth until our return.

The sentence “Perhaps there was something, amid all the extravagant demeanor of Legrand – some air of forethought, or of deliberation, which impressed me” (2nd paragraph) is best an example of

- A. figurative language
- B. characterization
- C. foreshadowing
- D. aside
- E. cause and effect

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The cause is the “extravagant demeanor of Legrand,” and the effect is the narrator not feeling “any great aversion from labor imposed” as Legrand “impressed me.”

**QUESTION 780**

Here my friend, about whose madness I now saw, or fancied that I saw, certain indications of method, removed the peg which marked the spot where the beetle fell, to a spot about three inches to the westward of its former position. Taking, now, the tape measure from the nearest point of the trunk to the peg, as before, and continuing the extension in a straight line to the distance of fifty feet, a spot was indicated, removed, by several yards, from the point at which we had been digging.

Around the new position a circle, somewhat larger than in the former instance, was now described, and we again set to work with the spades. I was dreadfully weary, but, scarcely understanding what had occasioned the change in my thoughts, I felt no longer any great aversion from the labor imposed. I had become most unaccountably interested – nay, even excited. Perhaps there was something, amid all the extravagant demeanor of Legrand – some air of forethought, or of deliberation, which impressed me. I dug eagerly, and now and then caught myself actually looking, with something that very much resembled expectation, for the fancied treasure, the vision of which had demented my unfortunate companion. At a period when such vagaries of thought most fully possessed me, and when we had been at work perhaps an hour and a half, we were again interrupted by the violent howlings of the dog. His uneasiness, in the first instance, had been, evidently, but the result of playfulness or caprice, but he now assumed a bitter and serious tone. Upon Jupiter’s again attempting to muzzle him, he made furious resistance, and, leaping into the hole, tore up the mould frantically with his claws. In a few seconds he had uncovered a mass of human bones, forming two complete skeletons, intermingled with several buttons of metal, and what appeared to be the dust of decayed woolen. One or two strokes of a spade upturned the blade of a large Spanish knife, and, as we dug farther, three or four loose pieces of gold and silver coin came to light.

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- A. cast.
- B. broken soil.
- C. carved woodwork.
- D. box.
- E. wooden container.

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The context clues to help determine meaning follows the sentence of use, which is common. If the dog could tear it up with his claws and in so doing uncover human bones, it is most likely broken soil given the provided selections.

**QUESTION 781**

Here my friend, about whose madness I now saw, or fancied that I saw, certain indications of method, removed the peg which marked the spot where the beetle fell, to a spot about three inches to the westward of its former position. Taking, now, the tape measure from the nearest point of the trunk to the peg, as before, and continuing the extension in a straight line to the distance of fifty feet, a spot was indicated, removed, by several yards, from the point at which we had been digging.

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It became necessary, at last, that I should arouse both master and valet to the expediency of removing the treasure. It was growing late, and it behooved us to make exertion, that we might get every thing housed before daylight. It was difficult to say what should be done, and much time was spent in deliberation – so confused were the ideas of all. We, finally, lightened the box by removing two thirds of its contents, when we were enabled, with some trouble, to raise it from the hole. The articles taken out were deposited among the brambles, and the dog left to guard them, with strict orders from Jupiter neither, upon any pretence, to stir from the spot, nor to open his mouth until our return.

What was the likely origin of the “three or four loose pieces of gold and silver coin”?

- A. a buried treasure
- B. coins from the buried box
- C. a portion of the treasure
- D. coins previously on the corpses
- E. a marker to indicate where the treasure was buried

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

As these were but a few coins and there had been two corpses disturbed, it is reasonable to believe that the two had these coins on their persons at the time of death.

#### QUESTION 782

Here my friend, about whose madness I now saw, or fancied that I saw, certain indications of method, removed the peg which marked the spot where the beetle fell, to a spot about three inches to the westward of its former position. Taking, now, the tape measure from the nearest point of the trunk to the peg, as before, and continuing the extension in a straight line to the distance of fifty feet, a spot was indicated, removed, by several yards, from the point at which we had been digging.

Around the new position a circle, somewhat larger than in the former instance, was now described, and we again set to work with the spades. I was dreadfully weary, but, scarcely understanding what had occasioned the change in my thoughts, I felt no longer any great aversion from the labor imposed. I had become most unaccountably interested – nay, even excited. Perhaps there was something, amid all the extravagant demeanor of Legrand – some air of forethought, or of deliberation, which impressed me. I dug eagerly, and now and then caught myself actually looking, with something that very much resembled expectation, for the fancied treasure, the vision of which had demented my unfortunate companion. At a period when such vagaries of thought most fully possessed me, and when we had been at work perhaps an hour and a half, we were again interrupted by the violent howlings of the dog. His uneasiness, in the first instance, had been, evidently, but the result of playfulness or caprice, but he now assumed a bitter and serious tone. Upon Jupiter's again attempting to muzzle him, he made furious resistance, and, leaping into the hole, tore up the mould frantically with his claws. In a few seconds he had uncovered a mass of human bones, forming two complete skeletons, intermingled with several buttons of metal, and what appeared to be the dust of decayed woolen. One or two strokes of a spade upturned the blade of a large Spanish knife, and, as we dug farther, three or four loose pieces of gold and silver coin came to light.

At sight of these the joy of Jupiter could scarcely be restrained, but the countenance of his master wore an air of extreme disappointment he urged us, however, to continue our exertions, and the words were hardly uttered when I stumbled and fell forward, having caught the toe of my boot in a large ring of iron that lay half buried in the loose earth.

We now worked in earnest, and never did I pass ten minutes of more intense excitement. During his interval we had fairly unearthed an oblong chest of wood, which, from its perfect preservation and wonderful hardness, had plainly been subjected to some mineralizing process – perhaps that of the Bi-chloride of Mercury. This box was three feet and a half long, three feet broad, and two and a half feet deep. It was firmly secured by bands of wrought iron, riveted, and forming a kind of open trelliswork over the whole. On each side of the chest, near the top, were three rings of iron – six in all – by means of which a firm hold could be obtained by six persons. Our utmost united endeavors served only to disturb the coffer very slightly in its bed. We at once saw the impossibility of removing so great a weight. Luckily, the sole fastenings of the lid consisted of two sliding bolts. These we drew back trembling and panting with anxiety. In an instant, a treasure of incalculable value lay gleaming before us. As the rays of the lanterns fell within the pit, there flashed upwards a glow and a glare, from a confused heap of gold and of jewels, that absolutely dazzled our eyes.

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Presuming the author ascribed an alternative meaning to “confused” other than jumbled, which selection best identifies the literary device used with “confused” 4th paragraph?

- A. assonance
- B. personification
- C. alliteration
- D. onomatopoeia



E. allusion

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Giving a human-like quality to a nonhuman is called personification. If 'jumbled' was not the definition intended by the author when he used the word 'confused' then he gave an inanimate object (a heap of gold and jewels), the human-like quality of being confused. Provided the author meant other than jumbled when he used the term "confused," giving the treasure the human-like quality of being confused is personification.

#### QUESTION 783

Here my friend, about whose madness I now saw, or fancied that I saw, certain indications of method, removed the peg which marked the spot where the beetle fell, to a spot about three inches to the westward of its former position. Taking, now, the tape measure from the nearest point of the trunk to the peg, as before, and continuing the extension in a straight line to the distance of fifty feet, a spot was indicated, removed, by several yards, from the point at which we had been digging.

Around the new position a circle, somewhat larger than in the former instance, was now described, and we again set to work with the spades. I was dreadfully weary, but, scarcely understanding what had occasioned the change in my thoughts, I felt no longer any great aversion from the labor imposed. I had become most unaccountably interested – nay, even excited. Perhaps there was something, amid all the extravagant demeanor of Legrand – some air of forethought, or of deliberation, which impressed me. I dug eagerly, and now and then caught myself actually looking, with something that very much resembled expectation, for the fancied treasure, the vision of which had demented my unfortunate companion. At a period when such vagaries of thought most fully possessed me, and when we had been at work perhaps an hour and a half, we were again interrupted by the violent howlings of the dog. His uneasiness, in the first instance, had been, evidently, but the result of playfulness or caprice, but he now assumed a bitter and serious tone. Upon Jupiter's again attempting to muzzle him, he made furious resistance, and, leaping into the hole, tore up the mould frantically with his claws. In a few seconds he had uncovered a mass of human bones, forming two complete skeletons, intermingled with several buttons of metal, and what appeared to be the dust of decayed woolen. One or two strokes of a spade upturned the blade of a large Spanish knife, and, as we dug farther, three or four loose pieces of gold and silver coin came to light.

At sight of these the joy of Jupiter could scarcely be restrained, but the countenance of his master wore an air of extreme disappointment he urged us, however, to continue our exertions, and the words were hardly uttered when I stumbled and fell forward, having caught the toe of my boot in a large ring of iron that lay half buried in the loose earth.

We now worked in earnest, and never did I pass ten minutes of more intense excitement. During his interval we had fairly unearthed an oblong chest of wood, which, from its perfect preservation and wonderful hardness, had plainly been subjected to some mineralizing process – perhaps that of the Bi-chloride of Mercury. This box was three feet and a half long, three feet broad, and two and a half feet deep. It was firmly secured by bands of wrought iron, riveted, and forming a kind of open trelliswork over the whole. On each side of the chest, near the top, were three rings of iron – six in all – by means of which a firm hold could be obtained by six persons. Our utmost united endeavors served only to disturb the coffer very slightly in its bed. We at once saw the impossibility of removing so great a weight. Luckily, the sole fastenings of the lid consisted of two sliding bolts. These we drew back trembling and panting with anxiety. In an instant, a treasure of incalculable value lay gleaming before us. As the rays of the lanterns fell within the pit, there flashed upwards a glow and a glare, from a confused heap of gold and of jewels, that absolutely dazzled our eyes.

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Considering that an alternative meaning other than jumbled was used for the term "confused" (4th paragraph) select the best rationale for the phenomenon of the treasure's confusion as related in (4th paragraph).

- A. The gold and jewels were in a state of disarray.
- B. The treasure was shocked to see people after so long.
- C. The treasure didn't think anyone would be able to open the box.
- D. The lamps casting a shadowy light would have caused distorted images.
- E. The dog having just uncovered the remains of the treasure's last owners was confusion.

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Provided the author meant other than 'jumbled' when he used the term "confused," the treasure would have been confused to see people again after lying idle for so many years.

#### QUESTION 784

Here my friend, about whose madness I now saw, or fancied that I saw, certain indications of method, removed the peg which marked the spot where the beetle fell, to a spot about three inches to the westward of its former position. Taking, now, the tape measure from the nearest point of the trunk to the peg, as before, and continuing the extension in a straight line to the distance of fifty feet, a spot was indicated, removed, by several yards, from the point at which we had been digging.

Around the new position a circle, somewhat larger than in the former instance, was now described, and we again set to work with the spades. I was dreadfully weary, but, scarcely understanding what had occasioned the change in my thoughts, I felt no longer any great aversion from the labor imposed. I had become most unaccountably interested – nay, even excited. Perhaps there was something, amid all the extravagant demeanor of Legrand – some air of forethought, or

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At sight of these the joy of Jupiter could scarcely be restrained, but the countenance of his master wore an air of extreme disappointment he urged us, however, to continue our exertions, and the words were hardly uttered when I stumbled and fell forward, having caught the toe of my boot in a large ring of iron that lay half buried in the loose earth.

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- A. was necessary.
- B. was expedient.
- C. was convenient.
- D. was smart.
- E. was expeditious.

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:



“Behooved” in context means necessary. It was late, and it was necessary for us to make exertion, that we might get every thing housed before daylight. By using the checking method of plugging in your selection in the place of the queried word, you improve your chances of success.

#### QUESTION 785

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Which selection represents the best alternative title for this passage?

- A. From Here to There
- B. Almost Unfound
- C. Never Give Up – Never Give In
- D. From Madness to Millionaires
- E. Where There are Pieces, There is More

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Given the opening paragraph describing the previous madness and the conclusion in becoming millionaires, “From Madness to Millionaires,” is the best fit.

#### QUESTION 786

Richard III was without any doubt whatsoever the most evil man to have worn the crown of England. Attached to his name are so many crimes, and crimes so heinous and unnatural, that it is scarcely credible that such a monster could exist. He not only committed murder on a number of occasions, but many of those he murdered he had either sworn to protect or should have been expected to defend with his last ounce of strength if he had anything approaching human feelings. First on the list of crimes was the death of his sovereign, Henry VI. Granted that Henry had been deposed by Richard’s brother, and hence could not easily claim Richard’s loyalty

The word heinous in line 4 means

- A. awful
- B. secretive
- C. bloody
- D. deceitful
- E. dishonest



**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Richard is heinous (evil), shown by the synonyms “evil” and “unnatural.”

#### QUESTION 787

Richard III was without any doubt whatsoever the most evil man to have worn the crown of England. Attached to his name are so many crimes, and crimes so heinous and unnatural, that it is scarcely credible that such a monster could exist. He not only committed murder on a number of occasions, but many of those he murdered he had either sworn to protect or should have been expected to defend with his last ounce of strength if he had anything approaching human feelings. First on the list of crimes was the death of his sovereign, Henry VI. Granted that Henry had been deposed by Richard’s brother, and hence could not easily claim Richard’s loyalty

The author calls Richard a “monster” because

- A. Richard murdered people
- B. Richard did not allow honor or family feeling to hold him back
- C. Richard was overly ambitious
- D. all early English kings were ruthless
- E. Richard supported Henry VI against his own brother

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

You can infer this answer because Richard murdered many people, even those he should have protected – such as king Henry VI.

**QUESTION 788**

For the last hour I have been watching President Lincoln and General McClellan as they sat together in earnest conversation on the deck of a steamer closer to us. I am thankful, I am happy, that the President has come – has sprung across the dreadful intervening Washington, and come to see and hear and judge for his own wise and noble self. While we were at dinner someone said, “Why, there’s the President!” and he proved to be just arriving on the Ariel, at the end of the wharf. I stationed myself at once to watch for the coming of McClellan. The President stood on deck with a glass, with which, after a time, he inspected our boat, waving his handkerchief to us. My eyes and soul were in the direction of the general headquarters, over which the great balloon was slowly descending.

What does the author mean by “the dreadful intervening Washington”?

- A. Politics are always interfering with the war.
- B. Lincoln’s office stands in the way of his leadership.
- C. Lincoln has crossed Washington to come to the narrator’s home.
- D. The fame of the previous president keeps Lincoln in the shadows.
- E. Washington is mediating between the North and South.

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

This is a literal question: “That dreadful intervening Washington” is the city itself.

**QUESTION 789**

For the last hour I have been watching President Lincoln and General McClellan as they sat together in earnest conversation on the deck of a steamer closer to us. I am thankful, I am happy, that the President has come – has sprung across the dreadful intervening Washington, and come to see and hear and judge for his own wise and noble self. While we were at dinner someone said, “Why, there’s the President!” and he proved to be just arriving on the Ariel, at the end of the wharf. I stationed myself at once to watch for the coming of McClellan. The President stood on deck with a glass, with which, after a time, he inspected our boat, waving his handkerchief to us. My eyes and soul were in the direction of the general headquarters, over which the great balloon was slowly descending.

How does the author feel toward Lincoln?

- A. She admires him and trusts his judgment.
- B. She dislikes him and suspects his motives.
- C. She regrets his arrival.
- D. She finds him undistinguished in person.
- E. She has no opinion.

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The author admires and trusts Lincoln, which you can infer from the description “his own wise and noble self.”

**QUESTION 790**

For the last hour I have been watching President Lincoln and General McClellan as they sat together in earnest conversation on the deck of a steamer closer to us. I am thankful, I am happy, that the President has come – has sprung across the dreadful intervening Washington, and come to see and hear and judge for his own wise and noble self. While we were at dinner someone said, “Why, there’s the President!” and he proved to be just arriving on the Ariel, at the end of the wharf. I stationed myself at once to watch for the coming of McClellan. The President stood on deck with a glass, with which, after a time, he inspected our boat, waving his handkerchief to us. My eyes and soul were in the direction of the general headquarters, over which the great balloon was slowly descending. As used in the passage, the word glass means

- A. a goblet
- B. a mirror

- C. a window
- D. a telescope
- E. bifocals

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

In the above passage, the word glass means a telescope, as evident from context.

#### QUESTION 791

For the last hour I have been watching President Lincoln and General McClellan as they sat together in earnest conversation on the deck of a steamer closer to us. I am thankful, I am happy, that the President has come – has sprung across the dreadful intervening Washington, and come to see and hear and judge for his own wise and noble self. While we were at dinner someone said, “Why, there’s the President!” and he proved to be just arriving on the Ariel, at the end of the wharf. I stationed myself at once to watch for the coming of McClellan. The President stood on deck with a glass, with which, after a time, he inspected our boat, waving his handkerchief to us. My eyes and soul were in the direction of the general headquarters, over which the great balloon was slowly descending.

The “great balloon slowly descending” is apparently

- A. the sun setting
- B. remnants of a firestorm of the Potomac
- C. the moon over the river
- D. a mirage
- E. McClellan’s transport arriving

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

This is a literal question: McClellan is arriving via hot air balloon.

#### QUESTION 792

Big earthquakes are naturally occurring events well outside the powers of humans to create or stop. An earthquake is caused by a sudden slip on a fault. Stresses in the earth’s outer layer push the side of the fault together. The friction across the surface of the fault holds the rocks together so they do not slip immediately when pushed sideways. Eventually enough stress builds up and the rocks slip suddenly, releasing energy in waves that travel through the rock to cause the shaking that we feel during an earthquake. Earthquakes typically originate several tens of miles below the surface of the earth. It takes many years – decades to centuries – to build up enough stress to make a large earthquake, and the fault may be tens to hundreds of miles long. The scale and force necessary to produce earthquakes are well beyond our daily lives. Likewise, people cannot prevent earthquakes from happening or stop them once they’ve started – giant nuclear explosions at shallow depths, like those in some movies, won’t actually stop an earthquake.

The two most important variables affecting earthquake damage are the intensity of ground shaking caused by the quake and the quality of the engineering of structures in the region. The level of shaking, in turn, is controlled by the proximity of the earthquake source to the affected region and the types of rocks that seismic waves pass through en route (particularly those at or near the ground surface). Generally, the bigger and closer the earthquake, the stronger the shaking. But there have been large earthquakes with very little damage either because they caused little shaking or because the buildings were built to withstand that shaking. In other cases, moderate earthquakes have caused significant damage either because the shaking was locally amplified or more likely because the structures were poorly engineered.

The word fault means:

- A. error
- B. the place where two rock plates come together
- C. criticize
- D. responsibility
- E. volcanic activity

**Correct Answer:** B

**Section:** Reading

**Explanation**



**Explanation/Reference:**

Explanation:

Infer the answer from the context clues “the earth’s outer layer push the side of the fault together” and “friction across the surface of the fault holds the rocks together.”

**QUESTION 793**

Big earthquakes are naturally occurring events well outside the powers of humans to create or stop. An earthquake is caused by a sudden slip on a fault. Stresses in the earth’s outer layer push the side of the fault together. The friction across the surface of the fault holds the rocks together so they do not slip immediately when pushed sideways. Eventually enough stress builds up and the rocks slip suddenly, releasing energy in waves that travel through the rock to cause the shaking that we feel during an earthquake. Earthquakes typically originate several tens of miles below the surface of the earth. It takes many years – decades to centuries – to build up enough stress to make a large earthquake, and the fault may be tens to hundreds of miles long. The scale and force necessary to produce earthquakes are well beyond our daily lives. Likewise, people cannot prevent earthquakes from happening or stop them once they’ve started – giant nuclear explosions at shallow depths, like those in some movies, won’t actually stop an earthquake.

The two most important variables affecting earthquake damage are the intensity of ground shaking caused by the quake and the quality of the engineering of structures in the region. The level of shaking, in turn, is controlled by the proximity of the earthquake source to the affected region and the types of rocks that seismic waves pass through en route (particularly those at or near the ground surface). Generally, the bigger and closer the earthquake, the stronger the shaking. But there have been large earthquakes with very little damage either because they caused little shaking or because the buildings were built to withstand that shaking. In other cases, moderate earthquakes have caused significant damage either because the shaking was locally amplified or more likely because the structures were poorly engineered.

The amount of shaking during an earthquake is determined by:

- A. the amount of damage
- B. how soon people take action to stop the earthquake
- C. how close the epicenter of the earthquake is to the area
- D. how well the offices and homes have been built in the region
- E. the duration of the quake

**Correct Answer: C**

**Section: Reading**

**Explanation**

**Explanation/Reference:**

Explanation:

The answer is directly stated: “The level of shaking, in turn, is controlled by the proximity of the earthquake source to the affected region and the types of rocks that seismic waves pass through en route (particularly those at or near the ground surface).”

**QUESTION 794**

Big earthquakes are naturally occurring events well outside the powers of humans to create or stop. An earthquake is caused by a sudden slip on a fault. Stresses in the earth’s outer layer push the side of the fault together. The friction across the surface of the fault holds the rocks together so they do not slip immediately when pushed sideways. Eventually enough stress builds up and the rocks slip suddenly, releasing energy in waves that travel through the rock to cause the shaking that we feel during an earthquake. Earthquakes typically originate several tens of miles below the surface of the earth. It takes many years – decades to centuries – to build up enough stress to make a large earthquake, and the fault may be tens to hundreds of miles long. The scale and force necessary to produce earthquakes are well beyond our daily lives. Likewise, people cannot prevent earthquakes from happening or stop them once they’ve started – giant nuclear explosions at shallow depths, like those in some movies, won’t actually stop an earthquake.

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This passage was most likely written to:

- A. explain some basic facts about the causes and effects of earthquakes
- B. reassure people who are considering moving into regions prone to earthquakes that they will be safe from harm
- C. teach people the methods they need to alleviate earthquake damage
- D. persuade people to allocate more funding to earthquake research
- E. describe the damage that earthquakes can cause and the reason for varying degrees of damage

**Correct Answer: A**

**Section: Reading**

**Explanation**

**Explanation/Reference:**

Explanation:

Using process of elimination, Choices B and C are directly contradicted by information in the text. Choice D is never mentioned. The second half of Choice E is correct, but not the first half. Thus, the only possible correct response is Choice A.

**QUESTION 795**

Big earthquakes are naturally occurring events well outside the powers of humans to create or stop. An earthquake is caused by a sudden slip on a fault. Stresses in the earth's outer layer push the side of the fault together. The friction across the surface of the fault holds the rocks together so they do not slip immediately when pushed sideways. Eventually enough stress builds up and the rocks slip suddenly, releasing energy in waves that travel through the rock to cause the shaking that we feel during an earthquake. Earthquakes typically originate several tens of miles below the surface of the earth. It takes many years – decades to centuries – to build up enough stress to make a large earthquake, and the fault may be tens to hundreds of miles long. The scale and force necessary to produce earthquakes are well beyond our daily lives. Likewise, people cannot prevent earthquakes from happening or stop them once they've started – giant nuclear explosions at shallow depths, like those in some movies, won't actually stop an earthquake.

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You can conclude from this passage that:

- A. all earthquakes are equally dangerous
- B. there are steps that people can take to prevent or at least mitigate earthquakes
- C. earthquakes occur all over the world
- D. very little is known about earthquakes
- E. scientists understand a great deal about the origins of earthquakes but are powerless to stop them

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Choices A, B, and D cannot be correct. Choice D is contradicted by information in the passage. Thus, the only possible correct response is Choice E.

**QUESTION 796**

Oliver Goldsmith (1730–1774) wrote criticism, plays, novels, biographies, travelogues, and nearly every other conceivable kind of composition. This good-humored essay is from a series published in the Public Ledger and then in book form as *The Citizen of the World* (1762).

Were we to estimate the learning of the English by the number of books that are every day published among them, perhaps no country, not even China itself, could equal them in this particular. I have reckoned not less than twenty-three new books published in one day, which, upon computation, makes eight thousand three hundred and ninety-five in one year. Most of these are not confined to one single science, but embrace the whole circle. History, politics, poetry, mathematics, metaphysics, and the philosophy of nature, are all comprised in a manual no larger than that in which our children are taught the letters. If then, we suppose the learned of England to read but an eighth part of the works which daily come from the press and surely non can pretend to learning upon less easy terms), at this rate every scholar will read a thousand books in one year. From such a calculation, you may conjecture what an amazing fund of literature a man must be possessed of, who thus reads three new books every day, not one of which but contains all the good things that ever were said or written.

And yet I know not how it happens, but the English are not, in reality so learned as would seem from this calculation. We meet but few who know all arts and sciences to perfection; whether it is that the generality are incapable of such extensive knowledge, or that the authors of those books are not adequate instructors. In China, the Emperor himself takes cognizance of all the doctors in the kingdom who profess authorship. In England, every man may be an author, that can write; for they have by law a liberty, not only of saying what they please, but of being also as dull as they please.

Yesterday, as I testified to my surprise, to the man in black, where writers could be found in sufficient number to throw off the books I saw daily crowding from the press. I at first imagined that their learned seminaries might take this method of instructing the world. But, to obviate this objection, my companion assured me that the doctors of colleges never wrote, and that some of them had actually forgot their reading. "But if you desire," continued he, "to see a collection of authors, I fancy I can introduce you to a club, which assembles every Saturday at seven . . . ." I accepted his invitation; we walked together, and entered the house some time before the usual hour for the company assembling. My friend took this opportunity of letting me into the characters of the principal members of the club . . .

"The first person," said he, "of our society is Doctor Nonentity, a metaphysician. Most people think him a profound scholar, but, as he seldom speaks, I cannot be positive in that particular; he generally spreads himself before the fire, sucks his pipe, talks little, drinks much, and is reckoned very good company. I'm told he writes indexes to perfection: he makes essays on the origin of evil, philosophical inquiries upon any subject, and draws up an answer to any book upon 24 hours' warning . . . ."

Goldsmith believes that

- A. we can tell how knowledgeable English authors are by counting the number of books they publish
- B. the number of books published in England is not up to standards set in China
- C. the number of books published in England says nothing about English scholarship
- D. most English writers are better educated than their Chinese counterparts
- E. every scholar reads a thousand books a year

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Goldsmith begins by saying “Were we to estimate the learning of the English by the number of books that are published ...” but goes on to conclude that “... the English are not, in reality so learned as would seem from this calculation.”

#### QUESTION 797

Oliver Goldsmith (1730–1774) wrote criticism, plays, novels, biographies, travelogues, and nearly every other conceivable kind of composition. This good-humored essay is from a series published in the Public Ledger and then in book form as *The Citizen of the World* (1762).

Were we to estimate the learning of the English by the number of books that are every day published among them, perhaps no country, not even China itself, could equal them in this particular. I have reckoned not less than twenty-three new books published in one day, which, upon computation, makes eight thousand three hundred and ninety-five in one year. Most of these are not confined to one single science, but embrace the whole circle. History, politics, poetry, mathematics, metaphysics, and the philosophy of nature, are all comprised in a manual no larger than that in which our children are taught the letters. If then, we suppose the learned of England to read but an eighth part of the works which daily come from the press and surely non can pretend to learning upon less easy terms), at this rate every scholar will read a thousand books in one year. From such a calculation, you may conjecture what an amazing fund of literature a man must be possessed of, who thus reads three new books every day, not one of which but contains all the good things that ever were said or written.

And yet I know not how it happens, but the English are not, in reality so learned as would seem from this calculation. We meet but few who know all arts and sciences to perfection; whether it is that the generality are incapable of such extensive knowledge, or that the authors of those books are not adequate instructors. In China, the Emperor himself takes cognizance of all the doctors in the kingdom who profess authorship. In England, every man may be an author, that can write; for they have by law a liberty, not only of saying what they please, but of being also as dull as they please.

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Why does Goldsmith calculate the number of books published in England?

- A. To impress his readers with English erudition
- B. To make the point that anyone can be an author
- C. As defense for his argument that England is better than China
- D. To show that most English publications are foreign
- E. As a comparison with publication quotas in other lands



**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Goldsmith’s point is that England publishes an astonishing number of books, but the number has little to do with the quality.

#### QUESTION 798

Oliver Goldsmith (1730–1774) wrote criticism, plays, novels, biographies, travelogues, and nearly every other conceivable kind of composition. This good-humored essay is from a series published in the Public Ledger and then in book form as *The Citizen of the World* (1762).

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fancy I can introduce you to a club, which assembles every Saturday at seven . . . .” I accepted his invitation; we walked together, and entered the house some time before the usual hour for the company assembling. My friend took this opportunity of letting me into the characters of the principal members of the club . . . .  
“The first person,” said he, “of our society is Doctor Nonentity, a metaphysician. Most people think him a profound scholar, but, as he seldom speaks, I cannot be positive in that particular; he generally spreads himself before the fire, sucks his pipe, talks little, drinks much, and is reckoned very good company. I’m told he writes indexes to perfection: he makes essays on the origin of evil, philosophical inquiries upon any subject, and draws up an answer to any book upon 24 hours’ warning . . . .”

The tone of paragraph 2 may best be described as

- A. self-satisfied
- B. awestruck
- C. affectionate
- D. sardonic
- E. solemn

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The whole tone of the piece is ironic; Goldsmith is making his point through dry, sardonic wit.

#### QUESTION 799

Oliver Goldsmith (1730–1774) wrote criticism, plays, novels, biographies, travelogues, and nearly every other conceivable kind of composition. This good-humored essay is from a series published in the Public Ledger and then in book form as *The Citizen of the World* (1762).

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Goldsmith first assumes that English writers come from

- A. foreign lands
- B. seminaries
- C. China
- D. clubs
- E. the press

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

He states this in line 48, but quickly dispels the notion when his companion assures him that “doctors of colleges never wrote.”

**QUESTION 800**

Oliver Goldsmith (1730–1774) wrote criticism, plays, novels, biographies, travelogues, and nearly every other conceivable kind of composition. This good-humored essay is from a series published in the Public Ledger and then in book form as *The Citizen of the World* (1762).

Were we to estimate the learning of the English by the number of books that are every day published among them, perhaps no country, not even China itself, could equal them in this particular. I have reckoned not less than twenty-three new books published in one day, which, upon computation, makes eight thousand three hundred and ninety-five in one year. Most of these are not confined to one single science, but embrace the whole circle. History, politics, poetry, mathematics, metaphysics, and the philosophy of nature, are all comprised in a manual no larger than that in which our children are taught the letters. If then, we suppose the learned of England to read but an eighth part of the works which daily come from the press and surely non can pretend to learning upon less easy terms), at this rate every scholar will read a thousand books in one year. From such a calculation, you may conjecture what an amazing fund of literature a man must be possessed of, who thus reads three new books every day, not one of which but contains all the good things that ever were said or written.

And yet I know not how it happens, but the English are not, in reality so learned as would seem from this calculation. We meet but few who know all arts and sciences to perfection; whether it is that the generality are incapable of such extensive knowledge, or that the authors of those books are not adequate instructors. In China, the Emperor himself takes cognizance of all the doctors in the kingdom who profess authorship. In England, every man may be an author, that can write; for they have by law a liberty, not only of saying what they please, but of being also as dull as they please.

Yesterday, as I testified to my surprise, to the man in black, where writers could be found in sufficient number to throw off the books I saw daily crowding from the press. I at first imagined that their learned seminaries might take this method of instructing the world. But, to obviate this objection, my companion assured me that the doctors of colleges never wrote, and that some of them had actually forgot their reading. “But if you desire,” continued he, “to see a collection of authors, I fancy I can introduce you to a club, which assembles every Saturday at seven . . . .” I accepted his invitation; we walked together, and entered the house some time before the usual hour for the company assembling. My friend took this opportunity of letting me into the characters of the principal members of the club . . . .

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The word obviate (paragraph 4) means

- A. clarify
- B. obscure
- C. turn
- D. negate
- E. facilitate

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Goldsmith suggests that seminaries might be publishing this glut of books to educate the world, but his friend voids that argument in the next sentence.

**QUESTION 801**

Pauline Johnson (1861–1913) was the daughter of Mohawk leader George Henry Martin; her mother was English. Johnson was known in her time as a poet and performer. For years she toured throughout Canada giving dramatic readings. Late in her life she turned to writing short stories. This excerpt is from “A Red Girl’s Reasoning,” first published in 1893.

How interesting – do tell us some more of your old home, Mrs. McDonald; you so seldom speak of your life at the post, and we fellows so often wish to hear of it all,” said Logan eagerly.

“Why do you not ask me of it, then?” “Well – er, I’m sure I don’t know; I’m fully interested in the Ind – in your people – your mother’s people, I mean, but it always seems so personal, I suppose; and – a – a – “ “Perhaps you are, like all other white people, afraid to mention my nationality to me.”

The captain winced, and Mrs. Stuart laughed uneasily. Joe McDonald was not far off, and he was listening, and chuckling, and saying to himself, “That’s you, Christie, lay ‘em out; it won’t hurt ‘em to know how they appear once in a while.”

“Well, Captain Logan,” she was saying, “what is it you would like to hear – of my people, or my parents, or myself?” “All, all, my dear,” cried Mrs. Stuart clamorously. “I’ll speak for him – tell us of yourself and your mother – your father is delightful, I am sure – but then he is only an ordinary Englishman, not half so interesting as a foreigner, or – or perhaps I should say, a native.”

Christie laughed. “Yes,” she said, “my father often teases my mother now about how very native she was when he married her; then, how could she have been otherwise? She did not know a word of English, and there was not another English-speaking person besides my father and his two companions within sixty miles.” “Two companions, eh? One a Catholic priest and the other a wine merchant, I suppose, and with your father in the Hudson Bay, they were good representatives of the pioneers in the New World,” remarked Logan waggishly.

“Oh, no, they were all Hudson Bay men. There were no rum sellers and no missionaries in that part of the country then.” Mrs. Stuart looked puzzled. “No missionaries?” she repeated with an odd intonation. Christie’s insight was quick. There was a peculiar expression of interrogation in the eyes of her listeners, and the girl’s blood leapt angrily up into her temples as she said hurriedly, “I know what you mean; I know what you are thinking. You are wondering how my parents were married –”

“Well – er, my dear, it seems peculiar if there was no priest, and no magistrate, why – a –” Mrs. Stuart paused awkwardly.

“The marriage was performed by Indian rites,” said Christie. “Oh, do tell about it; is the ceremony very interesting and quaint – are your chieftains anything like Buddhist priests?” It was Logan who spoke.

“Why, no,” said the girl in amazement at that gentleman’s ignorance. “There is no ceremony at all, save a feast. The two people just agree to live only with and for each other, and the man takes his wife to his home, just as you do. There is no ritual to bind them; they need none; an Indian’s word was his law in those days, you know.”

Mrs. Stuart stepped backwards. “Ah!” was all she said. Logan removed his eyeglass and stared blankly at Christie. “And did McDonald marry you in this singular fashion?” he questioned.

“Oh, no, we were married by Father O’Leary. Why do you ask?”

“Because if he had, I’d have blown his brains out tomorrow.” Mrs. Stuart’s partner, who had heretofore been silent, coughed and began to twirl his cuff stud nervously, but nobody took notice of him. Christie had risen, slowly, ominously-risen, with the dignity and pride of an empress.

“Captain Logan,” she said, “what do you dare to say to me? What do you dare to mean? Do you presume to think it would not have been lawful for Joe to marry me according to my people’s rites? Do you for one instant dare to question that my parents were not as legally –”  
 “Don’t, dear, don’t,” interrupted Mrs. Stuart hurriedly, “it is bad enough now, goodness knows; don’t make –” Then she broke off blindly.

The word post probably means

- A. register
- B. trading headquarters
- C. mailroom
- D. assignment
- E. stake

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Christie lived at the “post,” and references to Hudson Bay make this the only sensible answer.

#### QUESTION 802

Pauline Johnson (1861–1913) was the daughter of Mohawk leader George Henry Martin; her mother was English. Johnson was known in her time as a poet and performer. For years she toured throughout Canada giving dramatic readings. Late in her life she turned to writing short stories. This excerpt is from “A Red Girl’s Reasoning,” first published in 1893.

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“Don’t, dear, don’t,” interrupted Mrs. Stuart hurriedly, “it is bad enough now, goodness knows; don’t make –” Then she broke off blindly.

What is Joe McDonald’s initial reaction to his wife’s attitude toward the captain and Mrs. Stuart?

- A. He supports her frankness.
- B. He is horrified at her rudeness.
- C. He is amused by her formality.
- D. He wishes he were more like her.
- E. He challenges her disrespectful behavior.

**Correct Answer:** A

**Section:** Reading  
**Explanation**

**Explanation/Reference:**

Explanation:

4th paragraph demonstrate Joe’s approval.

### QUESTION 803

Pauline Johnson (1861–1913) was the daughter of Mohawk leader George Henry Martin; her mother was English. Johnson was known in her time as a poet and performer. For years she toured throughout Canada giving dramatic readings. Late in her life she turned to writing short stories. This excerpt is from “A Red Girl’s Reasoning,” first published in 1893.

How interesting – do tell us some more of your old home, Mrs. McDonald; you so seldom speak of your life at the post, and we fellows so often wish to hear of it all,” said Logan eagerly.

“Why do you not ask me of it, then?” “Well – er, I’m sure I don’t know; I’m fully interested in the Ind – in your people – your mother’s people, I mean, but it always seems so personal, I suppose; and – a – a – “ “Perhaps you are, like all other white people, afraid to mention my nationality to me.”

The captain winced, and Mrs. Stuart laughed uneasily. Joe McDonald was not far off, and he was listening, and chuckling, and saying to himself, “That’s you, Christie, lay ‘em out; it won’t hurt ‘em to know how they appear once in a while.”

“Well, Captain Logan,” she was saying, “what is it you would like to hear – of my people, or my parents, or myself?” “All, all, my dear,” cried Mrs. Stuart clamorously. “I’ll speak for him – tell us of yourself and your mother – your father is delightful, I am sure – but then he is only an ordinary Englishman, not half so interesting as a foreigner, or – or perhaps I should say, a native.”

Christie laughed. “Yes,” she said, “my father often teases my mother now about how very native she was when he married her; then, how could she have been otherwise? She did not know a word of English, and there was not another English-speaking person besides my father and his two companions within sixty miles.” “Two companions, eh? One a Catholic priest and the other a wine merchant, I suppose, and with your father in the Hudson Bay, they were good representatives of the pioneers in the New World,” remarked Logan waggishly.

“Oh, no, they were all Hudson Bay men. There were no rum sellers and no missionaries in that part of the country then.” Mrs. Stuart looked puzzled. “No missionaries?” she repeated with an odd intonation. Christie’s insight was quick. There was a peculiar expression of interrogation in the eyes of her listeners, and the girl’s blood leapt angrily up into her temples as she said hurriedly, “I know what you mean; I know what you are thinking. You are wondering how my parents were married –“

“Well – er, my dear, it seems peculiar if there was no priest, and no magistrate, why – a – “ Mrs. Stuart paused awkwardly.

“The marriage was performed by Indian rites,” said Christie. “Oh, do tell about it; is the ceremony very interesting and quaint – are your chieftains anything like Buddhist priests?” It was Logan who spoke.

“Why, no,” said the girl in amazement at that gentleman’s ignorance. “There is no ceremony at all, save a feast. The two people just agree to live only with and for each other, and the man takes his wife to his home, just as you do. There is no ritual to bind them; they need none; an Indian’s word was his law in those days, you know.”

Mrs. Stuart stepped backwards. “Ah!” was all she said. Logan removed his eyeglass and stared blankly at Christie. “And did McDonald marry you in this singular fashion?” he questioned.

“Oh, no, we were married by Father O’Leary. Why do you ask?”

“Because if he had, I’d have blown his brains out tomorrow.” Mrs. Stuart’s partner, who had heretofore been silent, coughed and began to twirl his cuff stud nervously, but nobody took notice of him. Christie had risen, slowly, ominously – risen, with the dignity and pride of an empress.

“Captain Logan,” she said, “what do you dare to say to me? What do you dare to mean? Do you presume to think it would not have been lawful for Joe to marry me according to my people’s rites? Do you for one instant dare to question that my parents were not as legally –“

“Don’t, dear, don’t,” interrupted Mrs. Stuart hurriedly, “it is bad enough now, goodness knows; don’t make –“ Then she broke off blindly.

Why is Mrs. Stuart not particularly interested in hearing about Christie’s father?

- A. He is not an interesting man.
- B. She cares little about tradespeople.
- C. She, too, is from England.
- D. He is not exotic enough for her taste.
- E. He leads a life that is different from hers.

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

An “ordinary Englishman” cannot be fascinating to Mrs. Stuart.

### QUESTION 804

Pauline Johnson (1861–1913) was the daughter of Mohawk leader George Henry Martin; her mother was English. Johnson was known in her time as a poet and performer. For years she toured throughout Canada giving dramatic readings. Late in her life she turned to writing short stories. This excerpt is from “A Red Girl’s Reasoning,” first published in 1893.

How interesting – do tell us some more of your old home, Mrs. McDonald; you so seldom speak of your life at the post, and we fellows so often wish to hear of it all,” said Logan eagerly.

“Why do you not ask me of it, then?” “Well – er, I’m sure I don’t know; I’m fully interested in the Ind – in your people – your mother’s people, I mean, but it always seems so personal, I suppose; and – a – a – “ “Perhaps you are, like all other white people, afraid to mention my nationality to me.”



The captain winced, and Mrs. Stuart laughed uneasily. Joe McDonald was not far off, and he was listening, and chuckling, and saying to himself, "That's you, Christie, lay 'em out; it won't hurt 'em to know how they appear once in a while." "Well, Captain Logan," she was saying, "what is it you would like to hear – of my people, or my parents, or myself?" "All, all, my dear," cried Mrs. Stuart clamorously. "I'll speak for him – tell us of yourself and your mother – your father is delightful, I am sure – but then he is only an ordinary Englishman, not half so interesting as a foreigner, or – or perhaps I should say, a native."

Christie laughed. "Yes," she said, "my father often teases my mother now about how very native she was when he married her; then, how could she have been otherwise? She did not know a word of English, and there was not another English-speaking person besides my father and his two companions within sixty miles." "Two companions, eh? One a Catholic priest and the other a wine merchant, I suppose, and with your father in the Hudson Bay, they were good representatives of the pioneers in the New World," remarked Logan waggishly.

"Oh, no, they were all Hudson Bay men. There were no rum sellers and no missionaries in that part of the country then." Mrs. Stuart looked puzzled. "No missionaries?" she repeated with an odd intonation. Christie's insight was quick. There was a peculiar expression of interrogation in the eyes of her listeners, and the girl's blood leapt angrily up into her temples as she said hurriedly, "I know what you mean; I know what you are thinking. You are wondering how my parents were married –"

"Well – er, my dear, it seems peculiar if there was no priest, and no magistrate, why – a –" Mrs. Stuart paused awkwardly.

"The marriage was performed by Indian rites," said Christie. "Oh, do tell about it; is the ceremony very interesting and quaint – are your chieftains anything like Buddhist priests?" It was Logan who spoke.

"Why, no," said the girl in amazement at that gentleman's ignorance. "There is no ceremony at all, save a feast. The two people just agree to live only with and for each other, and the man takes his wife to his home, just as you do. There is no ritual to bind them; they need none; an Indian's word was his law in those days, you know."

Mrs. Stuart stepped backwards. "Ah!" was all she said. Logan removed his eyeglass and stared blankly at Christie. "And did McDonald marry you in this singular fashion?" he questioned.

"Oh, no, we were married by Father O'Leary. Why do you ask?"

"Because if he had, I'd have blown his brains out tomorrow." Mrs. Stuart's partner, who had heretofore been silent, coughed and began to twirl his cuff stud nervously, but nobody took notice of him. Christie had risen, slowly, ominously – risen, with the dignity and pride of an empress.

"Captain Logan," she said, "what do you dare to say to me? What do you dare to mean? Do you presume to think it would not have been lawful for Joe to marry me according to my people's rites? Do you for one instant dare to question that my parents were not as legally –"

"Don't, dear, don't," interrupted Mrs. Stuart hurriedly, "it is bad enough now, goodness knows; don't make –" Then she broke off blindly.

Mrs. Stuart's "odd intonation" apparently results from

- A. an inability to pronounce the words she is saying
- B. her alarm at Christie's words
- C. her anger at Logan's implications
- D. ignorance and lack of vocabulary
- E. a sudden loss of the powers of speech

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Mrs. Stuart is eager to be shocked; Christie's words imply something shocking to her.

#### QUESTION 805

Pauline Johnson (1861–1913) was the daughter of Mohawk leader George Henry Martin; her mother was English. Johnson was known in her time as a poet and performer. For years she toured throughout Canada giving dramatic readings. Late in her life she turned to writing short stories. This excerpt is from "A Red Girl's Reasoning," first published in 1893.

How interesting – do tell us some more of your old home, Mrs. McDonald; you so seldom speak of your life at the post, and we fellows so often wish to hear of it all," said Logan eagerly.

"Why do you not ask me of it, then?" "Well – er, I'm sure I don't know; I'm fully interested in the Ind – in your people – your mother's people, I mean, but it always seems so personal, I suppose; and – a – a –" "Perhaps you are, like all other white people, afraid to mention my nationality to me."

The captain winced, and Mrs. Stuart laughed uneasily. Joe McDonald was not far off, and he was listening, and chuckling, and saying to himself, "That's you, Christie, lay 'em out; it won't hurt 'em to know how they appear once in a while."

"Well, Captain Logan," she was saying, "what is it you would like to hear – of my people, or my parents, or myself?" "All, all, my dear," cried Mrs. Stuart clamorously. "I'll speak for him – tell us of yourself and your mother – your father is delightful, I am sure – but then he is only an ordinary Englishman, not half so interesting as a foreigner, or – or perhaps I should say, a native."

Christie laughed. "Yes," she said, "my father often teases my mother now about how very native she was when he married her; then, how could she have been otherwise? She did not know a word of English, and there was not another English-speaking person besides my father and his two companions within sixty miles." "Two companions, eh? One a Catholic priest and the other a wine merchant, I suppose, and with your father in the Hudson Bay, they were good representatives of the pioneers in the New World," remarked Logan waggishly.

"Oh, no, they were all Hudson Bay men. There were no rum sellers and no missionaries in that part of the country then." Mrs. Stuart looked puzzled. "No missionaries?" she repeated with an odd intonation. Christie's insight was quick. There was a peculiar expression of interrogation in the eyes of her listeners, and the girl's blood leapt angrily up into her temples as she said hurriedly, "I know what you mean; I know what you are thinking. You are wondering how my parents were married –"

"Well – er, my dear, it seems peculiar if there was no priest, and no magistrate, why – a –" Mrs. Stuart paused awkwardly.

"The marriage was performed by Indian rites," said Christie. "Oh, do tell about it; is the ceremony very interesting and quaint – are your chieftains anything like Buddhist priests?" It was Logan who spoke.

"Why, no," said the girl in amazement at that gentleman's ignorance. "There is no ceremony at all, save a feast. The two people just agree to live only with and for each other, and the man takes his wife to his home, just as you do. There is no ritual to bind them; they need none; an Indian's word was his law in those days, you know."

Mrs. Stuart stepped backwards. "Ah!" was all she said. Logan removed his eyeglass and stared blankly at Christie. "And did McDonald marry you in this singular fashion?" he questioned.

"Oh, no, we were married by Father O'Leary. Why do you ask?"

"Because if he had, I'd have blown his brains out tomorrow." Mrs. Stuart's partner, who had heretofore been silent, coughed and began to twirl his cuff stud nervously, but nobody took notice of him. Christie had risen, slowly, ominously – risen, with the dignity and pride of an empress.

“Captain Logan,” she said, “what do you dare to say to me? What do you dare to mean? Do you presume to think it would not have been lawful for Joe to marry me according to my people’s rites? Do you for one instant dare to question that my parents were not as legally –”  
“Don’t, dear, don’t,” interrupted Mrs. Stuart hurriedly, “it is bad enough now, goodness knows; don’t make –” Then she broke off blindly.

As the story continues, Joe McDonald is appalled and angry at Christie for “shocking” Logan and Mrs. Stuart. Based on the story so far, how would you expect Christie to react to Joe’s disapproval?

- A. She would probably acquiesce and apologize to Joe.
- B. She would ask Joe to intercede for her with Logan and Mrs. Stuart.
- C. She would tell Logan and Mrs. Stuart that she made up the whole story.
- D. She would humbly beg Mrs. Stuart’s pardon.
- E. She would deny that she had done anything wrong.

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Christie’s frankness and pride are stressed throughout the passage. There is little to allow a reader to predict that she would apologize, lie, or rely on her husband. In fact, she leaves Joe when he refuses to support her in this.

#### QUESTION 806

George Washington served as president of the Constitutional Convention in 1787, and was then elected President of the United States in 1789. This is from his first address to Congress.

Such being the impressions under which I have, in obedience to the public summons, repaired to the present station, it would be peculiarly improper to omit, in this first official act, my fervent supplications to the Almighty Being, who rules over the universe, who presides in the councils of nations, and whose providential aids can supply every human defect, that his benediction may consecrate to the liberties and happiness of the people of the United States a government instituted by themselves for these essential purposes, and may enable every instrument employed in its administration to execute with success the functions allotted to his charge. In tendering this homage to the great Author of every public and private good, I assure myself that it expresses your sentiments not less than my own; nor those of my fellow-citizens at large, less than either. No people can be bound to acknowledge and adore the invisible hand, which conducts the affairs of men, more than the people of the United States.

Every step, by which they have advanced to the character of an independent nation, seems to have been distinguished by some token of providential agency. And, in the important revolution just accomplished in the system of their united government, the tranquil deliberations and voluntary consent of so many distinct communities, from which the event has resulted, cannot be compared with the means by which most governments have been established, without some return of pious gratitude along with a humble anticipation of the future blessings which the past seems to presage. These reflections, arising out of the present crisis, have forced themselves too strongly on my mind to be suppressed. You will join with me, I trust, in thinking that there are none, under the influence of which the proceedings of a new and free government can more auspiciously commence.

By the article establishing the executive department, it is made the duty of the President “to recommend to your consideration such measures as he shall judge necessary and expedient.” The circumstances, under which I now meet you, will acquit me from entering into that subject farther than to refer you to the great constitutional charter under which we are assembled; and which, in defining your powers, designates the objects to which your attention is to be given. It will be more consistent with those circumstances, and far more congenial with the feelings which actuate me, to substitute, in place of a recommendation of particular measures, the tribute that is due to the talents, the rectitude, and the patriotism, which adorn the characters selected to devise and adopt them. In these honorable qualifications I behold the surest pledges, that as, on one side, no local prejudices or attachments, no separate views or party animosities, will misdirect the comprehensive and equal eye, which ought to watch over this great assemblage of communities and interests; so, on another, that the foundations of our national policy will be laid in the pure and immutable principles of private morality, and the preeminence of a free government be exemplified by all the attributes, which can win the affections of its citizens, and command the respect of the world.

Washington’s first official act is to

- A. refer Congress to the constitutional charter
- B. pay tribute to the uprightness of the Founding Fathers
- C. pray for divine guidance
- D. lay the foundations of national policy in the province of private morality
- E. obtain the voluntary consent of several communities

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The last six lines constitute the only part of the speech that could be called an “official act.” Choice E was part of the “revolution just accomplished.” Choices A and C are simply a referral and a prayer. Choice B is a trap: He is paying tribute not to the Founding Fathers but to the legislators in his audience.

#### QUESTION 807

George Washington served as president of the Constitutional Convention in 1787, and was then elected President of the United States in 1789. This is from his first address to Congress.

Such being the impressions under which I have, in obedience to the public summons, repaired to the present station, it would be peculiarly improper to omit, in this first official act, my fervent supplications to the Almighty Being, who rules over the universe, who presides in the councils of nations, and whose providential aids can supply every human defect, that his benediction may consecrate to the liberties and happiness of the people of the United States a government instituted by themselves for these essential purposes, and may enable every instrument employed in its administration to execute with success the functions allotted to his charge. In tendering this homage to the great Author of every public and private good, I assure myself that it expresses your sentiments not less than my own; nor those of my fellow-citizens at large, less than either. No people can be bound to acknowledge and adore the invisible hand, which conducts the affairs of men, more than the people of the United States.

Every step, by which they have advanced to the character of an independent nation, seems to have been distinguished by some token of providential agency. And, in the important revolution just accomplished in the system of their united government, the tranquil deliberations and voluntary consent of so many distinct communities, from which the event has resulted, cannot be compared with the means by which most governments have been established, without some return of pious gratitude along with a humble anticipation of the future blessings which the past seems to presage. These reflections, arising out of the present crisis, have forced themselves too strongly on my mind to be suppressed. You will join with me, I trust, in thinking that there are none, under the influence of which the proceedings of a new and free government can more auspiciously commence.

By the article establishing the executive department, it is made the duty of the President “to recommend to your consideration such measures as he shall judge necessary and expedient.” The circumstances, under which I now meet you, will acquit me from entering into that subject farther than to refer you to the great constitutional charter under which we are assembled; and which, in defining your powers, designates the objects to which your attention is to be given. It will be more consistent with those circumstances, and far more congenial with the feelings which actuate me, to substitute, in place of a recommendation of particular measures, the tribute that is due to the talents, the rectitude, and the patriotism, which adorn the characters selected to devise and adopt them. In these honorable qualifications I behold the surest pledges, that as, on one side, no local prejudices or attachments, no separate views or party animosities, will misdirect the comprehensive and equal eye, which ought to watch over this great assemblage of communities and interests; so, on another, that the foundations of our national policy will be laid in the pure and immutable principles of private morality, and the preeminence of a free government be exemplified by all the attributes, which can win the affections of its citizens, and command the respect of the world. According to Washington, “the invisible hand which conducts the affairs of men”

- A. is that of the President
- B. should be, but isn't, that of Congress
- C. is the constitution
- D. should be revered, especially by Americans
- E. should be respected and adored by all peoples

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Every step they have taken “seems to have been distinguished by some token of providential agency.”



#### QUESTION 808

George Washington served as president of the Constitutional Convention in 1787, and was then elected President of the United States in 1789. This is from his first address to Congress.

Such being the impressions under which I have, in obedience to the public summons, repaired to the present station, it would be peculiarly improper to omit, in this first official act, my fervent supplications to the Almighty Being, who rules over the universe, who presides in the councils of nations, and whose providential aids can supply every human defect, that his benediction may consecrate to the liberties and happiness of the people of the United States a government instituted by themselves for these essential purposes, and may enable every instrument employed in its administration to execute with success the functions allotted to his charge. In tendering this homage to the great Author of every public and private good, I assure myself that it expresses your sentiments not less than my own; nor those of my fellow-citizens at large, less than either. No people can be bound to acknowledge and adore the invisible hand, which conducts the affairs of men, more than the people of the United States.

Every step, by which they have advanced to the character of an independent nation, seems to have been distinguished by some token of providential agency. And, in the important revolution just accomplished in the system of their united government, the tranquil deliberations and voluntary consent of so many distinct communities, from which the event has resulted, cannot be compared with the means by which most governments have been established, without some return of pious gratitude along with a humble anticipation of the future blessings which the past seems to presage. These reflections, arising out of the present crisis, have forced themselves too strongly on my mind to be suppressed. You will join with me, I trust, in thinking that there are none, under the influence of which the proceedings of a new and free government can more auspiciously commence.

By the article establishing the executive department, it is made the duty of the President “to recommend to your consideration such measures as he shall judge necessary and expedient.” The circumstances, under which I now meet you, will acquit me from entering into that subject farther than to refer you to the great constitutional charter under which we are assembled; and which, in defining your powers, designates the objects to which your attention is to be given. It will be more consistent with those circumstances, and far more congenial with the feelings which actuate me, to substitute, in place of a recommendation of particular measures, the tribute that is due to the talents, the rectitude, and the patriotism, which adorn the characters selected to devise and adopt them. In these honorable qualifications I behold the surest pledges, that as, on one side, no local prejudices or attachments, no separate views or party animosities, will misdirect the comprehensive and equal eye, which ought to watch over this great assemblage of communities and interests; so, on another, that the foundations of our national policy will be laid in the pure and immutable principles of private morality, and the preeminence of a free government be exemplified by all the attributes, which can win the affections of its citizens, and command the respect of the world. Acting as chief executive, Washington feels that it is appropriate to

- A. follow faithfully the article establishing the executive department
- B. recommend to Congress consideration of certain measures
- C. pay tribute to those who “devise and adopt” particular measures
- D. announce that there shall be no interparty strife
- E. impose the morality of the United States on the world at large

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

He gets nowhere near (E). He sees “surest pledges” – but certainly can’t “announce” – that there “shall be no interparty strife,” (D). He doesn’t mention any need to “follow faithfully” that article; he simply refers to it, (A). And rather than recommend “certain measures,” (B), he prefers to “pay tribute,” (C).

**QUESTION 809**

George Washington served as president of the Constitutional Convention in 1787, and was then elected President of the United States in 1789. This is from his first address to Congress.

Such being the impressions under which I have, in obedience to the public summons, repaired to the present station, it would be peculiarly improper to omit, in this first official act, my fervent supplications to the Almighty Being, who rules over the universe, who presides in the councils of nations, and whose providential aids can supply every human defect, that his benediction may consecrate to the liberties and happiness of the people of the United States a government instituted by themselves for these essential purposes, and may enable every instrument employed in its administration to execute with success the functions allotted to his charge. In tendering this homage to the great Author of every public and private good, I assure myself that it expresses your sentiments not less than my own; nor those of my fellow-citizens at large, less than either. No people can be bound to acknowledge and adore the invisible hand, which conducts the affairs of men, more than the people of the United States.

Every step, by which they have advanced to the character of an independent nation, seems to have been distinguished by some token of providential agency. And, in the important revolution just accomplished in the system of their united government, the tranquil deliberations and voluntary consent of so many distinct communities, from which the event has resulted, cannot be compared with the means by which most governments have been established, without some return of pious gratitude along with a humble anticipation of the future blessings which the past seems to presage. These reflections, arising out of the present crisis, have forced themselves too strongly on my mind to be suppressed. You will join with me, I trust, in thinking that there are none, under the influence of which the proceedings of a new and free government can more auspiciously commence.

By the article establishing the executive department, it is made the duty of the President “to recommend to your consideration such measures as he shall judge necessary and expedient.” The circumstances, under which I now meet you, will acquit me from entering into that subject farther than to refer you to the great constitutional charter under which we are assembled; and which, in defining your powers, designates the objects to which your attention is to be given. It will be more consistent with those circumstances, and far more congenial with the feelings which actuate me, to substitute, in place of a recommendation of particular measures, the tribute that is due to the talents, the rectitude, and the patriotism, which adorn the characters selected to devise and adopt them. In these honorable qualifications I behold the surest pledges, that as, on one side, no local prejudices or attachments, no separate views or party animosities, will misdirect the comprehensive and equal eye, which ought to watch over this great assemblage of communities and interests; so, on another, that the foundations of our national policy will be laid in the pure and immutable principles of private morality, and the preeminence of a free government be exemplified by all the attributes, which can win the affections of its citizens, and command the respect of the world. Washington foresees a national policy that will

- A. preclude partisan interests
- B. impose American morality on the world
- C. “misdirect the comprehensive and equal eye”
- D. be restricted to American interests
- E. put the United States in charge of the world

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

He says nothing like E. or (D), and the morality he hopes for is not “American,” (B), but private, and not to be imposed on anybody. And because of the “honorable qualifications” of his audience, he sees nothing that will “misdirect the comprehensive and equal eye,” (C). The one thing among these choices he truly does foresee is that there will be “no ... party animosities,” (A).

**QUESTION 810**

George Washington served as president of the Constitutional Convention in 1787, and was then elected President of the United States in 1789. This is from his first address to Congress.

Such being the impressions under which I have, in obedience to the public summons, repaired to the present station, it would be peculiarly improper to omit, in this first official act, my fervent supplications to the Almighty Being, who rules over the universe, who presides in the councils of nations, and whose providential aids can supply every human defect, that his benediction may consecrate to the liberties and happiness of the people of the United States a government instituted by themselves for these essential purposes, and may enable every instrument employed in its administration to execute with success the functions allotted to his charge. In tendering this homage to the great Author of every public and private good, I assure myself that it expresses your sentiments not less than my own; nor those of my fellow-citizens at large, less than either. No people can be bound to acknowledge and adore the invisible hand, which conducts the affairs of men, more than the people of the United States.

Every step, by which they have advanced to the character of an independent nation, seems to have been distinguished by some token of providential agency. And, in the important revolution just accomplished in the system of their united government, the tranquil deliberations and voluntary consent of so many distinct communities, from which the event has resulted, cannot be compared with the means by which most governments have been established, without some return of pious gratitude along with a humble anticipation of the future blessings which the past seems to presage. These reflections, arising out of the present crisis, have forced themselves too strongly on my mind to be suppressed. You will join with me, I trust, in thinking that there are none, under the influence of which the proceedings of a new and free government can more auspiciously commence.

By the article establishing the executive department, it is made the duty of the President “to recommend to your consideration such measures as he shall judge necessary and expedient.” The circumstances, under which I now meet you, will acquit me from entering into that subject farther than to refer you to the great constitutional charter under which we are assembled; and which, in defining your powers, designates the objects to which your attention is to be given. It will be more consistent with those circumstances, and far more congenial with the feelings which actuate me, to substitute, in place of a recommendation of particular measures, the tribute that is due to the talents, the rectitude, and the patriotism, which adorn the characters selected to devise and adopt them. In these honorable qualifications I behold the surest pledges, that as, on one side, no local prejudices or attachments, no separate views or party animosities, will misdirect the comprehensive and equal eye, which ought to watch over this great assemblage of communities and interests; so, on another, that the foundations of our national policy will be laid in the pure and immutable principles of private morality, and the preeminence of a free government be exemplified by all the attributes, which can win the affections of its citizens, and command the respect of the world.

When Washington says that “in obedience to the public summons” he has “repaired to the present station,” he means that he

- A. volunteered for his current duties



- B. has been elected to this office
- C. was haled before this court to testify
- D. intends to correct the mistakes of his predecessors
- E. will step down as required by law

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Washington is politely intimating that he would never be where he is had “the public summons” not called him to this “station.” He has been summoned by the will of the people.

#### QUESTION 811

George Washington served as president of the Constitutional Convention in 1787, and was then elected President of the United States in 1789. This is from his first address to Congress.

Such being the impressions under which I have, in obedience to the public summons, repaired to the present station, it would be peculiarly improper to omit, in this first official act, my fervent supplications to the Almighty Being, who rules over the universe, who presides in the councils of nations, and whose providential aids can supply every human defect, that his benediction may consecrate to the liberties and happiness of the people of the United States a government instituted by themselves for these essential purposes, and may enable every instrument employed in its administration to execute with success the functions allotted to his charge. In tendering this homage to the great Author of every public and private good, I assure myself that it expresses your sentiments not less than my own; nor those of my fellow-citizens at large, less than either. No people can be bound to acknowledge and adore the invisible hand, which conducts the affairs of men, more than the people of the United States.

Every step, by which they have advanced to the character of an independent nation, seems to have been distinguished by some token of providential agency. And, in the important revolution just accomplished in the system of their united government, the tranquil deliberations and voluntary consent of so many distinct communities, from which the event has resulted, cannot be compared with the means by which most governments have been established, without some return of pious gratitude along with a humble anticipation of the future blessings which the past seems to presage. These reflections, arising out of the present crisis, have forced themselves too strongly on my mind to be suppressed. You will join with me, I trust, in thinking that there are none, under the influence of which the proceedings of a new and free government can more auspiciously commence.

By the article establishing the executive department, it is made the duty of the President “to recommend to your consideration such measures as he shall judge necessary and expedient.” The circumstances, under which I now meet you, will acquit me from entering into that subject farther than to refer you to the great constitutional charter under which we are assembled; and which, in defining your powers, designates the objects to which your attention is to be given. It will be more consistent with those circumstances, and far more congenial with the feelings which actuate me, to substitute, in place of a recommendation of particular measures, the tribute that is due to the talents, the rectitude, and the patriotism, which adorn the characters selected to devise and adopt them. In these honorable qualifications I behold the surest pledges, that as, on one side, no local prejudices or attachments, no separate views or party animosities, will misdirect the comprehensive and equal eye, which ought to watch over this great assemblage of communities and interests; so, on another, that the foundations of our national policy will be laid in the pure and immutable principles of private morality, and the preeminence of a free government be exemplified by all the attributes, which can win the affections of its citizens, and command the respect of the world. The word acquit (3rd line of last paragraph) is used to mean

- A. act
- B. sentence
- C. excuse
- D. discontinue
- E. reject

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Washington says that present circumstances mean that he need not “enter into [the] subject” of recommending measures to Congress; he is excused from that duty.

#### QUESTION 812

George Washington served as president of the Constitutional Convention in 1787, and was then elected President of the United States in 1789. This is from his first address to Congress.

Such being the impressions under which I have, in obedience to the public summons, repaired to the present station, it would be peculiarly improper to omit, in this first official act, my fervent supplications to the Almighty Being, who rules over the universe, who presides in the councils of nations, and whose providential aids can supply every human defect, that his benediction may consecrate to the liberties and happiness of the people of the United States a government instituted by themselves for these essential purposes, and may enable every instrument employed in its administration to execute with success the functions allotted to his charge. In tendering this homage to the great Author of every public and private good, I assure myself that it expresses your sentiments not less than my own; nor those of my fellow-citizens at large, less than either. No people can be bound to acknowledge and adore the invisible hand, which conducts the affairs of men, more than the people of the United States.

Every step, by which they have advanced to the character of an independent nation, seems to have been distinguished by some token of providential agency. And, in the important revolution just accomplished in the system of their united government, the tranquil deliberations and voluntary consent of so many distinct communities, from which the event has resulted, cannot be compared with the means by which most governments have been established, without some return of pious gratitude along with a humble anticipation of the future blessings which the past seems to presage. These reflections, arising out of the present crisis, have forced themselves too strongly on my mind to be suppressed. You will join with me, I trust, in thinking that there are none, under the influence of which the proceedings of a new and free government can more auspiciously commence.

By the article establishing the executive department, it is made the duty of the President “to recommend to your consideration such measures as he shall judge necessary and expedient.” The circumstances, under which I now meet you, will acquit me from entering into that subject farther than to refer you to the great constitutional charter under which we are assembled; and which, in defining your powers, designates the objects to which your attention is to be given. It will be

more consistent with those circumstances, and far more congenial with the feelings which actuate me, to substitute, in place of a recommendation of particular measures, the tribute that is due to the talents, the rectitude, and the patriotism, which adorn the characters selected to devise and adopt them. In these honorable qualifications I behold the surest pledges, that as, on one side, no local prejudices or attachments, no separate views or party animosities, will misdirect the comprehensive and equal eye, which ought to watch over this great assemblage of communities and interests; so, on another, that the foundations of our national policy will be laid in the pure and immutable principles of private morality, and the preeminence of a free government be exemplified by all the attributes, which can win the affections of its citizens, and command the respect of the world. The “comprehensive and equal eye” that is to watch over Congress is

- A. the eye of God
- B. the will of the people
- C. a “Big Brother” figure in government
- D. Congress’s unbiased objectivity
- E. the power of the press

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

A careful reading of (end of last paragraph) shows that Washington is concerned that Congress must be unbiased and impartial, guided by the “principles of private morality.” If “local prejudices” or “party animosities” interfere, Congress’s “equal eye” will be “misdirected.”

#### QUESTION 813

He was born a slave, but T. Thomas Fortune (1856–1928) went on to become a journalist, editor, and civil rights activist, founding several early black newspapers and a civil rights organization that predated W. E. B. DuBois’ Niagara Movement (later the NAACP). Like many black leaders of his time, Fortune was torn between the radical leanings of DuBois and the more conservative ideology of Booker T. Washington. This 1884 essay, “The Negro and the Nation,” dates from his more militant period.

The war of the Rebellion settled only one question: It forever settled the question of chattel slavery in this country. It forever choked the life out of the infamy of the Constitutional right of one man to rob another, by purchase of his person, or of his honest share of the produce of his own labor. But this was the only question permanently and irrevocably settled. Nor was this the all-absorbing question involved. The right of a state to secede from the so called Union remains where it was when the treasonable shot upon Fort Sumter aroused the people to all the horrors of internecine war. And the measure of protection which the national government owes the individual members of states, a right imposed upon it by the adoption of the Fourteenth Amendment to the Constitution, remains still to be affirmed.

It was not sufficient that the federal government should expend its blood and treasure to unfetter the limbs of four millions of people. There can be a slavery more odious, more galling, than mere chattel slavery. It has been declared to be an act of charity to enforce ignorance upon the slave, since to inform his intelligence would simply be to make his unnatural lot all the more unbearable. Instance the miserable existence of Æsop, the great black moralist. But this is just what the manumission of the black people of this country try has accomplished. They are more absolutely under the control of the Southern whites; they are more systematically robbed of their labor; they are more poorly housed, clothed and fed, than under the slave régime; and they enjoy, practically, less of the protection of the laws of the state or of the federal government. When they appeal to the federal government they are told by the Supreme Court to go to the state authorities – as if they would have appealed to the one had the other given them that protection to which their sovereign citizenship entitles them!

Practically, there is no law in the United States which extends its protecting arm over the black man and his rights. He is, like the Irishman in Ireland, an alien in his native land. There is no central or auxiliary authority to which he can appeal for protection. Wherever he turns he finds the strong arm of constituted authority powerless to protect him. The farmer and the merchant rob him with absolute immunity, and irresponsible ruffians murder him without fear of punishment, undeterred by the law, or by public opinion – which connives at, if it does not inspire, the deeds of lawless violence. Legislatures of states have framed a code of laws which is more cruel and unjust than any enforced by a former slave state.

The right of franchise has been practically annulled in every one of the former slave states, in not one of which, today, can a man vote, think, or act as he pleases. He must conform his views to the views of the men who have usurped every function of government – who, at the point of the dagger, and with shotgun, have made themselves masters in defiance of every law or precedent in our history as a government. They have usurped government with the weapons of the cowards and assassins, and they maintain themselves in power by the most approved practices of the most odious of tyrants. These men have shed as much innocent blood as the bloody triumvirate of Rome. Today, red handed murderers and assassins sit in the high places of power, and bask in the smiles of innocence and beauty. The only solution the Civil War provided, according to Fortune, was to the problem of

- A. mutually destructive war
- B. protection
- C. slavery
- D. secession
- E. constitutional rights

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The first sentence contains this answer; the paragraph goes on to explain what was not settled by the war.

#### QUESTION 814

He was born a slave, but T. Thomas Fortune (1856–1928) went on to become a journalist, editor, and civil rights activist, founding several early black newspapers and a civil rights organization that predated W. E. B. DuBois' Niagara Movement (later the NAACP). Like many black leaders of his time, Fortune was torn between the radical leanings of DuBois and the more conservative ideology of Booker T. Washington. This 1884 essay, "The Negro and the Nation," dates from his more militant period.

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- A. emancipation
- B. duty
- C. possessions
- D. forgiveness
- E. transportation

**Correct Answer:** A

**Section:** Reading

**Explanation**



**Explanation/Reference:**

Explanation:

You can deduce this answer by reading the whole paragraph carefully. Fortune talks about "a slavery more odious ... than chattel slavery." Even after being liberated, or emancipated, black people remain in chains.

#### QUESTION 815

He was born a slave, but T. Thomas Fortune (1856–1928) went on to become a journalist, editor, and civil rights activist, founding several early black newspapers and a civil rights organization that predated W. E. B. DuBois' Niagara Movement (later the NAACP). Like many black leaders of his time, Fortune was torn between the radical leanings of DuBois and the more conservative ideology of Booker T. Washington. This 1884 essay, "The Negro and the Nation," dates from his more militant period.

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Now that slavery has been abolished, Fortune believes, black people

- A. are chattel
- B. have fewer rights than before

- C. are protected by laws
- D. can succeed in the white man's world
- E. inspire lawless violence

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Paragraphs 2 and 3 are entirely in support of this.

#### QUESTION 816

He was born a slave, but T. Thomas Fortune (1856–1928) went on to become a journalist, editor, and civil rights activist, founding several early black newspapers and a civil rights organization that predated W. E. B. DuBois' Niagara Movement (later the NAACP). Like many black leaders of his time, Fortune was torn between the radical leanings of DuBois and the more conservative ideology of Booker T. Washington. This 1884 essay, "The Negro and the Nation," dates from his more militant period.

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Fortune uses the example of the Irishman to show that

- A. famine is not alien to people in the United States
- B. one can be treated as a foreigner in the land of one's birth
- C. some people have a native land; others have none
- D. one can be born to slavery but rise above it
- E. people may be treated more fairly in a monarchy than in a democracy

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

No law protects the black man; he is, "like the Irishman in Ireland, an alien in his native land".

#### QUESTION 817

Musical notes, like all sounds, are a result of the sound waves created by movement, like the rush of air through a trumpet. Musical notes are very regular sound waves. The qualities of these waves – how much they displace molecules, and how often they do so – give the note its particular sound. How much a sound wave displaces molecules affects the volume of the note. How frequently a sound wave reaches your ear determines whether the note is high or low pitched. When scientists describe how high or low a sound is, they use a numerical measurement of its frequency, such as "440 vibrations per second," rather than the letters musicians use. In this passage, musical notes are used primarily to

- A. illustrate the difference between human-produced and nonhuman produced sound.
- B. demonstrate the difference between musical sound and all other sound.
- C. provide an example of sound properties common to all sound.

- D. convey the difference between musical pitch and frequency pitch.
- E. explain the connection between number and letter names for sounds

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The passage begins, “Musical notes, like all sounds, are a result of the sound waves created by movement.” The author then goes on to talk about musical notes and how they illustrate properties of sound waves. Choice C captures this idea.

#### QUESTION 818

Musical notes, like all sounds, are a result of the sound waves created by movement, like the rush of air through a trumpet. Musical notes are very regular sound waves. The qualities of these waves – how much they displace molecules, and how often they do so – give the note its particular sound. How much a sound wave displaces molecules affects the volume of the note. How frequently a sound wave reaches your ear determines whether the note is high or low pitched. When scientists describe how high or low a sound is, they use a numerical measurement of its frequency, such as “440 vibrations per second,” rather than the letters musicians use.

All of the following are true statements about pitch, according to the passage, EXCEPT:

- A. Nonmusical sounds cannot be referred to in terms of pitch.
- B. Pitch is solely determined by the frequency of the sound wave.
- C. Pitch is closely related to the vibration of molecules.
- D. Pitch cannot be accurately described with letter names.
- E. Humans’ perception of pitch is not affected by the intensity of the sound wave.

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:



Pitch is determined by the frequency of the sound wave. This eliminates (B) and (E). Choice C seems to refer more to the intensity, so eliminate it too. The final sentence says that pitch can be described either in numbers or in letters, so eliminate (D). That leaves (A), the correct answer.

#### QUESTION 819

Margaret Walker, who would become one of the most important twentieth century African-American poets, was born in Birmingham, Alabama, in 1915. Her parents, a minister and a music teacher, encouraged her to read poetry and philosophy even as a child. Walker completed her high school education at Gilbert Academy in New Orleans and went on to attend New Orleans University for two years. It was then that the important Harlem Renaissance poet Langston Hughes recognized her talent and persuaded her to continue her education in the North. She transferred to Northwestern University in Illinois, where she received a degree in English in 1935. Her poem, “For My People,” which would remain one of her most important works, was also her first publication, appearing in Poetry magazine in 1937.

The passage cites Walker’s interaction with Langston Hughes as

- A. instrumental in her early work being published.
- B. influential in her decision to study at Northwestern University.
- C. not as important at the time it happened as it is now, due to Hughes’ fame.
- D. a great encouragement for Walker’s confidence as a poet.
- E. important to her choice to study at New Orleans University.

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The passage states that Langston Hughes “persuaded her to continue her education in the North.” And the passage uses this fact to explain her transfer to Northwestern. This is what (B), the correct answer, suggests.

#### QUESTION 820



Margaret Walker, who would become one of the most important twentieth century African-American poets, was born in Birmingham, Alabama, in 1915. Her parents, a minister and a music teacher, encouraged her to read poetry and philosophy even as a child. Walker completed her high school education at Gilbert Academy in New Orleans and went on to attend New Orleans University for two years. It was then that the important Harlem Renaissance poet Langston Hughes recognized her talent and persuaded her to continue her education in the North. She transferred to Northwestern University in Illinois, where she received a degree in English in 1935. Her poem, “For My People,” which would remain one of her most important works, was also her first publication, appearing in Poetry magazine in 1937. The passage suggests that Walker’s decision to become a poet

- A. occurred before she entered college.
- B. was primarily a result of her interaction with Hughes.
- C. was not surprising, given her upbringing.
- D. occurred after her transfer to Northwestern University.
- E. was sudden and immediately successful.

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The passage doesn’t specifically say that Walker was writing poetry before she entered New Orleans University. Eliminate (A). Hughes recognized her talent, but he didn’t create it, so eliminate (B). Hughes recognized her talent before she transferred to Northwestern, so eliminate (D). The passage, if anything, implies that Walker wrote poetry for some time before publishing anything, so eliminate (E). The passage makes reference to her parents’ occupations and encouragement, implying that they had an influence on her decision to become a poet.

#### QUESTION 821

F. Scott Fitzgerald was a prominent American writer of the twentieth century. This passage comes from one of his short stories and tells the story of a young John Unger leaving home for boarding school. John T. Unger came from a family that had been well known in Hades a small town on the Mississippi River for several generations. John’s father had held the amateur golf championship through many a heated contest; Mrs. Unger was known “from hot-box to hot-bed,” as the local phrase went, for her political addresses; and young John T. Unger, who had just turned sixteen, had danced all the latest dances from New York before he put on long trousers. And now, for a certain time, he was to be away from home.

That respect for a New England education which is the bane of all provincial places, which drains them yearly of their most promising young men, had seized upon his parents.

Nothing would suit them but that he should go to St. Midas’s School near Boston – Hades was too small to hold their darling and gifted son. Now in Hades – as you know if you ever have been there the names of the more fashionable preparatory schools and colleges mean very little. The inhabitants have been so long out of the world that, though they make a show of keeping up-to-date in dress and manners and literature, they depend to a great extent on hearsay, and a function that in Hades would be considered elaborate would doubtless be hailed by a Chicago beef-princess as “perhaps a little tacky.”

John T. Unger was on the eve of departure. Mrs. Unger, with maternal fatuity, packed his trunks full of linen suits and electric fans, and Mr. Unger presented his son with an asbestos pocket-book stuffed with money. “Remember, you are always welcome here,” he said. “You can be sure, boy, that we’ll keep the home fires burning.” “I know,” answered John huskily.

“Don’t forget who you are and where you come from,” continued his father proudly, “and you can do nothing to harm you. You are an Unger – from Hades.”

So the old man and the young shook hands, and John walked away with tears streaming from his eyes. Ten minutes later he had passed outside the city limits and he stopped to glance back for the last time. Over the gates the old-fashioned Victorian motto seemed strangely attractive to him. His father had tried time and time again to have it changed to something with a little more push and verve about it, such as “Hades – Your Opportunity,” or else a plain “Welcome” sign set over a hearty handshake pricked out in electric lights. The old motto was a little depressing, Mr. Unger had thought – but now.

So John took his look and then set his face resolutely toward his destination. And, as he turned away, the lights of Hades against the sky seemed full of a warm and passionate beauty. The

tone of sentence “their darling and gifted son” can best be described as

- A. compassionate.
- B. sincere.
- C. sardonic.
- D. dismayed.
- E. understated.

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The author is poking a bit of fun at the Ungers, so eliminate (A), (B), and (E). His tone is more playful than downtrodden, so the answer is (C).

#### QUESTION 822

F. Scott Fitzgerald was a prominent American writer of the twentieth century. This passage comes from one of his short stories and tells the story of a young John Unger leaving home for boarding school. John T. Unger came from a family that had been well known in Hades a small town on the Mississippi River for several generations. John's father had held the amateur golf championship through many a heated contest; Mrs. Unger was known "from hot-box to hot-bed," as the local phrase went, for her political addresses; and young John T. Unger, who had just turned sixteen, had danced all the latest dances from New York before he put on long trousers. And now, for a certain time, he was to be away from home

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John T. Unger was on the eve of departure. Mrs. Unger, with maternal fatuity, packed his trunks full of linen suits and electric fans, and Mr. Unger presented his son with an asbestos pocket-book stuffed with money. "Remember, you are always welcome here," he said. "You can be sure, boy, that we'll keep the home fires burning." "I know," answered John huskily.

"Don't forget who you are and where you come from," continued his father proudly, "and you can do nothing to harm you. You are an Unger – from Hades."

So the old man and the young shook hands, and John walked away with tears streaming from his eyes. Ten minutes later he had passed outside the city limits and he stopped to glance back for the last time. Over the gates the old-fashioned Victorian motto seemed strangely attractive to him. His father had tried time and time again to have it changed to something with a little more push and verve about it, such as "Hades – Your Opportunity," or else a plain "Welcome" sign set over a hearty handshake pricked out in electric lights. The old motto was a little depressing, Mr. Unger had thought – but now.

So John took his look and then set his face resolutely toward his destination. And, as he turned away, the lights of Hades against the sky seemed full of a warm and passionate beauty.

The "Chicago beef-princess" can best be described as representing the Chicago upper class by way of which literary device?

- A. Anachronism
- B. Simile
- C. Apostrophe
- D. Metaphor
- E. Neologism

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:



The "Chicago beef-princess" suggests the wider high-class social world in Chicago. When one thing stands in for another, it is a metaphor. The answer is (D).

#### QUESTION 823

F. Scott Fitzgerald was a prominent American writer of the twentieth century. This passage comes from one of his short stories and tells the story of a young John Unger leaving home for boarding school. John T. Unger came from a family that had been well known in Hades a small town on the Mississippi River for several generations. John's father had held the amateur golf championship through many a heated contest; Mrs. Unger was known "from hot-box to hot-bed," as the local phrase went, for her political addresses; and young John T. Unger, who had just turned sixteen, had danced all the latest dances from New York before he put on long trousers. And now, for a certain time, he was to be away from home

That respect for a New England education which is the bane of all provincial places, which drains them yearly of their most promising young men, had seized upon his parents.

Nothing would suit them but that he should go to St. Midas's School near Boston – Hades was too small to hold their darling and gifted son. Now in Hades – as you know if you ever have been there the names of the more fashionable preparatory schools and colleges mean very little. The inhabitants have been so long out of the world that, though they make a show of keeping up-to-date in dress and manners and literature, they depend to a great extent on hearsay, and a function that in Hades would be considered elaborate would doubtless be hailed by a Chicago beef-princess as "perhaps a little tacky."

John T. Unger was on the eve of departure. Mrs. Unger, with maternal fatuity, packed his trunks full of linen suits and electric fans, and Mr. Unger presented his son with an asbestos pocket-book stuffed with money. "Remember, you are always welcome here," he said. "You can be sure, boy, that we'll keep the home fires burning." "I know," answered John huskily.

"Don't forget who you are and where you come from," continued his father proudly, "and you can do nothing to harm you. You are an Unger – from Hades."

So the old man and the young shook hands, and John walked away with tears streaming from his eyes. Ten minutes later he had passed outside the city limits and he stopped to glance back for the last time. Over the gates the old-fashioned Victorian motto seemed strangely attractive to him. His father had tried time and time again to have it changed to something with a little more push and verve about it, such as "Hades – Your Opportunity," or else a plain "Welcome" sign set over a hearty handshake pricked out in electric lights. The old motto was a little depressing, Mr. Unger had thought – but now.

So John took his look and then set his face resolutely toward his destination. And, as he turned away, the lights of Hades against the sky seemed full of a warm and passionate beauty. The

phrase "maternal fatuity", suggests that

- A. John will not need linen suits and electric fans at St. Midas's.
- B. John's mother packed frantically and ineffectively.
- C. John's mother was excessively doting.
- D. John resented his mother packing for him.
- E. John never enjoyed linen suits or electric fans.

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Even if you do not know the definition of fatuity you can still get this question. John is going from Hades, which we can assume is hot, to Boston. He will probably not need the light suits and fans. The answer is (A).

#### QUESTION 824

F. Scott Fitzgerald was a prominent American writer of the twentieth century. This passage comes from one of his short stories and tells the story of a young John Unger leaving home for boarding school. John T. Unger came from a family that had been well known in Hades a small town on the Mississippi River for several generations. John's father had held the amateur golf championship through many a heated contest; Mrs. Unger was known "from hot-box to hot-bed," as the local phrase went, for her political addresses; and young John T. Unger, who had just turned sixteen, had danced all the latest dances from New York before he put on long trousers.

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So John took his look and then set his face resolutely toward his destination. And, as he turned away, the lights of Hades against the sky seemed full of a warm and passionate beauty.

From the conversation between John and his father in paragraphs 3 – 6, it can be inferred that John feels

- A. rejected and angry.
- B. melancholic but composed.
- C. impassive and indifferent.
- D. resigned but filled with dread.
- E. relieved but apprehensive.



**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

We know that John does not feel rejected, because he says he knows he will always be welcome at home. Eliminate (A). On the other hand, he does feel something negative, or he wouldn't cry. Eliminate (C) and (E). The handshake and the fact that John's tears are not mentioned until he has turned away from his father suggest that he is composed. The best answer is (B).

#### QUESTION 825

F. Scott Fitzgerald was a prominent American writer of the twentieth century. This passage comes from one of his short stories and tells the story of a young John Unger leaving home for boarding school. John T. Unger came from a family that had been well known in Hades a small town on the Mississippi River for several generations. John's father had held the amateur golf championship through many a heated contest; Mrs. Unger was known "from hot-box to hot-bed," as the local phrase went, for her political addresses; and young John T. Unger, who had just turned sixteen, had danced all the latest dances from New York before he put on long trousers.

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So John took his look and then set his face resolutely toward his destination. And, as he turned away, the lights of Hades against the sky seemed full of a warm and passionate beauty.

John's meditation on the town's sign in the passage serves primarily to suggest a contrast between



- A. John's love of Victorian things and his father's love of modern things.
- B. his father's commercialism and John's sentimentality.
- C. John's previous role as a part of the town and his new role as nostalgic outsider.
- D. his father's naivety and John's pragmatism.
- E. the old-fashioned atmosphere in the town before John's father influenced it and its current modernity.

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

If you were leaving home (and you were crying), why would you stop and look back? Most likely you would do so because you were sad to leave and wanted to get one last look before you went. Which of the answer choices matches this sentiment? Choice C does. The meditation on what the sign says serves to emphasize the quaintness of the town, of which John will no longer be a part. The other answers rely on your being distracted from the main emotions of the story.

#### QUESTION 826

F. Scott Fitzgerald was a prominent American writer of the twentieth century. This passage comes from one of his short stories and tells the story of a young John Unger leaving home for boarding school. John T. Unger came from a family that had been well known in Hades a small town on the Mississippi River for several generations. John's father had held the amateur golf championship through many a heated contest; Mrs. Unger was known "from hot-box to hot-bed," as the local phrase went, for her political addresses; and young John T. Unger, who had just turned sixteen, had danced all the latest dances from New York before he put on long trousers.

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So John took his look and then set his face resolutely toward his destination. And, as he turned away, the lights of Hades against the sky seemed full of a warm and passionate beauty. The

names Hades, St. Midas, and Unger suggest that the passage can be considered a(n)

- A. epic poem.
- B. euphemism.
- C. aphorism.
- D. satire.
- E. allegory.

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Hades is hell in Greco-Roman mythology. Midas represents wealth. Unger resonates with the hunger the family feels for the wealth and prestige of the North. In other words, the names suggest that the story uses the experiences of this one family to represent a larger situation. It is an allegory, Choice E.

**QUESTION 827** This passage discusses the work of Abe Kobo, a Japanese novelist of the twentieth century.

Abe Kobo is one of the great writers of postwar Japan. His literature is richer, less predictable, and wider-ranging than that of his famed contemporaries, Mishima Yukio and Nobel laureate Oe Kenzaburo. It is infused with the passion and strangeness of his experiences in Manchuria, which was a Japanese colony on mainland China before World War II.

Abe spent his childhood and much of his youth in Manchuria, and, as a result, the orbit of his work would be far less controlled by the oppressive gravitational pull of the themes of furusato (hometown) and the emperor than his contemporaries'.

Abe, like most of the sons of Japanese families living in Manchuria, did return to Japan for schooling. He entered medical school in Tokyo in 1944 – just in time to forge himself a medical certificate claiming ill health; this allowed him to avoid fighting in the war that Japan was already losing and return to Manchuria. When Japan lost the war, however, it also lost its Manchurian colony. The Japanese living there were attacked by the Soviet Army and various guerrilla bands. They suddenly found themselves refugees, desperate for food. Many unfit men were abandoned in the Manchurian desert. At this apocalyptic time, Abe lost his father to cholera.

He returned to mainland Japan once more, where the young were turning to Marxism as a rejection of the militarism of the war. After a brief, unsuccessful stint at medical school, he became part of a Marxist group of avant-garde artists. His work at this time was passionate and outspoken on political matters, adopting black humor as its mode of critique.

During this time, Abe worked in the genres of theater, music, and photography. Eventually, he mimeographed fifty copies of his first “published” literary work, entitled Anonymous Poems, in 1947. It was a politically charged set of poems dedicated to the memory of his father and friends who had died in Manchuria. Shortly thereafter, he published his first novel, For a Signpost at the End of a Road, which imagined another life for his best friend who had died in the Manchurian desert. Abe was also active in the Communist Party, organizing literary groups for workingmen.

Unfortunately, most of this radical early work is unknown outside Japan and underappreciated even in Japan. In early 1962, Abe was dismissed from the Japanese Liberalist Party. Four months later, he published the work that would blind us to his earlier oeuvre, Woman in the Dunes. It was director Teshigahara Hiroshi’s film adaptation of Woman in the Dunes that brought Abe’s work to the international stage. The movie’s fame has wrongly led readers to view the novel as Abe’s masterpiece. It would be more accurate to say that the novel simply marked a turning point in his career, when Abe turned away from the experimental and heavily political work of his earlier career. Fortunately, he did not then turn to furusato and the emperor after all, but rather began a somewhat more realistic exploration of his continuing obsession with homelessness and alienation. Not completely a stranger to his earlier commitment to Marxism, Abe turned his attention, beginning in the sixties, to the effects on the individual of Japan’s rapidly urbanizing, growth driven, increasingly corporate society. The word “infused” in 1st paragraph most closely means

- A. illuminated.
- B. saturated.
- C. influenced.
- D. bewildered.
- E. nuanced.

**Correct Answer: C**

**Section: Reading**

**Explanation**

**Explanation/Reference:**

Explanation:

Infused is used to mean that his work was filled with the experiences he had in Manchuria. Eliminate all but (B) and (C). Saturated has something of a negative tone, and the author praises Abe’s work, so eliminate (B). The answer is (C).

**QUESTION 828** This passage discusses the work of Abe Kobo, a Japanese novelist of the twentieth century.

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- A. his work covers a wide range of themes.
- B. the emperor is often compared to a sun.
- C. Abe’s travels were the primary themes in his work.
- D. Abe’s work is so different from his contemporaries’ that it is like another solar system.
- E. conventional themes can limit an author’s individuality.

**Correct Answer: E**

**Section: Reading**

**Explanation**

**Explanation/Reference:**

Explanation:

The metaphorical use of orbit and gravitational pull is used in conjunction with the negative words “controlled” and “oppressive.” Abe’s work is not controlled by oppressive forces. Eliminate (B), (C), and (D). Choices A and E are similar answers, but E better captures the author’s intent.

**QUESTION 829** This passage discusses the work of Abe Kobo, a Japanese novelist of the twentieth century.

Abe Kobo is one of the great writers of postwar Japan. His literature is richer, less predictable, and wider-ranging than that of his famed contemporaries, Mishima Yukio and Nobel laureate Oe Kenzaburo. It is infused with the passion and strangeness of his experiences in Manchuria, which was a Japanese colony on mainland China before World War II.

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- A. Abe entered medical school because he was sick.
- B. sick people were sent to Manchuria during World War II.
- C. Abe wanted to help the ill and injured in World War II, rather than fight.
- D. illness would excuse one from military duty in World War II Japan.
- E. Abe never intended to practice medicine



**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Abe forged a medical certificate, so we know he was not actually sick. You can eliminate (A) and (B). The passage makes no reference to Abe helping the sick and injured, so eliminate (C). The sentence in the passage says that the forged medical certificate allowed him to avoid fighting. Choice D corresponds with that meaning. Choice E can be eliminated because you don’t know what his intentions were for after the war.

**QUESTION 830** This passage discusses the work of Abe Kobo, a Japanese novelist of the twentieth century.

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The author uses the word "apocalyptic" to emphasize that

- A. Manchuria suffered intensely as a result of the use of nuclear weapons in World War II.
- B. Abe was deeply affected by the loss of his father.
- C. there was massive famine in Manchuria at the end of World War II.
- D. postwar Manchuria experienced exhilarating change.
- E. conditions in Manchuria after World War II were generally horrific.

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Even if you don't know the definition of apocalyptic, you probably know that it is a negative word. Eliminate (D) (exhilarating is a positive word). There is no reference to nuclear weapons in the passage, so eliminate (A). There was famine, and Abe seems to have been strongly affected by the loss of his father, but neither of these answers is specific enough. Only E expressly answers the question.

**QUESTION 831** This passage discusses the work of Abe Kobo, a Japanese novelist of the twentieth century.

Abe Kobo is one of the great writers of postwar Japan. His literature is richer, less predictable, and wider-ranging than that of his famed contemporaries, Mishima Yukio and Nobel laureate Oe Kenzaburo. It is infused with the passion and strangeness of his experiences in Manchuria, which was a Japanese colony on mainland China before World War II.

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He returned to mainland Japan once more, where the young were turning to Marxism as a rejection of the militarism of the war. After a brief, unsuccessful stint at medical school, he became part of a Marxist group of avant-garde artists. His work at this time was passionate and outspoken on political matters, adopting black humor as its mode of critique.

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Unfortunately, most of this radical early work is unknown outside Japan and underappreciated even in Japan. In early 1962, Abe was dismissed from the Japanese Liberalist Party. Four months later, he published the work that would blind us to his earlier oeuvre, Woman in the Dunes. It was director Teshigahara Hiroshi's film adaptation of Woman in the Dunes that brought Abe's work to the international stage. The movie's fame has wrongly led readers to view the novel as Abe's masterpiece. It would be more accurate to say that the novel simply marked a turning point in his career, when Abe turned away from the experimental and heavily political work of his earlier career. Fortunately, he did not then turn to furusato and the emperor after all, but rather began a somewhat more realistic exploration of his continuing obsession with homelessness and alienation. Not completely a stranger to his earlier commitment to Marxism, Abe turned his attention, beginning in the sixties, to the effects on the individual of Japan's rapidly urbanizing, growth driven, increasingly corporate society.

The word "avant-garde" in this passage could best be replaced by

- A. experimental.
- B. dramatic.
- C. novel.
- D. profound.
- E. realistic.

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

This question is a little bit more difficult than some vocabulary questions because you have to look in a few different places. The third paragraph, where the word appears, tells you that the avant-garde group was political and that Abe worked in various genres. The fourth paragraph refers to his earlier work, which was the work in the third paragraph, as "experimental and heavily political." Since one of these words is an answer (A), it is the best answer.



**QUESTION 832** This passage discusses the work of Abe Kobo, a Japanese novelist of the twentieth century.

Abe Kobo is one of the great writers of postwar Japan. His literature is richer, less predictable, and wider-ranging than that of his famed contemporaries, Mishima Yukio and Nobel laureate Oe Kenzaburo. It is infused with the passion and strangeness of his experiences in Manchuria, which was a Japanese colony on mainland China before World War II.

Abe spent his childhood and much of his youth in Manchuria, and, as a result, the orbit of his work would be far less controlled by the oppressive gravitational pull of the themes of furusato (hometown) and the emperor than his contemporaries'.

Abe, like most of the sons of Japanese families living in Manchuria, did return to Japan for schooling. He entered medical school in Tokyo in 1944 – just in time to forge himself a medical certificate claiming ill health; this allowed him to avoid fighting in the war that Japan was already losing and return to Manchuria. When Japan lost the war, however, it also lost its Manchurian colony. The Japanese living there were attacked by the Soviet Army and various guerrilla bands. They suddenly found themselves refugees, desperate for food. Many unfit men were abandoned in the Manchurian desert. At this apocalyptic time, Abe lost his father to cholera.

He returned to mainland Japan once more, where the young were turning to Marxism as a rejection of the militarism of the war. After a brief, unsuccessful stint at medical school, he became part of a Marxist group of avant-garde artists. His work at this time was passionate and outspoken on political matters, adopting black humor as its mode of critique.

During this time, Abe worked in the genres of theater, music, and photography. Eventually, he mimeographed fifty copies of his first “published” literary work, entitled Anonymous Poems, in 1947. It was a politically charged set of poems dedicated to the memory of his father and friends who had died in Manchuria. Shortly thereafter, he published his first novel, For a Signpost at the End of a Road, which imagined another life for his best friend who had died in the Manchurian desert. Abe was also active in the Communist Party, organizing literary groups for workingmen.

Unfortunately, most of this radical early work is unknown outside Japan and underappreciated even in Japan. In early 1962, Abe was dismissed from the Japanese Liberalist Party. Four months later, he published the work that would blind us to his earlier oeuvre, Woman in the Dunes. It was director Teshigahara Hiroshi's film adaptation of Woman in the Dunes that brought Abe's work to the international stage. The movie's fame has wrongly led readers to view the novel as Abe's masterpiece. It would be more accurate to say that the novel simply marked a turning point in his career, when Abe turned away from the experimental and heavily political work of his earlier career. Fortunately, he did not then turn to furusato and the emperor after all, but rather began a somewhat more realistic exploration of his continuing obsession with homelessness and alienation. Not completely a stranger to his earlier commitment to Marxism, Abe turned his attention, beginning in the sixties, to the effects on the individual of Japan's rapidly urbanizing, growthdriven, increasingly corporate society.

Which of the following does the passage present as a fact?

- A. Abe was a better playwright than novelist.
- B. Abe's early work was of greater quality than his later work.
- C. The group of avant-garde artists of which Abe was a part were influenced by Marxism.
- D. The themes of furusato and the emperor have precluded Japanese literature from playing a major role in world literature.
- E. Abe's work is richer than his contemporaries' because he included autobiographical elements.

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

This question basically asks you to distinguish between the author's opinion and the basic facts of Abe's career. Choices A, B, and E. all contain evaluative opinions, so eliminate them. The author expresses strong opinions about the themes furusato and the emperor, but never presents any facts about their influence on Japanese literature in the world. The best answer is (C). The author presents it as a known fact that young Japanese artists after World War II were interested in Marxism.

### QUESTION 833

This passage discusses the work of Abe Kobo, a Japanese novelist of the twentieth century.

Abe Kobo is one of the great writers of postwar Japan. His literature is richer, less predictable, and wider-ranging than that of his famed contemporaries, Mishima Yukio and Nobel laureate Oe Kenzaburo. It is infused with the passion and strangeness of his experiences in Manchuria, which was a Japanese colony on mainland China before World War II.

Abe spent his childhood and much of his youth in Manchuria, and, as a result, the orbit of his work would be far less controlled by the oppressive gravitational pull of the themes of furusato (hometown) and the emperor than his contemporaries'.

Abe, like most of the sons of Japanese families living in Manchuria, did return to Japan for schooling. He entered medical school in Tokyo in 1944 – just in time to forge himself a medical certificate claiming ill health; this allowed him to avoid fighting in the war that Japan was already losing and return to Manchuria. When Japan lost the war, however, it also lost its Manchurian colony. The Japanese living there were attacked by the Soviet Army and various guerrilla bands. They suddenly found themselves refugees, desperate for food. Many unfit men were abandoned in the Manchurian desert. At this apocalyptic time, Abe lost his father to cholera.

He returned to mainland Japan once more, where the young were turning to Marxism as a rejection of the militarism of the war. After a brief, unsuccessful stint at medical school, he became part of a Marxist group of avant-garde artists. His work at this time was passionate and outspoken on political matters, adopting black humor as its mode of critique.

During this time, Abe worked in the genres of theater, music, and photography. Eventually, he mimeographed fifty copies of his first “published” literary work, entitled Anonymous Poems, in 1947. It was a politically charged set of poems dedicated to the memory of his father and friends who had died in Manchuria. Shortly thereafter, he published his first novel, For a Signpost at the End of a Road, which imagined another life for his best friend who had died in the Manchurian desert. Abe was also active in the Communist Party, organizing literary groups for workingmen.

Unfortunately, most of this radical early work is unknown outside Japan and underappreciated even in Japan. In early 1962, Abe was dismissed from the Japanese Liberalist Party. Four months later, he published the work that would blind us to his earlier oeuvre, Woman in the Dunes. It was director Teshigahara Hiroshi's film adaptation of Woman in the Dunes that brought Abe's work to the international stage. The movie's fame has wrongly led readers to view the novel as Abe's masterpiece. It would be more accurate to say that the novel simply marked a turning point in his career, when Abe turned away from the experimental and heavily political work of his earlier career. Fortunately, he did not then turn to furusato and the emperor after all, but rather began a somewhat more realistic exploration of his continuing obsession with homelessness and alienation. Not completely a stranger to his earlier commitment to Marxism, Abe turned his attention, beginning in the sixties, to the effects on the individual of Japan's rapidly urbanizing, growthdriven, increasingly corporate society. The phrase “blind us” in the last paragraph refers to the

- A. absence of film adaptations for Abe's other novels.
- B. excessive critical attention to Abe's novel, *Woman in the Dunes*.
- C. difficulty in reconciling *Woman in the Dunes* and other later works with the form and content of his earlier works.
- D. challenge of interpreting Abe's more experimental works.
- E. overwhelming power of Abe's novel, *Woman in the Dunes*.

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

As always, go back to the passage to look for the context of the phrase. Shortly after the phrase appears, the author says that readers have wrongly decided that *Woman in the Dunes* was Abe's masterpiece. The author also refers to the lack of translations of Abe's earlier works. The answer that best summarizes these two things is (B).

**QUESTION 834** This passage discusses the work of Abe Kobo, a Japanese novelist of the twentieth century.

Abe Kobo is one of the great writers of postwar Japan. His literature is richer, less predictable, and wider-ranging than that of his famed contemporaries, Mishima Yukio and Nobel laureate Oe Kenzaburo.

It is infused with the passion and strangeness of his experiences in Manchuria, which was a Japanese colony on mainland China before World War II.

Abe spent his childhood and much of his youth in Manchuria, and, as a result, the orbit of his work would be far less controlled by the oppressive gravitational pull of the themes of *furusato* (hometown) and the emperor than his contemporaries'.

Abe, like most of the sons of Japanese families living in Manchuria, did return to Japan for schooling. He entered medical school in Tokyo in 1944 – just in time to forge himself a medical certificate claiming ill health; this allowed him to avoid fighting in the war that Japan was already losing and return to Manchuria. When Japan lost the war, however, it also lost its Manchurian colony. The Japanese living there were attacked by the Soviet Army and various guerrilla bands. They suddenly found themselves refugees, desperate for food. Many unfit men were abandoned in the Manchurian desert. At this apocalyptic time, Abe lost his father to cholera.

He returned to mainland Japan once more, where the young were turning to Marxism as a rejection of the militarism of the war. After a brief, unsuccessful stint at medical school, he became part of a Marxist group of avant-garde artists. His work at this time was passionate and outspoken on political matters, adopting black humor as its mode of critique.

During this time, Abe worked in the genres of theater, music, and photography. Eventually, he mimeographed fifty copies of his first “published” literary work, entitled *Anonymous Poems*, in 1947. It was a politically charged set of poems dedicated to the memory of his father and friends who had died in Manchuria. Shortly thereafter, he published his first novel, *For a Signpost at the End of a Road*, which imagined another life for his best friend who had died in the Manchurian desert. Abe was also active in the Communist Party, organizing literary groups for workingmen.

Unfortunately, most of this radical early work is unknown outside Japan and underappreciated even in Japan. In early 1962, Abe was dismissed from the Japanese Liberalist Party. Four months later, he published the work that would blind us to his earlier oeuvre, *Woman in the Dunes*. It was director Teshigahara Hiroshi's film adaptation of *Woman in the Dunes* that brought Abe's work to the international stage. The movie's fame has wrongly led readers to view the novel as Abe's masterpiece. It would be more accurate to say that the novel simply marked a turning point in his career, when Abe turned away from the experimental and heavily political work of his earlier career. Fortunately, he did not then turn to *furusato* and the emperor after all, but rather began a somewhat more realistic exploration of his continuing obsession with homelessness and alienation. Not completely a stranger to his earlier commitment to Marxism, Abe turned his attention, beginning in the sixties, to the effects on the individual of Japan's rapidly urbanizing, growth driven, increasingly corporate society. The author's main purpose in the passage is to

- A. defend Abe's later works against the prevalent criticism of it.
- B. advocate for Abe's work over that of his contemporaries.
- C. explain the differences between Abe's earlier and later works.
- D. argue that Abe is an even greater writer and artist than generally perceived.
- E. demonstrate that Abe's work became less interesting after he left Manchuria.

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The author's purpose in paragraph 4 is to suggest that too much attention has been given to Abe's later work. So the answer cannot be (A). There is only a brief comparison to Abe's contemporaries, so (B) is too specific. (E) is not factually correct, since most of the work the passage discusses was produced in Japan. You are left with (C) and (D). (C) is too neutral; this author is opinionated. She/he does not suggest that Abe's later work is bad, but rather that his early work also deserves attention. Choice D is the best answer.

**QUESTION 835** This passage discusses the work of Abe Kobo, a Japanese novelist of the twentieth century.

Abe Kobo is one of the great writers of postwar Japan. His literature is richer, less predictable, and wider-ranging than that of his famed contemporaries, Mishima Yukio and Nobel laureate Oe Kenzaburo. It is infused with the passion and strangeness of his experiences in Manchuria, which was a Japanese colony on mainland China before World War II.

Abe spent his childhood and much of his youth in Manchuria, and, as a result, the orbit of his work would be far less controlled by the oppressive gravitational pull of the themes of furusato (hometown) and the emperor than his contemporaries’.

Abe, like most of the sons of Japanese families living in Manchuria, did return to Japan for schooling. He entered medical school in Tokyo in 1944 – just in time to forge himself a medical certificate claiming ill health; this allowed him to avoid fighting in the war that Japan was already losing and return to Manchuria. When Japan lost the war, however, it also lost its Manchurian colony. The Japanese living there were attacked by the Soviet Army and various guerrilla bands. They suddenly found themselves refugees, desperate for food. Many unfit men were abandoned in the Manchurian desert. At this apocalyptic time, Abe lost his father to cholera.

He returned to mainland Japan once more, where the young were turning to Marxism as a rejection of the militarism of the war. After a brief, unsuccessful stint at medical school, he became part of a Marxist group of avant-garde artists. His work at this time was passionate and outspoken on political matters, adopting black humor as its mode of critique.

During this time, Abe worked in the genres of theater, music, and photography. Eventually, he mimeographed fifty copies of his first “published” literary work, entitled Anonymous Poems, in 1947. It was a politically charged set of poems dedicated to the memory of his father and friends who had died in Manchuria. Shortly thereafter, he published his first novel, For a Signpost at the End of a Road, which imagined another life for his best friend who had died in the Manchurian desert. Abe was also active in the Communist Party, organizing literary groups for workingmen.

Unfortunately, most of this radical early work is unknown outside Japan and underappreciated even in Japan. In early 1962, Abe was dismissed from the Japanese Liberalist Party. Four months later, he published the work that would blind us to his earlier oeuvre, Woman in the Dunes. It was director Teshigahara Hiroshi’s film adaptation of Woman in the Dunes that brought Abe’s work to the international stage. The movie’s fame has wrongly led readers to view the novel as Abe’s masterpiece. It would be more accurate to say that the novel simply marked a turning point in his career, when Abe turned away from the experimental and heavily political work of his earlier career. Fortunately, he did not then turn to furusato and the emperor after all, but rather began a somewhat more realistic exploration of his continuing obsession with homelessness and alienation. Not completely a stranger to his earlier commitment to Marxism, Abe turned his attention, beginning in the sixties, to the effects on the individual of Japan’s rapidly urbanizing, growthdriven, increasingly corporate society. The author of the passage is most likely a

- A. film critic.
- B. literary critic.
- C. avant-garde artist.
- D. translator.
- E. novelist.

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The author is most interested in literary works. There is no reason to suspect that the author is an artist or writer. The tone is critical and scholarly. (B) is the best answer.

**QUESTION 836** This passage discusses the work of Abe Kobo, a Japanese novelist of the twentieth century.

Abe Kobo is one of the great writers of postwar Japan. His literature is richer, less predictable, and wider-ranging than that of his famed contemporaries, Mishima Yukio and Nobel laureate Oe Kenzaburo. It is infused with the passion and strangeness of his experiences in Manchuria, which was a Japanese colony on mainland China before World War II.

Abe spent his childhood and much of his youth in Manchuria, and, as a result, the orbit of his work would be far less controlled by the oppressive gravitational pull of the themes of furusato (hometown) and the emperor than his contemporaries’.

Abe, like most of the sons of Japanese families living in Manchuria, did return to Japan for schooling. He entered medical school in Tokyo in 1944 – just in time to forge himself a medical certificate claiming ill health; this allowed him to avoid fighting in the war that Japan was already losing and return to Manchuria. When Japan lost the war, however, it also lost its Manchurian colony. The Japanese living there were attacked by the Soviet Army and various guerrilla bands. They suddenly found themselves refugees, desperate for food. Many unfit men were abandoned in the Manchurian desert. At this apocalyptic time, Abe lost his father to cholera.

He returned to mainland Japan once more, where the young were turning to Marxism as a rejection of the militarism of the war. After a brief, unsuccessful stint at medical school, he became part of a Marxist group of avant-garde artists. His work at this time was passionate and outspoken on political matters, adopting black humor as its mode of critique.

During this time, Abe worked in the genres of theater, music, and photography. Eventually, he mimeographed fifty copies of his first “published” literary work, entitled Anonymous Poems, in 1947. It was a politically charged set of poems dedicated to the memory of his father and friends who had died in Manchuria. Shortly thereafter, he published his first novel, For a Signpost at the End of a Road, which imagined another life for his best friend who had died in the Manchurian desert. Abe was also active in the Communist Party, organizing literary groups for workingmen.

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- A. contemptuous derision.
- B. reverent espousal.
- C. skeptical tolerance.
- D. respectful interest.
- E. restrained impatience.

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The author of this passage does express many strong opinions, but not in regard to Marxism. You can therefore eliminate both (A) and (B). If anything, she/he is more positive than negative about the influence of Marxism on Abe's work. Eliminate (C) and (E), which imply a negative bias. The answer is (D).

**QUESTION 837**

(1) An incredible hot-air balloon exhibition happened on September 5, 1862. (2) It was given by Glaisher and Coxwell, two Englishmen. (3) There was no compressed oxygen for them to breathe in those days. (4) They got so high that they couldn't use their limbs. (5) Coxwell had to open the descending valve with his teeth. (6) Before Glaisher passed out, he recorded an elevation of twenty-nine thousand feet. (7) Many believe they got eight thousand feet higher before they began to descend, making their ascent the highest in the nineteenth century.

(8) Now the largest balloon to go up in the nineteenth century was "The Giant." (9) The balloon held 215,000 cubic feet of air and was 74 feet wide. (10) It could carry four and a half tons of cargo. (11) Its flight began in Paris, in 1853, with fifteen passengers. (12) All of whom returned safely. (13) The successful trip received a great deal of national and international press because many thought the hot-air balloon would become a form of common transportation.

Which of the following offers the best combination of sentences 1 and 2? An incredible hot-air balloon exhibition happened on September 5, 1862. It was given by Glaisher and Coxwell, two Englishmen.

- A. An incredible hot-air balloon exhibition was given September 5, 1862 by Glaisher and Coxwell, two Englishmen.
- B. An incredibly hot-air balloon exhibition happened on September 5, 1862, given by Glaisher and Coxwell, two Englishmen.
- C. Given by Glaisher and Coxwell, two Englishmen, an incredible hot-air balloon exhibition happened on September 5, 1862.
- D. Glaisher and Coxwell, two Englishmen, gave an incredible hot-air balloon exhibition, happening on September 5, 1862.
- E. Two Englishmen, Glaisher and Coxwell, gave an incredible hot-air balloon exhibition on September 5, 1862.

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Right away, you should notice two sentences in passive voice and think about making them active. Only (D) and (E) do that. (D) includes an imprecise 2ing verb. The test writers love to throw these around. Sometimes they are the right answer, but you should always scrutinize them. Here (E) is a much sharper sentence.

**QUESTION 838**

(1) An incredible hot-air balloon exhibition happened on September 5, 1862. (2) It was given by Glaisher and Coxwell, two Englishmen. (3) There was no compressed oxygen for them to breathe in those days. (4) They got so high that they couldn't use their limbs. (5) Coxwell had to open the descending valve with his teeth. (6) Before Glaisher passed out, he recorded an elevation of twenty-nine thousand feet. (7) Many believe they got eight thousand feet higher before they began to descend, making their ascent the highest in the nineteenth century.

(8) Now the largest balloon to go up in the nineteenth century was "The Giant." (9) The balloon held 215,000 cubic feet of air and was 74 feet wide. (10) It could carry four and a half tons of cargo. (11) Its flight began in Paris, in 1853, with fifteen passengers. (12) All of whom returned safely. (13) The successful trip received a great deal of national and international press because many thought the hot-air balloon would become a form of common transportation.

Which of the following sentences in the first paragraph appears to be out of order?

- A. There was no compressed oxygen for them to breathe in those days.
- B. They got so high that they couldn't use their limbs.
- C. Coxwell had to open the descending valve with his teeth.
- D. Before Glaisher passed out, he recorded an elevation of 29 thousand feet.
- E. Many believe they got 8 thousand feet higher before they began to descend.

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Doesn't sentence 2 seem too specific? It is really an explanation for why the men couldn't use their limbs. It should therefore follow sentence 4. The answer is (A).

**QUESTION 839**



(1) An incredible hot-air balloon exhibition happened on September 5, 1862. (2) It was given by Glaisher and Coxwell, two Englishmen. (3) There was no compressed oxygen for them to breathe in those days. (4) They got so high that they couldn't use their limbs. (5) Coxwell had to open the descending valve with his teeth. (6) Before Glaisher passed out, he recorded an elevation of twenty-nine thousand feet. (7) Many believe they got eight thousand feet higher before they began to descend, making their ascent the highest in the nineteenth century. (8) Now the largest balloon to go up in the nineteenth century was "The Giant." (9) The balloon held 215,000 cubic feet of air and was 74 feet wide. (10) It could carry four and a half tons of cargo. (11) Its flight began in Paris, in 1853, with fifteen passengers. (12) All of whom returned safely. (13) The successful trip received a great deal of national and international press because many thought the hot-air balloon would become a form of common transportation. Which of the following is the best revision for sentence 8? Now the largest balloon to go up in the nineteenth century was "The Giant."

- A. Move "in the nineteenth century" to the beginning of the sentence and delete "Now"
- B. Add a comma after "Now."
- C. Begin the sentence with "Moreover,"
- D. Delete "now."
- E. Replace "to go up" with "exhibition."

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

What is the logical connection between the two sentences? The first deals with the highest trip. The second deals with the largest balloon. Now has nothing to do with that. Neither does in the nineteenth century. You don't want to begin with either of these. Moreover represents paragraph 2 as an extension of the ideas in paragraph 1, which is also inaccurate. The easiest thing to do is simply get rid of now, (D).

#### QUESTION 840

(1) An incredible hot-air balloon exhibition happened on September 5, 1862. (2) It was given by Glaisher and Coxwell, two Englishmen. (3) There was no compressed oxygen for them to breathe in those days. (4) They got so high that they couldn't use their limbs. (5) Coxwell had to open the descending valve with his teeth. (6) Before Glaisher passed out, he recorded an elevation of twenty-nine thousand feet. (7) Many believe they got eight thousand feet higher before they began to descend, making their ascent the highest in the nineteenth century. (8) Now the largest balloon to go up in the nineteenth century was "The Giant." (9) The balloon held 215,000 cubic feet of air and was 74 feet wide. (10) It could carry four and a half tons of cargo. (11) Its flight began in Paris, in 1853, with fifteen passengers. (12) All of whom returned safely. (13) The successful trip received a great deal of national and international press because many thought the hot-air balloon would become a form of common transportation.

Which of the following is the best way to combine sentences 9 and 10? The balloon held 215,000 cubic feet of air and was 74 feet wide. It could handle four and a half tons of cargo.

- A. The balloon held 215,000 cubic feet of air and was 74 feet wide, which could handle four and a half tons of cargo.
- B. The balloon held 215,000 cubic feet of air and was 74 feet wide, handling four and a half tons of cargo.
- C. The balloon held 215,000 cubic feet of air and was 74 feet wide; it could handle four and a half tons of cargo.
- D. The balloon held 215,000 cubic feet of air and was 74 feet wide, and it could handle four and a half tons of cargo.
- E. The balloon held 215,000 cubic feet of air and was 74 feet wide, but it could carry four and a half tons of cargo

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Sentence combination is huge in this section. This example is trickier than most. It already has an and in the first sentence, so if you use and again your sentence will start to sound like a run-on. Here, too, the 2ing verb is imprecise. Which should really go very close to the noun it modifies, so eliminate (A). But implies a contrast, when all of these ideas are similar, so you can eliminate (E). Go with the semicolon (C).

#### QUESTION 841

(1) An incredible hot-air balloon exhibition happened on September 5, 1862. (2) It was given by Glaisher and Coxwell, two Englishmen. (3) There was no compressed oxygen for them to breathe in those days. (4) They got so high that they couldn't use their limbs. (5) Coxwell had to open the descending valve with his teeth. (6) Before Glaisher passed out, he recorded an elevation of twenty-nine thousand feet. (7) Many believe they got eight thousand feet higher before they began to descend, making their ascent the highest in the nineteenth century.

(8) Now the largest balloon to go up in the nineteenth century was "The Giant." (9) The balloon held 215,000 cubic feet of air and was 74 feet wide. (10) It could carry four and a half tons of cargo. (11) Its flight began in Paris, in 1853, with fifteen passengers. (12) All of whom returned safely. (13) The successful trip received a great deal of national and international press because many thought the hot-air balloon would become a form of common transportation.

Which of the following is the best way to revise sentences 11 and 12?

Its flight began in Paris, in 1853, with fifteen passengers. All of whom returned safely.

- A. Replace "whom" with "who."
- B. Make the second sentence read "Who all returned safely."

- C. Delete “of”
- D. Replace the period at the end of sentence 11 with a comma.
- E. Delete the period at the end of sentence 11 and change “returned” to “returning

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

All of whom returned safely is not a complete sentence. It modifies “passengers” in the preceding sentence. Only (D) addresses that major problem!

#### QUESTION 842

(1) On my nineteenth birthday, I began my trip to Mali, West Africa. (2) Some 24 hours later I arrived in Bamako, the capital of Mali. (3) The sun had set and the night was starless. (4) One of the officials from the literacy program I was working was there to meet me. (5) After the melee in the baggage claim, we proceeded to his car. (6) Actually, it was a truck. (7) I was soon to learn that most people in Mali that had automobiles actually had trucks or SUVs. (8) Apparently, there not just a convenience but a necessity when you live on the edge of the Sahara. (9) I threw my bags into the bed of the truck, and hopped in to the back of the cab. (10) Riding to my welcome dinner, I stared out the windows of the truck and took in the city. (11) It was truly a foreign land to me, and I knew that I was an alien there. (12) “What am I doing here?” I thought. (13) It is hard to believe but seven months later I returned to the same airport along the same road that I had traveled on that first night in Bamako, and my perspective on the things that I saw had completely changed. (14) The landscape that had once seemed so desolate and lifeless now was the homeland of people that I had come to love. (15) When I looked back at the capital, Bamako, fast receding on the horizon, I did not see a city foreboding and wild in its foreignness. (16) I saw the city which held so many dear friends. (17) I saw tea drinking sessions going late into the night. (18) I saw the hospitality and open-heartedness of the people of Mali. (19) The second time, everything looked completely different, and I knew that it was I who had changed and not it.

Which of the following is revision of sentence 4?

One of the officials from the literacy program I was working was there to meet me.

- A. As it is now.
- B. One of the literacy program I was working’s officials was there to meet me.
- C. There, was one of the officials from the literacy program I was working to meet me.
- D. One of the officials from the literacy program where I worked had been there to meet me.
- E. One of the officials from the literacy program where I would be working was there to meet me.



**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

What’s missing in this sentence is where. As it stands now, it implies that literacy program is the direct object of working. Choices D and E correct the error, but choice D makes undesirable changes to the verb tenses. Choice E is the best answer.

#### QUESTION 843

(1) On my nineteenth birthday, I began my trip to Mali, West Africa. (2) Some 24 hours later I arrived in Bamako, the capital of Mali. (3) The sun had set and the night was starless. (4) One of the officials from the literacy program I was working was there to meet me. (5) After the melee in the baggage claim, we proceeded to his car. (6) Actually, it was a truck. (7) I was soon to learn that most people in Mali that had automobiles actually had trucks or SUVs. (8) Apparently, there not just a convenience but a necessity when you live on the edge of the Sahara. (9) I threw my bags into the bed of the truck, and hopped in to the back of the cab. (10) Riding to my welcome dinner, I stared out the windows of the truck and took in the city. (11) It was truly a foreign land to me, and I knew that I was an alien there. (12) “What am I doing here?” I thought. (13) It is hard to believe but seven months later I returned to the same airport along the same road that I had traveled on that first night in Bamako, and my perspective on the things that I saw had completely changed. (14) The landscape that had once seemed so desolate and lifeless now was the homeland of people that I had come to love. (15) When I looked back at the capital, Bamako, fast receding on the horizon, I did not see a city foreboding and wild in its foreignness. (16) I saw the city which held so many dear friends. (17) I saw tea drinking sessions going late into the night. (18) I saw the hospitality and open-heartedness of the people of Mali. (19) The second time, everything looked completely different, and I knew that it was I who had changed and not it.

Which of the following is the best way to revise sentence 7 (reproduced below)?

I was soon to learn that most people in Mali that had automobiles actually had trucks or SUVs.

- A. Change “I was soon to learn” to “I was soon learning”
- B. Change “that had automobiles” to “who had automobiles”
- C. Replace “or” with “and”
- D. Add commas after “Mali” and “automobiles”

E. Add an apostrophe to make “SUVs” read “SUV’s”

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

That had automobiles should not be separated by commas because it is an integral part of the category being described, not an added description. But it isn’t correct in written English to write people that. It has to be people who (or people whom if what follows positions the people as the object of a verb). The answer is (B).

#### QUESTION 844

(1) On my nineteenth birthday, I began my trip to Mali, West Africa. (2) Some 24 hours later I arrived in Bamako, the capital of Mali. (3) The sun had set and the night was starless. (4) One of the officials from the literacy program I was working was there to meet me. (5) After the melee in the baggage claim, we proceeded to his car. (6) Actually, it was a truck. (7) I was soon to learn that most people in Mali that had automobiles actually had trucks or SUVs. (8) Apparently, there not just a convenience but a necessity when you live on the edge of the Sahara. (9) I threw my bags into the bed of the truck, and hopped in to the back of the cab. (10) Riding to my welcome dinner, I stared out the windows of the truck and took in the city. (11) It was truly a foreign land to me, and I knew that I was an alien there. (12) “What am I doing here?” I thought.

(13) It is hard to believe but seven months later I returned to the same airport along the same road that I had traveled on that first night in Bamako, and my perspective on the things that I saw had completely changed. (14) The landscape that had once seemed so desolate and lifeless now was the homeland of people that I had come to love. (15) When I looked back at the capital, Bamako, fast receding on the horizon, I did not see a city foreboding and wild in its foreignness.

(16) I saw the city which held so many dear friends. (17) I saw tea drinking sessions going late into the night.

(18) I saw the hospitality and open-heartedness of the people of Mali. (19) The second time, everything looked completely different, and I knew that it was I who had changed and not it.

Sentence 13 (reproduced below) would best be revised to which of the following choices? It is hard to believe but seven months later I returned to the same airport along the same road that I had traveled on that first night in Bamako, and my perspective on the things that I saw had completely changed.

A. As it is now.

B. It is hard to believe, but seven months later I returned to the same airport along the same road that I had traveled on that first night in Bamako: my perspective on the things I saw had completely changed.

C. It is hard to believe but seven months later I returned to the same airport along the same road that I had traveled on that first night in Bamako, and my perspective completely changed on the things I saw.

D. It is hard to believe, but seven months later, when I returned to the same airport along the same road that I had traveled on that first night in Bamako, my perspective on the things I saw had completely changed.

E. It is hard to believe, but seven months later I returned to the same airport along the same road that I had traveled on that first night in Bamako, and my perspective on the things that I saw having completely changed.

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The sentence as it stands is a bit of a disaster. It sounds like a run-on: it just goes on and on like the Energizer Bunny. So what you will want to do is make it more direct, showcasing the important parts and subordinating the descriptions that are really secondary. You also need a comma after It is hard to believe. Start with the easiest thing, and eliminate (A) and (C) off the bat. Which of (B), (D), and (E) makes the sentence more direct? Definitely not (E). Choice B gets rid of the second comma/and combination, which could be good. But is a colon really in order here? No. The best answer is (D).

#### QUESTION 845

(1) On my nineteenth birthday, I began my trip to Mali, West Africa. (2) Some 24 hours later I arrived in Bamako, the capital of Mali. (3) The sun had set and the night was starless. (4) One of the officials from the literacy program I was working was there to meet me. (5) After the melee in the baggage claim, we proceeded to his car. (6) Actually, it was a truck. (7) I was soon to learn that most people in Mali that had automobiles actually had trucks or SUVs. (8) Apparently, there not just a convenience but a necessity when you live on the edge of the Sahara. (9) I threw my bags into the bed of the truck, and hopped in to the back of the cab. (10) Riding to my welcome dinner, I stared out the windows of the truck and took in the city. (11) It was truly a foreign land to me, and I knew that I was an alien there. (12) “What am I doing here?” I thought.

(13) It is hard to believe but seven months later I returned to the same airport along the same road that I had traveled on that first night in Bamako, and my perspective on the things that I saw had completely changed. (14) The landscape that had once seemed so desolate and lifeless now was the homeland of people that I had come to love. (15) When I looked back at the capital, Bamako, fast receding on the horizon, I did not see a city foreboding and wild in its foreignness.

(16) I saw the city which held so many dear friends. (17) I saw teadrinking sessions going late into the night.

(18) I saw the hospitality and open-heartedness of the people of Mali. (19) The second time, everything looked completely different, and I knew that it was I who had changed and not it.

If you were to combine sentences 16 – 18 (reproduced below) into one sentence, which of the following would be the best choice? I saw the city which held so many dear friends. I saw tea-drinking sessions going late into the night. I saw the hospitality and open-heartedness of the people of Mali.

A. I saw the city which held so many dear friends; I saw tea-drinking sessions going late into the night; I saw the hospitality and openheartedness of the people of Mali.

B. I saw the city which held so many dear friends, drinking tea into late in the night, and the hospitality and open-heartedness of the people of Mali.

C. I saw the city which held so many dear friends, I saw tea-drinking sessions going late into the night, I saw the hospitality and openheartedness of the people of Mali.

D. I saw the city which held so many dear friends, tea-drinking sessions going late into the night, the hospitality and open-heartedness of the people of Mali.

E. I saw the city which held so many dear friends: tea-drinking sessions going late into the night, the hospitality and open-heartedness of the people of Mali.

**Correct Answer:** A  
**Section:** Reading  
**Explanation**

**Explanation/Reference:**  
Explanation:

This is a little tricky because the repetition here does serve a purpose; it isn't just extra wordage that got in the author's way. Basically, the sentences are a list. When you have clauses that form a list (or other things requiring lots of words and/or punctuation), you separate them with semicolons rather than commas. (A) looks good. All of the other answers, except (D), change the sense of the original ever so slightly. (D) could be possible if it had and before the last clause, but (A) is still better.

#### QUESTION 846

(1) On my nineteenth birthday, I began my trip to Mali, West Africa. (2) Some 24 hours later I arrived in Bamako, the capital of Mali. (3) The sun had set and the night was starless. (4) One of the officials from the literacy program I was working was there to meet me. (5) After the melee in the baggage claim, we proceeded to his car. (6) Actually, it was a truck. (7) I was soon to learn that most people in Mali that had automobiles actually had trucks or SUVs. (8) Apparently, there not just a convenience but a necessity when you live on the edge of the Sahara. (9) I threw my bags into the bed of the truck, and hopped in to the back of the cab. (10) Riding to my welcome dinner, I stared out the windows of the truck and took in the city. (11) It was truly a foreign land to me, and I knew that I was an alien there. (12) "What am I doing here?" I thought. (13) It is hard to believe but seven months later I returned to the same airport along the same road that I had traveled on that first night in Bamako, and my perspective on the things that I saw had completely changed. (14) The landscape that had once seemed so desolate and lifeless now was the homeland of people that I had come to love. (15) When I looked back at the capital, Bamako, fast receding on the horizon, I did not see a city foreboding and wild in its foreignness. (16) I saw the city which held so many dear friends. (17) I saw tea drinking sessions going late into the night. (18) I saw the hospitality and open-heartedness of the people of Mali. (19) The second time, everything looked completely different, and I knew that it was I who had changed and not it.

Which of the following must be done to sentence 8 (reproduced below) to make it conform to the rules of written English? Apparently, there not just a convenience but a necessity when you live on the edge of the Sahara.

- A. Eliminate the comma after "Apparently"
- B. Change "there" to "they are"
- C. Add commas after "convenience" and "necessity"
- D. Change "you live" to "one lives"
- E. Add "Desert" after "Sahara"

**Correct Answer:** B  
**Section:** Reading  
**Explanation**

**Explanation/Reference:**  
Explanation:

While it would be possible to add a comma after convenience, it doesn't make much sense to add one after necessity. Changing you live to one lives is possible, but not required. So is adding Desert. The comma after apparently isn't strictly required, but it is desirable. The only absolutely necessary change is to replace "there" with "they are" (Choice B). "There are" might have been more difficult to rule against (though still incorrect), but the sentence doesn't even say there are; it just says there.

#### QUESTION 847

The following passage was written by John Janovec, an ecologist who has worked in the Los Amigos watershed in Peru

The Amazonian wilderness harbors the greatest number of species on this planet and is an irreplaceable resource for present and future generations. Amazonia is crucial for maintaining global climate and genetic resources, and its forest and rivers provide vital sources of food, building materials, pharmaceuticals, and water needed by wildlife and humanity.

The Los Amigos watershed in the state of Madre de Dios, southeastern Peru, is representative of the pristine lowland moist forest once found throughout most of upper Amazonian South America. Threats to tropical forests occur in the form of fishing, hunting, gold mining, timber extraction, impending road construction, and slash-and-burn agriculture.

The Los Amigos watershed, consisting of 1.6 million hectares (3.95 million acres), still offers the increasingly scarce opportunity to study rainforest as it was before the disruptive encroachment of modern human civilization. Because of its relatively pristine condition and the immediate need to justify it as a conservation zone, this area deserves intensive, long-term projects aimed at botanical training, ecotourism, biological inventory, and information synthesis.

On July 24, 2001, the government of Peru and the Amazon Conservation Association signed a contractual agreement creating the first long-term permanently renewable conservation concession. To our knowledge this is the first such agreement to be implemented in the world. The conservation concession protects 340,000 acres of old-growth Amazonian forest in the Los Amigos watershed, which is located in southeastern Peru. This watershed protects the eastern flank of Manu National Park and is part of the lowland forest corridor that links it to Bahuaja-Sonene National Park. The Los Amigos conservation concession will serve as a mechanism for the development of a regional center of excellence in natural forest management and biodiversity science.

Several major projects are being implemented at the Los Amigos Conservation Area. Louise Emmons is initiating studies of mammal diversity and ecology in the Los Amigos area. Other projects involve studies of the diversity of arthropods, amphibians, reptiles, and birds. Robin Foster has conducted botanical studies at Los Amigos, resulting in the labeling of hundreds of plant species along two kilometers of trail in upland and lowland forest. Michael Goulding is leading a fisheries and aquatic ecology program, which aims to document the diversity of fish, their ecologies, and their habitats in the Los Amigos area and the Madre de Dios watershed in general. With support from the Amazon Conservation Association, and in collaboration with U.S. and Peruvian colleagues, the Botany of the Los Amigos project has been initiated.

At Los Amigos, we are attempting to develop a system of preservation, sustainability, and scientific research; a marriage between various disciplines, from human ecology to economic botany, product marketing to forest management. The complexity of the ecosystem will best be understood through a multidisciplinary approach, and improved understanding of the complexity will lead to better management. The future of these forests will depend on sustainable management and



development of alternative practices and products that do not require irreversible destruction. The botanical project will provide a foundation of information that is essential to other programs at Los Amigos. By combining botanical studies with fisheries and mammology, we will better understand plant/animal interactions. By providing names, the botanical program will facilitate accurate communication about plants and the animals that use them. Included in this scenario are humans, as we will dedicate time to people-plant interactions in order to learn what plants are used by people in the Los Amigos area, and what plants could potentially be used by people. To be informed, we must develop knowledge.

To develop knowledge, we must collect, organize, and disseminate information. In this sense, botanical information has conservation value. Before we can use plant-based products from the forest, we must know what species are useful and we must know their names. We must be able to identify them, to know where they occur in the forest, how many of them exist, how they are pollinated and when they produce fruit (or other useful products). Aside from understanding the species as they occur locally at Los Amigos, we must have information about their overall distribution in tropical America in order to better understand and manage the distribution, variation, and viability of their genetic diversity. This involves a more complete understanding of the species through studies in the field and herbarium. In 1st paragraph, “genetic resources” refers to

- A. plant seeds.
- B. different races of people.
- C. natural resources, such as oil.
- D. diverse species of plants and animals.
- E. cells that can be used in genetic cures for diseases

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The author is speaking generally in this first paragraph. Global warming and species extinction are two big, general problems; he refers to them in a positive light at “maintaining global climate and genetic resources.” “Genetic resources” refers diverse species of plants and animals, Choice D.

#### QUESTION 848

The Amazonian wilderness harbors the greatest number of species on this planet and is an irreplaceable resource for present and future generations. Amazonia is crucial for maintaining global climate and genetic resources, and its forest and rivers provide vital sources of food, building materials, pharmaceuticals, and water needed by wildlife and humanity.

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At Los Amigos, we are attempting to develop a system of preservation, sustainability, and scientific research; a marriage between various disciplines, from human ecology to economic botany, product marketing to forest management. The complexity of the ecosystem will best be understood through a multidisciplinary approach, and improved understanding of the complexity will lead to better management. The future of these forests will depend on sustainable management and development of alternative practices and products that do not require irreversible destruction. The botanical project will provide a foundation of information that is essential to other programs at Los Amigos. By combining botanical studies with fisheries and mammology, we will better understand plant/animal interactions. By providing names, the botanical program will facilitate accurate communication about plants and the animals that use them. Included in this scenario are humans, as we will dedicate time to people-plant interactions in order to learn what plants are used by people in the Los Amigos area, and what plants could potentially be used by people. To be informed, we must develop knowledge.

To develop knowledge, we must collect, organize, and disseminate information. In this sense, botanical information has conservation value. Before we can use plant-based products from the forest, we must know what species are useful and we must know their names. We must be able to identify them, to know where they occur in the forest, how many of them exist, how they are pollinated and when they produce fruit (or other useful products). Aside from understanding the species as they occur locally at Los Amigos, we must have information about their overall distribution in tropical America in order to better understand and manage the distribution, variation, and viability of their genetic diversity. This involves a more complete understanding of the species through studies in the field and herbarium.

In paragraph 2, the author emphasizes that the current environmental condition of Amazonian South America is

- A. mostly unscathed.
- B. largely unknown.
- C. restorable through his project.
- D. irredeemable everywhere but in the Los Amigos watershed.
- E. varying from destroyed to virtually pristine.

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The author mentions that Los Amigos is relatively pristine, and that the rainforest is facing threats. Eliminate (A) and (B). He isn't talking in the passage about restoring the rainforest, but preventing future damage. Eliminate (C). He does not say that every other part of the rainforest is already destroyed beyond repair. Your logic should tell you that. Eliminate (D) and you are left with (E), the correct answer.

#### QUESTION 849

The Amazonian wilderness harbors the greatest number of species on this planet and is an irreplaceable resource for present and future generations. Amazonia is crucial for maintaining global climate and genetic resources, and its forest and rivers provide vital sources of food, building materials, pharmaceuticals, and water needed by wildlife and humanity.

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- A. grant.
- B. acknowledgement.
- C. food supply.
- D. apology.
- E. compromise.

**Correct Answer: A**

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

First go back and get the context of the use of this phrase. It refers to land being set aside for conservation use. The only possibility is (A).

#### QUESTION 850

The Amazonian wilderness harbors the greatest number of species on this planet and is an irreplaceable resource for present and future generations. Amazonia is crucial for maintaining global climate and genetic resources, and its forest and rivers provide vital sources of food, building materials, pharmaceuticals, and water needed by wildlife and humanity.

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The author implies in paragraph 4 that the agreement between Peru and the Amazon Conservation Association is historic primarily because it

- A. was the first time a South American government had made an agreement of any kind with the Amazon Conservation Association.
- B. was the first long-term agreement regarding land in the Amazon Rainforest.
- C. represented the first time a South American government had agreed to renew a conservation agreement.
- D. is essentially a permanent conservation agreement.
- E. represents the first time such an agreement had been made in the form of a renewable contract.

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

This is a difficult question because it requires you to infer the answer. The best way to do that is to eliminate the least likely answers and then see what's left. The passage tells you that the agreement was "the first long-term permanently renewable conservation concession." There are two references to time in this sentence, so the answer must have to do with time – that leaves (B), (D), and (E). The author isn't really interested in the legal aspects, though, so eliminate (E). Because he includes both "long-term" and "renewable," the agreement probably wasn't the first contract that was simply one or the other. Eliminate (B). That leaves you with (D), the correct answer.

#### QUESTION 851

The Amazonian wilderness harbors the greatest number of species on this planet and is an irreplaceable resource for present and future generations. Amazonia is crucial for maintaining global climate and genetic resources, and its forest and rivers provide vital sources of food, building materials, pharmaceuticals, and water needed by wildlife and humanity.

The Los Amigos watershed in the state of Madre de Dios, southeastern Peru, is representative of the pristine lowland moist forest once found throughout most of upper Amazonian South America. Threats to tropical forests occur in the form of fishing, hunting, gold mining, timber extraction, impending road construction, and slash-and-burn agriculture.

The Los Amigos watershed, consisting of 1.6 million hectares (3.95 million acres), still offers the increasingly scarce opportunity to study rainforest as it was before the disruptive encroachment of modern human civilization. Because of its relatively pristine condition and the immediate need to justify it as a conservation zone, this area deserves intensive, long-term projects aimed at botanical training, ecotourism, biological inventory, and information synthesis.

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Several major projects are being implemented at the Los Amigos Conservation Area. Louise Emmons is initiating studies of mammal diversity and ecology in the Los Amigos area. Other projects involve studies of the diversity of arthropods, amphibians, reptiles, and birds. Robin Foster has conducted botanical studies at Los Amigos, resulting in the labeling of hundreds of plant species along two kilometers of trail in upland and lowland forest. Michael Goulding is leading a fisheries and aquatic ecology program, which aims to document the diversity of fish, their ecologies, and their habitats in the Los Amigos area and the Madre de Dios watershed in general. With support from the Amazon Conservation Association, and in collaboration with U.S. and Peruvian colleagues, the Botany of the Los Amigos project has been initiated.

At Los Amigos, we are attempting to develop a system of preservation, sustainability, and scientific research; a marriage between various disciplines, from human ecology to economic botany, product marketing to forest management. The complexity of the ecosystem will best be understood through a multidisciplinary approach, and improved understanding of the complexity will lead to better management. The future of these forests will depend on sustainable management and development of alternative practices and products that do not require irreversible destruction. The botanical project will provide a foundation of information that is essential to other programs at Los Amigos. By combining botanical studies with fisheries and mammology, we will better understand plant/animal interactions. By providing names, the botanical program will facilitate accurate communication about plants and the animals that use them. Included in this scenario are humans, as we will dedicate time to people-plant interactions in order to learn what plants are used by people in the Los Amigos area, and what plants could potentially be used by people. To be informed, we must develop knowledge.

To develop knowledge, we must collect, organize, and disseminate information. In this sense, botanical information has conservation value. Before we can use plant-based products from the forest, we must know what species are useful and we must know their names. We must be able to identify them, to know where they occur in the forest, how many of them exist, how they are pollinated and when they produce fruit (or other useful products). Aside from understanding the species as they occur locally at Los Amigos, we must have information about their overall distribution in tropical America in order to better understand and manage the distribution, variation, and viability of their genetic diversity. This involves a more complete understanding of the species through studies in the field and herbarium.

The author's main purpose in the passage is to

- A. demonstrate that conservation efforts have been historically successful and so should be continued.
- B. garner support for opposition to destructive activities in the Los Amigos watershed.
- C. position the Los Amigos watershed agreement as a success towards the achievement of the vital goal of conserving the Amazonian rainforests.
- D. uphold the Peruvian government's progressive policies on management of the Los Amigos watershed as an example of government policy working toward conservation.
- E. argue that the study of pristine rainforests is essential for documenting and studying the myriad new species that the forests contain

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

This is a question that you should be asking yourself as you read through the passage. The passage begins by discussing the importance of conservation efforts in Amazonia and then links the work at the Los Amigos watershed with this goal. The correct answer will contain both of these things. (A) is too general. (B) isn't accurate – he doesn't focus on eliminating bad things but on continuing good things. (C) sounds good. (D) is incorrect because the passage is not primarily about the Peruvian government. (E) points to one issue that the passage discusses but lacks many of the other issues the passage discusses. (C) is the best answer.

#### QUESTION 852

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The author's tone in the passage can best be described as

- A. advocacy for his project over other competing projects.
- B. general praise for conservation projects in Amazonian South America.
- C. condemnation for the government of Peru for allowing destruction of the rainforest.
- D. passionate support for his and related projects.
- E. zealous advocacy for his point of view.

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

This question calls for a little nuance. He does advocate for his project, but does not position it against other projects. Eliminate (A). (B) is too general. (C) is not accurate – he does not condemn the government. (D) sounds good. (E) uses language that is too strong – he is not a zealot, but a scientist making his case in calm, rational language. (D) is correct.



**QUESTION 853**

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The work of Louise Emmons, Robin Foster, and Michael Goulding (in the fourth paragraph) are employed in the passage as

- A. colleagues of the author's in his botanical project.
- B. examples of the kinds of activities the author and his colleagues are trying to halt.
- C. examples of the influence of international scientists in Peru.
- D. scientists who represent new trends of study in Amazonian botany.
- E. scientists involved in projects related and amenable to the author's.



**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The author positions his project as complementary to other projects. These scientists are examples of the other amenable projects. The answer is (E).

**QUESTION 854**

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The author's botanical project involves all of the following EXCEPT

- A. studying plants in a laboratory.
- B. studying how plants are used by humans and animals.
- C. facilitating pharmaceutical use of plants.
- D. providing information on how to keep plant species flourishing.
- E. labeling plants in the Los Amigos area.

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

This is a tricky answer because the right choice is the one you'd least expect. The author focuses on working with plants in the watershed, but in the last word of the passage mentions an "herbarium," which through context clues and word study, you can guess means a laboratory where plants are grown. Eliminate (A). The author mentions studying "humanplant" interactions. Eliminate (B). Somewhat surprisingly, the author is in favor of pharmaceutical use of Amazon plants, and implies in paragraph 6. Eliminate (C). (D) is obviously not the answer. You might think that because he focuses on naming, he means labeling, but in fact it is a scientist on another project, Robin Foster, who actually labeled plants. (E) is the answer.

#### QUESTION 855

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When the author says that the botanical project will "provide names," he means that the project will

- A. help recognize new species.
- B. aid in the standardization of names for new species.
- C. participate in naming the region's different zones.
- D. publish information for corporations and researchers regarding the most appropriate names for specific plants.
- E. clarify the confusion surrounding the names of different organizations working in Amazonia.

**Correct Answer:** B

**Section:** Reading  
**Explanation**

**Explanation/Reference:**

Explanation:

As always, first go back and read the section cited in the question. The sentence in which “providing names” occurs, mentions communication about plants and the animals that use them. You will recall that earlier in the passage, it was stated that one of the major projects in studying Amazonia was discovering new species. One hurdle for communication among scientists once a species is discovered is standardizing the name of the species. This is how “providing names” will facilitate communication. Choice B correctly points this out. (If you had difficulty with this question, notice that all the other choices mention issues not directly addressed in the passage. That is a strong indicator that an answer is incorrect.)

#### QUESTION 856

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When the author says that, “botanical information has conservation value,” (last paragraph) he means that

- A. a robust understanding of conservationism is aided by botanical information.
- B. conservationists should strive to preserve botanical information.
- C. speciation is important for conservation.
- D. political discussions about conservation should use botanical nomenclature.
- E. new drugs will be developed in the regions protected by conservationism.

**Correct Answer:** A

**Section:** Reading  
**Explanation**

**Explanation/Reference:**

Explanation:

The author's full argument goes, “To be informed, we must develop knowledge. To develop knowledge, we must collect, organize, and disseminate information. In this sense, botanical information has conservation value.” The author is arguing that being informed is essential for conservationism, and so in this sense botanical information has conservation value. So even though (B), (C), (D), and (E) are all things the author might agree with, only (A) captures the meaning of the argument made here.

#### QUESTION 857

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Which of the following issues does the passage NOT address?

- A. Positive contributions of scientific research for conservation efforts
  - B. Pollution of water sources in Amazonian Peru
  - C. Economic importance of conserving the Amazon rainforests
  - D. Specific efforts of the Peruvian government to maintain the integrity of Peruvian rainforests
- E. Examples of previous scientific research in Los Amigos

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:



You might confuse repeated use of the word watershed with an actual discussion of water pollution, but the author doesn't mention water pollution explicitly. The answer is (B). If you don't get this right away, you can arrive at it by eliminating the others. He does clearly mention all of the other choices.

#### QUESTION 858

The Amazonian wilderness harbors the greatest number of species on this planet and is an irreplaceable resource for present and future generations. Amazonia is crucial for maintaining global climate and genetic resources, and its forest and rivers provide vital sources of food, building materials, pharmaceuticals, and water needed by wildlife and humanity.

The Los Amigos watershed in the state of Madre de Dios, southeastern Peru, is representative of the pristine lowland moist forest once found throughout most of upper Amazonian South America. Threats to tropical forests occur in the form of fishing, hunting, gold mining, timber extraction, impending road construction, and slash-and-burn agriculture.

The Los Amigos watershed, consisting of 1.6 million hectares (3.95 million acres), still offers the increasingly scarce opportunity to study rainforest as it was before the disruptive encroachment of modern human civilization. Because of its relatively pristine condition and the immediate need to justify it as a conservation zone, this area deserves intensive, long-term projects aimed at botanical training, ecotourism, biological inventory, and information synthesis.

On July 24, 2001, the government of Peru and the Amazon Conservation Association signed a contractual agreement creating the first long-term permanently renewable conservation concession. To our knowledge this is the first such agreement to be implemented in the world. The conservation concession protects 340,000 acres of old-growth Amazonian forest in the Los Amigos watershed, which is located in southeastern Peru. This watershed protects the eastern flank of Manu National Park and is part of the lowland forest corridor that links it to Bahuaja-Sonene National Park. The Los Amigos conservation concession will serve as a mechanism for the development of a regional center of excellence in natural forest management and biodiversity science.

Several major projects are being implemented at the Los Amigos Conservation Area. Louise Emmons is initiating studies of mammal diversity and ecology in the Los Amigos area. Other projects involve studies of the diversity of arthropods, amphibians, reptiles, and birds. Robin Foster has conducted botanical studies at Los Amigos, resulting in the labeling of hundreds of plant species along two kilometers of trail in upland and lowland forest. Michael Goulding is leading a fisheries and aquatic ecology program, which aims to document the diversity of fish, their ecologies, and their habitats in the Los Amigos area and the Madre de Dios watershed in general. With support from the Amazon Conservation Association, and in collaboration with U.S. and Peruvian colleagues, the Botany of the Los Amigos project has been initiated.

At Los Amigos, we are attempting to develop a system of preservation, sustainability, and scientific research; a marriage between various disciplines, from human ecology to economic botany, product marketing to forest management. The complexity of the ecosystem will best be understood through a multidisciplinary approach, and improved understanding of the complexity will lead to better management. The future of these forests will depend on sustainable management and development of alternative practices and products that do not require irreversible destruction. The botanical project will provide a foundation of information that is essential to other programs at Los Amigos. By combining botanical studies with fisheries and mammology, we will better understand plant/animal interactions. By providing names, the botanical program will facilitate accurate communication about plants and the animals that use them. Included in this scenario are humans, as we will dedicate time to people-plant interactions in order to learn what plants are used by people in the Los Amigos area, and what plants could potentially be used by people. To be informed, we must develop knowledge.

To develop knowledge, we must collect, organize, and disseminate information. In this sense, botanical information has conservation value. Before we can use plant-based products from the forest, we must know what species are useful and we must know their names. We must be able to identify them, to know where they occur in the forest, how many of them exist, how they are pollinated and when they produce fruit (or other useful products). Aside from understanding the

species as they occur locally at Los Amigos, we must have information about their overall distribution in tropical America in order to better understand and manage the distribution, variation, and viability of their genetic diversity. This involves a more complete understanding of the species through studies in the field and herbarium.

The author mentions areas outside the Los Amigos watershed primarily in order to

- A. imply that his future research will focus on these areas.
- B. draw a comparison between work in those areas and work in the Los Amigos area.
- C. underscore the interrelatedness of the ecosystems.
- D. emphasize that Los Amigos is the most pristine locale.
- E. praise the Peruvian government for its other conservationist undertakings.

**Correct Answer: C**

**Section: Reading**

**Explanation**

**Explanation/Reference:**

Explanation:

The author is talking about how his work at Los Amigos relates to other conservation projects, and how the Los Amigos area is related to other environmentally protected areas. Only (C) captures that meaning.

#### QUESTION 859

In 1953, Watson and Crick unlocked the structure of the DNA molecule and set into motion the modern study of genetics. This advance allowed our study of life to go beyond the so-called wet and dirty realm of biology, the complicated laboratory study of proteins, cells, organelles, ions, and lipids. The study of life could now be performed with more abstract methods of analysis. By discovering the basic structure of DNA, we had received our first glance into the informationbased realm locked inside the genetic code.

Which of the following does the passage discuss as a change that the discovery of DNA brought to the study of life?

- A. The study of lipids and proteins became irrelevant.
- B. New and more abstract methods of study were possible.
- C. Biology could then focus on molecules rather than cells.
- D. Modern genetics matured past its Mendelian roots.
- E. Information-based study of genes became absolute



**Correct Answer: B**

**Section: Reading**

**Explanation**

**Explanation/Reference:**

Explanation:

In reference to the discovery of DNA, the passage states, the study of life could now be performed with more abstract methods of analysis. B. makes the same point, using the same key word, while all the other choices either go beyond what the passage actually states (e.g. (A), the passage does not say that the study of lipids and proteins became irrelevant; (C) basically says the same thing) or bring in topics not mentioned in the passage (e.g. (D), Mendelian genetics is not mentioned in the passage).

#### QUESTION 860

In 1953, Watson and Crick unlocked the structure of the DNA molecule and set into motion the modern study of genetics. This advance allowed our study of life to go beyond the so-called wet and dirty realm of biology, the complicated laboratory study of proteins, cells, organelles, ions, and lipids. The study of life could now be performed with more abstract methods of analysis. By discovering the basic structure of DNA, we had received our first glance into the informationbased realm locked inside the genetic code.

The passage uses the phrase “wet and dirty” (line 5) to mean

- A. haphazard guessing about the genetic code.
- B. the work of Watson and Crick in discovering DNA.
- C. information-based biological research.
- D. the study of the genetic code.
- E. involved laboratory practices in studying basic biological entities

**Correct Answer: E**

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The passage contrasts “wet and dirty” study of lipids and proteins with the information-based study of DNA. In this sense “wet and dirty” involves intensive laboratory work with things like lipids and proteins. It is not haphazard guessing (A). Choice E states this correctly, also drawing on language in the passage (information-based).

**QUESTION 861**

Although little-known today in the United States, Clark Saunders (1859–1941) cast a large shadow in the first several decades of the twentieth century, writing many widely read books on Native American, Spanish, and Anglo folklore. He also wrote extensively on the different cultures of California, the Sierras, and the Southwest. He was a major and influential contributor to Sunset Magazine in its early years. In his day, Saunders was important for introducing much of the American public to a person-sized understanding of the “Old West.”

The passage presents Saunders as a(n)

- A. influential contemporary western writer.
- B. important historian of the West.
- C. a specialist of Native American studies.
- D. widely read author in his own day.
- E. the first editor of Sunset Magazine.

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The passage says that Saunders was a writer on Western topics who was widely read in the past. (D) fits with this. (A) does not. The passage does not say anything like (B), (C), or (E). Thus (D) is the best choice.

**QUESTION 862**

The history of rock and roll is inseparable from the development of blues and gospel music in the southeastern United States. Though the genre gained mass appeal through legendary figures such as Elvis Presley or the wildly popular Beatles, the musical roots of rock and roll extend far before such groups. In fact, many of the groups who popularized rock and roll were consciously attempting to emulate the work of blues greats such as B. B. King or Muddy Waters. The Rolling Stones are a good example of this trend, which developed in the late fifties and early sixties. The Rolling Stones, both then and now, have always explicitly stated their admiration and imitation of blues greats. B. B. King is used in this passage as an example of a

- A. blues artist who was emulated by early rock bands.
- B. musical artist influenced by Elvis Presley.
- C. musician who incorporated aspects of rock and roll.
- D. musician who often played with Muddy Waters.
- E. gospel singer who influenced the Rolling Stones.

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The passage reads, many of the groups who popularized rock and roll consciously were attempting to emulate the work of blues greats such as B. B. King. Choice A is an accurate paraphrase of the information given in the passage.

**QUESTION 863**

The following two passages deal with the political movements working for the woman’s vote in America.

Passage 1

The first organized assertion of woman’s rights in the United States was made at the Seneca Falls convention in 1848. The convention, though, had little immediate impact because of the national issues that would soon embroil the country. The contentious debates involving slavery and state’s rights that preceded the Civil War soon took center stage in national debates.

Thus woman's rights issues would have to wait until the war and its antecedent problems had been addressed before they would be addressed. In 1869, two organizations were formed that would play important roles in securing the woman's right to vote. The first was the American Woman's Suffrage Association (AWSA). Leaving federal and constitutional issues aside, the AWSA focused their attention on state-level politics. They also restricted their ambitions to securing the woman's vote and downplayed discussion of women's full equality. Taking a different track, the National Woman's Suffrage Association (NWSA), led by Elizabeth Stanton and Susan B. Anthony, believed that the only way to assure the longterm security of the woman's vote was to ground it in the constitution. The NWSA challenged the exclusion of woman from the Fifteenth Amendment, the amendment that extended the vote to African-American men. Furthermore, the NWSA linked the fight for suffrage with other inequalities faced by woman, such as marriage laws, which greatly disadvantaged women.

By the late 1880s the differences that separated the two organizations had receded in importance as the women's movement had become a substantial and broad-based political force in the country. In 1890, the two organizations joined forces under the title of the National American Woman's Suffrage Association (NAWSA). The NAWSA would go on to play a vital role in the further fight to achieve the woman's vote.

#### Passage 2

In 1920, when Tennessee became the thirty-eighth state to approve the constitutional amendment securing the woman's right to vote, woman's suffrage became enshrined in the constitution. But woman's suffrage did not happen in one fell swoop. The success of the woman's suffrage movement was the story of a number of partial victories that led to the explicit endorsement of the woman's right to vote in the constitution.

As early as the 1870s and 1880s, women had begun to win the right to vote in local affairs such as municipal elections, school board elections, or prohibition measures. These "partial suffrages" demonstrated that women could in fact responsibly and reasonably participate in a representative democracy (at least as voters). Once such successes were achieved and maintained over a period of time, restricting the full voting rights of woman became more and more suspect. If women were helping decide who was on the local school board, why should they not also have a voice in deciding who was president of the country? Such questions became more difficult for non-suffragists to answer, and thus the logic of restricting the woman's vote began to crumble.

The word "antecedent" in 1st passage can best be replaced by

- A. antebellum.
- B. referent.
- C. causal.
- D. subsequent.
- E. abolitionist.

**Correct Answer: C**

**Section: Reading**

**Explanation**

**Explanation/Reference:**

Explanation:



Antecedent means coming before. Even if you don't know the word, you can use word analysis to figure out that it has something to do with before. Don't confuse ante- with anti- (against). You can eliminate (D) and (E). Referent is a synonym for antecedent only in grammatical usage. Eliminate (B). You are left with antebellum, meaning before the war, or causal, meaning causing. Causal is more specific and more logical. (C) is the answer.

#### QUESTION 864

The following two passages deal with the political movements working for the woman's vote in America.

#### Passage 1

The first organized assertion of woman's rights in the United States was made at the Seneca Falls convention in 1848. The convention, though, had little immediate impact because of the national issues that would soon embroil the country. The contentious debates involving slavery and state's rights that preceded the Civil War soon took center stage in national debates.

Thus woman's rights issues would have to wait until the war and its antecedent problems had been addressed before they would be addressed. In 1869, two organizations were formed that would play important roles in securing the woman's right to vote. The first was the American Woman's Suffrage Association (AWSA). Leaving federal and constitutional issues aside, the AWSA focused their attention on state-level politics. They also restricted their ambitions to securing the woman's vote and downplayed discussion of women's full equality. Taking a different track, the National Woman's Suffrage Association (NWSA), led by Elizabeth Stanton and Susan B. Anthony, believed that the only way to assure the longterm security of the woman's vote was to ground it in the constitution. The NWSA challenged the exclusion of woman from the Fifteenth Amendment, the amendment that extended the vote to African-American men. Furthermore, the NWSA linked the fight for suffrage with other inequalities faced by woman, such as marriage laws, which greatly disadvantaged women.

By the late 1880s the differences that separated the two organizations had receded in importance as the women's movement had become a substantial and broad-based political force in the country. In 1890, the two organizations joined forces under the title of the National American Woman's Suffrage Association (NAWSA). The NAWSA would go on to play a vital role in the further fight to achieve the woman's vote.

#### Passage 2

In 1920, when Tennessee became the thirty-eighth state to approve the constitutional amendment securing the woman's right to vote, woman's suffrage became enshrined in the constitution. But woman's suffrage did not happen in one fell swoop. The success of the woman's suffrage movement was the story of a number of partial victories that led to the explicit endorsement of the woman's right to vote in the constitution.

As early as the 1870s and 1880s, women had begun to win the right to vote in local affairs such as municipal elections, school board elections, or prohibition measures. These "partial suffrages" demonstrated that women could in fact responsibly and reasonably participate in a representative democracy (at least as voters). Once such successes were achieved and maintained over a period of time, restricting the full voting rights of woman became more and more suspect. If women were helping decide who was on the local school board, why should they not also have a voice in deciding who was president of the country? Such questions became more difficult for non-suffragists to answer, and thus the logic of restricting the woman's vote began to crumble

Which of the following does the first passage say was the first organized push for woman's suffrage?

- A. formation of the National Woman's Suffrage Association
- B. formation of the American Woman's Suffrage Association
- C. convening of the Seneca Falls convention
- D. Tennessee passing the Twenty-Second Amendment
- E. "partial suffrages" of local woman's suffrage efforts

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The passage begins by describing the Seneca Falls convention as the first organized attempt for woman's voting rights (read the first sentences of the passage to see this). AWSA and NWSA came after Seneca Falls. (D) and (E) refer to information provided in Passage 2. Choice C is the answer.

#### QUESTION 865

The following two passages deal with the political movements working for the woman's vote in America.

##### Passage 1

The first organized assertion of woman's rights in the United States was made at the Seneca Falls convention in 1848. The convention, though, had little immediate impact because of the national issues that would soon embroil the country. The contentious debates involving slavery and state's rights that preceded the Civil War soon took center stage in national debates.

Thus woman's rights issues would have to wait until the war and its antecedent problems had been addressed before they would be addressed. In 1869, two organizations were formed that would play important roles in securing the woman's right to vote. The first was the American Woman's Suffrage Association (AWSA). Leaving federal and constitutional issues aside, the AWSA focused their attention on state-level politics. They also restricted their ambitions to securing the woman's vote and downplayed discussion of women's full equality. Taking a different track, the National Woman's Suffrage Association (NWSA), led by Elizabeth Stanton and Susan B. Anthony, believed that the only way to assure the longterm security of the woman's vote was to ground it in the constitution. The NWSA challenged the exclusion of woman from the Fifteenth Amendment, the amendment that extended the vote to African-American men. Furthermore, the NWSA linked the fight for suffrage with other inequalities faced by woman, such as marriage laws, which greatly disadvantaged women.

By the late 1880s the differences that separated the two organizations had receded in importance as the women's movement had become a substantial and broad-based political force in the country. In 1890, the two organizations joined forces under the title of the National American Woman's Suffrage Association (NAWSA). The NAWSA would go on to play a vital role in the further fight to achieve the woman's vote.

##### Passage 2

In 1920, when Tennessee became the thirty-eighth state to approve the constitutional amendment securing the woman's right to vote, woman's suffrage became enshrined in the constitution. But woman's suffrage did not happen in one fell swoop. The success of the woman's suffrage movement was the story of a number of partial victories that led to the explicit endorsement of the woman's right to vote in the constitution.

As early as the 1870s and 1880s, women had begun to win the right to vote in local affairs such as municipal elections, school board elections, or prohibition measures. These "partial suffrages" demonstrated that women could in fact responsibly and reasonably participate in a representative democracy (at least as voters). Once such successes were achieved and maintained over a period of time, restricting the full voting rights of woman became more and more suspect. If women were helping decide who was on the local school board, why should they not also have a voice in deciding who was president of the country? Such questions became more difficult for non-suffragists to answer, and thus the logic of restricting the woman's vote began to crumble

What national event does the first passage cite as pushing woman's voting rights to the background of the national consciousness?

- A. Civil War
- B. Suffrage movement
- C. Prohibition
- D. Passage of the Fifteenth Amendment
- E. World War I

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The passage states that the Seneca Falls conference did not have an immediate effect because the nation became embroiled in issues related to the coming Civil War. Knowledge of the dates of the Civil War will help you avoid confusing it with World War I. It was the Civil War, (A), that pushed the woman's voting rights movement to the background of the national consciousness.

#### QUESTION 866

The following two passages deal with the political movements working for the woman's vote in America.



#### Passage 1

The first organized assertion of woman's rights in the United States was made at the Seneca Falls convention in 1848. The convention, though, had little immediate impact because of the national issues that would soon embroil the country. The contentious debates involving slavery and state's rights that preceded the Civil War soon took center stage in national debates.

Thus woman's rights issues would have to wait until the war and its antecedent problems had been addressed before they would be addressed. In 1869, two organizations were formed that would play important roles in securing the woman's right to vote. The first was the American Woman's Suffrage Association (AWSA). Leaving federal and constitutional issues aside, the AWSA focused their attention on state-level politics. They also restricted their ambitions to securing the woman's vote and downplayed discussion of women's full equality. Taking a different track, the National Woman's Suffrage Association (NWSA), led by Elizabeth Stanton and Susan B. Anthony, believed that the only way to assure the longterm security of the woman's vote was to ground it in the constitution. The NWSA challenged the exclusion of woman from the Fifteenth Amendment, the amendment that extended the vote to African-American men. Furthermore, the NWSA linked the fight for suffrage with other inequalities faced by woman, such as marriage laws, which greatly disadvantaged women.

By the late 1880s the differences that separated the two organizations had receded in importance as the women's movement had become a substantial and broad-based political force in the country. In 1890, the two organizations joined forces under the title of the National American Woman's Suffrage Association (NAWSA). The NAWSA would go on to play a vital role in the further fight to achieve the woman's vote.

#### Passage 2

In 1920, when Tennessee became the thirty-eighth state to approve the constitutional amendment securing the woman's right to vote, woman's suffrage became enshrined in the constitution. But woman's suffrage did not happen in one fell swoop. The success of the woman's suffrage movement was the story of a number of partial victories that led to the explicit endorsement of the woman's right to vote in the constitution.

As early as the 1870s and 1880s, women had begun to win the right to vote in local affairs such as municipal elections, school board elections, or prohibition measures. These "partial suffrages" demonstrated that women could in fact responsibly and reasonably participate in a representative democracy (at least as voters). Once such successes were achieved and maintained over a period of time, restricting the full voting rights of woman became more and more suspect. If women were helping decide who was on the local school board, why should they not also have a voice in deciding who was president of the country? Such questions became more difficult for non-suffragists to answer, and thus the logic of restricting the woman's vote began to crumble

According to the first passage, the National Woman's Suffrage Association focused their efforts on

- A. local elections.
- B. constitutional issues.
- C. prohibition efforts.
- D. school board elections.
- E. state elections.

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Here it is best to go back to the passage and clarify in your own mind the distinctions drawn between the NWSA and the AWSA. The NWSA, which the question asks about, focused their efforts on federal and constitutional issues, whereas the AWSA focused on state-level issues. So (B) is the correct answer.

#### QUESTION 867

The following two passages deal with the political movements working for the woman's vote in America.

#### Passage 1

The first organized assertion of woman's rights in the United States was made at the Seneca Falls convention in 1848. The convention, though, had little immediate impact because of the national issues that would soon embroil the country. The contentious debates involving slavery and state's rights that preceded the Civil War soon took center stage in national debates.

Thus woman's rights issues would have to wait until the war and its antecedent problems had been addressed before they would be addressed. In 1869, two organizations were formed that would play important roles in securing the woman's right to vote. The first was the American Woman's Suffrage Association (AWSA). Leaving federal and constitutional issues aside, the AWSA focused their attention on state-level politics. They also restricted their ambitions to securing the woman's vote and downplayed discussion of women's full equality. Taking a different track, the National Woman's Suffrage Association (NWSA), led by Elizabeth Stanton and Susan B. Anthony, believed that the only way to assure the longterm security of the woman's vote was to ground it in the constitution. The NWSA challenged the exclusion of woman from the Fifteenth Amendment, the amendment that extended the vote to African-American men. Furthermore, the NWSA linked the fight for suffrage with other inequalities faced by woman, such as marriage laws, which greatly disadvantaged women.

By the late 1880s the differences that separated the two organizations had receded in importance as the women's movement had become a substantial and broad-based political force in the country. In 1890, the two organizations joined forces under the title of the National American Woman's Suffrage Association (NAWSA). The NAWSA would go on to play a vital role in the further fight to achieve the woman's vote.

#### Passage 2

In 1920, when Tennessee became the thirty-eighth state to approve the constitutional amendment securing the woman's right to vote, woman's suffrage became enshrined in the constitution. But woman's suffrage did not happen in one fell swoop. The success of the woman's suffrage movement was the story of a number of partial victories that led to the explicit endorsement of the woman's right to vote in the constitution.

As early as the 1870s and 1880s, women had begun to win the right to vote in local affairs such as municipal elections, school board elections, or prohibition measures. These "partial suffrages" demonstrated that women could in fact responsibly and reasonably participate in a representative democracy (at least as voters). Once such successes were achieved and maintained over a period of time, restricting the full voting rights of woman became more and more suspect. If

women were helping decide who was on the local school board, why should they not also have a voice in deciding who was president of the country? Such questions became more difficult for non-suffragists to answer, and thus the logic of restricting the woman's vote began to crumble

The differences between the AWSA and the NWSA were ultimately resolved when

- A. the Twenty-Second Amendment passed.
- B. the two organizations were combined to form the NAWSA.
- C. the Civil War ended.
- D. prohibition passed.
- E. woman's suffragists won significant victories in the 1890 general election.

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Don't be distracted by the wrong answers. Without even reading the passage, you could guess that the conflict between two organizations was resolved when they combined. The answer is (B).

#### QUESTION 868

The following two passages deal with the political movements working for the woman's vote in America.

##### Passage 1

The first organized assertion of woman's rights in the United States was made at the Seneca Falls convention in 1848. The convention, though, had little immediate impact because of the national issues that would soon embroil the country. The contentious debates involving slavery and state's rights that preceded the Civil War soon took center stage in national debates.

Thus woman's rights issues would have to wait until the war and its antecedent problems had been addressed before they would be addressed. In 1869, two organizations were formed that would play important roles in securing the woman's right to vote. The first was the American Woman's Suffrage Association (AWSA). Leaving federal and constitutional issues aside, the AWSA focused their attention on state-level politics. They also restricted their ambitions to securing the woman's vote and downplayed discussion of women's full equality. Taking a different track, the National Woman's Suffrage Association (NWSA), led by Elizabeth Stanton and Susan B. Anthony, believed that the only way to assure the longterm security of the woman's vote was to ground it in the constitution. The NWSA challenged the exclusion of woman from the Fifteenth Amendment, the amendment that extended the vote to African-American men. Furthermore, the NWSA linked the fight for suffrage with other inequalities faced by woman, such as marriage laws, which greatly disadvantaged women.

By the late 1880s the differences that separated the two organizations had receded in importance as the women's movement had become a substantial and broad-based political force in the country. In 1890, the two organizations joined forces under the title of the National American Woman's Suffrage Association (NAWSA). The NAWSA would go on to play a vital role in the further fight to achieve the woman's vote.

##### Passage 2

In 1920, when Tennessee became the thirty-eighth state to approve the constitutional amendment securing the woman's right to vote, woman's suffrage became enshrined in the constitution. But woman's suffrage did not happen in one fell swoop. The success of the woman's suffrage movement was the story of a number of partial victories that led to the explicit endorsement of the woman's right to vote in the constitution.

As early as the 1870s and 1880s, women had begun to win the right to vote in local affairs such as municipal elections, school board elections, or prohibition measures. These "partial suffrages" demonstrated that women could in fact responsibly and reasonably participate in a representative democracy (at least as voters). Once such successes were achieved and maintained over a period of time, restricting the full voting rights of woman became more and more suspect. If women were helping decide who was on the local school board, why should they not also have a voice in deciding who was president of the country? Such questions became more difficult for non-suffragists to answer, and thus the logic of restricting the woman's vote began to crumble

In Passage 1, the author's attitude toward the subject matter is

- A. intense scrutiny.
- B. distanced suspicion.
- C. mild censure.
- D. appreciative description.
- E. enthusiastic support.

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The author of Passage 1 doesn't have a very strong opinion, so you can eliminate (A) and (E). Now you need to decide if the author's opinion, however subtle, is positive or negative. It seems positive. For example, the author describes the work of the NAWSA as important. Thus the correct answer will be positive. That eliminates (B) and (C). The answer is (D).

#### QUESTION 869

The following two passages deal with the political movements working for the woman's vote in America.

##### Passage 1

The first organized assertion of woman's rights in the United States was made at the Seneca Falls convention in 1848. The convention, though, had little immediate impact because of the national issues that would soon embroil the country. The contentious debates involving slavery and state's rights that preceded the Civil War soon took center stage in national debates.

Thus woman's rights issues would have to wait until the war and its antecedent problems had been addressed before they would be addressed. In 1869, two organizations were formed that would play important roles in securing the woman's right to vote. The first was the American Woman's Suffrage Association (AWSA). Leaving federal and constitutional issues aside, the AWSA focused their attention on state-level politics. They also restricted their ambitions to securing the woman's vote and downplayed discussion of women's full equality. Taking a different track, the National Woman's Suffrage Association (NWSA), led by Elizabeth Stanton and Susan B. Anthony, believed that the only way to assure the longterm security of the woman's vote was to ground it in the constitution. The NWSA challenged the exclusion of woman from the Fifteenth Amendment, the amendment that extended the vote to African-American men. Furthermore, the NWSA linked the fight for suffrage with other inequalities faced by woman, such as marriage laws, which greatly disadvantaged women.

By the late 1880s the differences that separated the two organizations had receded in importance as the women's movement had become a substantial and broad-based political force in the country. In 1890, the two organizations joined forces under the title of the National American Woman's Suffrage Association (NAWSA). The NAWSA would go on to play a vital role in the further fight to achieve the woman's vote.

##### Passage 2

In 1920, when Tennessee became the thirty-eighth state to approve the constitutional amendment securing the woman's right to vote, woman's suffrage became enshrined in the constitution. But woman's suffrage did not happen in one fell swoop. The success of the woman's suffrage movement was the story of a number of partial victories that led to the explicit endorsement of the woman's right to vote in the constitution.

As early as the 1870s and 1880s, women had begun to win the right to vote in local affairs such as municipal elections, school board elections, or prohibition measures. These "partial suffrages" demonstrated that women could in fact responsibly and reasonably participate in a representative democracy (at least as voters). Once such successes were achieved and maintained over a period of time, restricting the full voting rights of woman became more and more suspect. If women were helping decide who was on the local school board, why should they not also have a voice in deciding who was president of the country? Such questions became more difficult for non-suffragists to answer, and thus the logic of restricting the woman's vote began to crumble

Passage 2 locates the ultimate victory of the woman's suffrage movement with which of the following events?

- A. Tennessee approving the woman's voting rights amendment
- B. Congress passing the Twenty-Second Amendment
- C. The combination of AWSA and NWSA into NAWSA
- D. Woman earning the full vote in Wyoming
- E. Women's fruitful participation in local elections



**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The first question is to determine what the "ultimate victory of the woman's suffrage movement" is. The first paragraph of the second passage makes it clear the author views the passing of the amendment to the constitution as the "ultimate victory," and this occurred with Tennessee approving the amendment. So (A) is the answer.

#### QUESTION 870

The following two passages deal with the political movements working for the woman's vote in America.

##### Passage 1

The first organized assertion of woman's rights in the United States was made at the Seneca Falls convention in 1848. The convention, though, had little immediate impact because of the national issues that would soon embroil the country. The contentious debates involving slavery and state's rights that preceded the Civil War soon took center stage in national debates.

Thus woman's rights issues would have to wait until the war and its antecedent problems had been addressed before they would be addressed. In 1869, two organizations were formed that would play important roles in securing the woman's right to vote. The first was the American Woman's Suffrage Association (AWSA). Leaving federal and constitutional issues aside, the AWSA focused their attention on state-level politics. They also restricted their ambitions to securing the woman's vote and downplayed discussion of women's full equality. Taking a different track, the National Woman's Suffrage Association (NWSA), led by Elizabeth Stanton and Susan B. Anthony, believed that the only way to assure the longterm security of the woman's vote was to ground it in the constitution. The NWSA challenged the exclusion of woman from the Fifteenth Amendment, the amendment that extended the vote to African-American men. Furthermore, the NWSA linked the fight for suffrage with other inequalities faced by woman, such as marriage laws, which greatly disadvantaged women.

By the late 1880s the differences that separated the two organizations had receded in importance as the women's movement had become a substantial and broad-based political force in the country. In 1890, the two organizations joined forces under the title of the National American Woman's Suffrage Association (NAWSA). The NAWSA would go on to play a vital role in the further fight to achieve the woman's vote.

##### Passage 2

In 1920, when Tennessee became the thirty-eighth state to approve the constitutional amendment securing the woman's right to vote, woman's suffrage became enshrined in the constitution. But woman's suffrage did not happen in one fell swoop. The success of the woman's suffrage movement was the story of a number of partial victories that led to the explicit endorsement of the woman's right to vote in the constitution.

As early as the 1870s and 1880s, women had begun to win the right to vote in local affairs such as municipal elections, school board elections, or prohibition measures. These “partial suffrages” demonstrated that women could in fact responsibly and reasonably participate in a representative democracy (at least as voters). Once such successes were achieved and maintained over a period of time, restricting the full voting rights of woman became more and more suspect. If women were helping decide who was on the local school board, why should they not also have a voice in deciding who was president of the country? Such questions became more difficult for non-suffragists to answer, and thus the logic of restricting the woman’s vote began to crumble

When is the earliest success of the woman’s suffrage movement that the second passage points to?

- A. 1848
- B. 1869
- C. 1870s
- D. 1880s
- E. 1920

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The earliest time that the second passage points to is the 1870s (the first passage refers to the Seneca Falls convention in 1848), and so (C) is the answer.

#### QUESTION 871

The following two passages deal with the political movements working for the woman’s vote in America.

##### Passage 1

The first organized assertion of woman’s rights in the United States was made at the Seneca Falls convention in 1848. The convention, though, had little immediate impact because of the national issues that would soon embroil the country.

The contentious debates involving slavery and state’s rights that preceded the Civil War soon took center stage in national debates.

Thus woman’s rights issues would have to wait until the war and its antecedent problems had been addressed before they would be addressed. In 1869, two organizations were formed that would play important roles in securing the woman’s right to vote. The first was the American Woman’s Suffrage Association (AWSA). Leaving federal and constitutional issues aside, the AWSA focused their attention on state-level politics. They also restricted their ambitions to securing the woman’s vote and downplayed discussion of women’s full equality. Taking a different track, the National Woman’s Suffrage Association (NWSA), led by Elizabeth Stanton and Susan B. Anthony, believed that the only way to assure the longterm security of the woman’s vote was to ground it in the constitution. The NWSA challenged the exclusion of woman from the Fifteenth Amendment, the amendment that extended the vote to African-American men. Furthermore, the NWSA linked the fight for suffrage with other inequalities faced by woman, such as marriage laws, which greatly disadvantaged women.

By the late 1880s the differences that separated the two organizations had receded in importance as the women’s movement had become a substantial and broad-based political force in the country. In 1890, the two organizations joined forces under the title of the National American Woman’s Suffrage Association (NAWSA). The NAWSA would go on to play a vital role in the further fight to achieve the woman’s vote.

##### Passage 2

In 1920, when Tennessee became the thirty-eighth state to approve the constitutional amendment securing the woman’s right to vote, woman’s suffrage became enshrined in the constitution. But woman’s suffrage did not happen in one fell swoop. The success of the woman’s suffrage movement was the story of a number of partial victories that led to the explicit endorsement of the woman’s right to vote in the constitution.

As early as the 1870s and 1880s, women had begun to win the right to vote in local affairs such as municipal elections, school board elections, or prohibition measures. These “partial suffrages” demonstrated that women could in fact responsibly and reasonably participate in a representative democracy (at least as voters). Once such successes were achieved and maintained over a period of time, restricting the full voting rights of woman became more and more suspect. If women were helping decide who was on the local school board, why should they not also have a voice in deciding who was president of the country? Such questions became more difficult for non-suffragists to answer, and thus the logic of restricting the woman’s vote began to crumble

Which of the following is NOT an example of a “partial suffrage” as described in the second passage?

- A. A mayoral election
- B. A school board measure
- C. Passage of the Fifteenth Amendment
- D. A state prohibition referendum
- E. Impeaching a city council member

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:



The second passage describes “partial suffrage” as the right to, “vote in local affairs such as municipal elections, school board elections, or prohibition measures.” All of the examples but (C) refer to local affairs. Choice C refers to something mentioned only in Passage 1 (which was, moreover, before the 1848 Seneca Falls convention).

#### QUESTION 872

The following two passages deal with the political movements working for the woman’s vote in America.

##### Passage 1

The first organized assertion of woman’s rights in the United States was made at the Seneca Falls convention in 1848. The convention, though, had little immediate impact because of the national issues that would soon embroil the country. The contentious debates involving slavery and state’s rights that preceded the Civil War soon took center stage in national debates.

Thus woman’s rights issues would have to wait until the war and its antecedent problems had been addressed before they would be addressed. In 1869, two organizations were formed that would play important roles in securing the woman’s right to vote. The first was the American Woman’s Suffrage Association (AWSA). Leaving federal and constitutional issues aside, the AWSA focused their attention on state-level politics. They also restricted their ambitions to securing the woman’s vote and downplayed discussion of women’s full equality. Taking a different track, the National Woman’s Suffrage Association (NWSA), led by Elizabeth Stanton and Susan B. Anthony, believed that the only way to assure the longterm security of the woman’s vote was to ground it in the constitution. The NWSA challenged the exclusion of woman from the Fifteenth Amendment, the amendment that extended the vote to African-American men. Furthermore, the NWSA linked the fight for suffrage with other inequalities faced by woman, such as marriage laws, which greatly disadvantaged women.

By the late 1880s the differences that separated the two organizations had receded in importance as the women’s movement had become a substantial and broad-based political force in the country. In 1890, the two organizations joined forces under the title of the National American Woman’s Suffrage Association (NAWSA). The NAWSA would go on to play a vital role in the further fight to achieve the woman’s vote.

##### Passage 2

In 1920, when Tennessee became the thirty-eighth state to approve the constitutional amendment securing the woman’s right to vote, woman’s suffrage became enshrined in the constitution. But woman’s suffrage did not happen in one fell swoop. The success of the woman’s suffrage movement was the story of a number of partial victories that led to the explicit endorsement of the woman’s right to vote in the constitution.

As early as the 1870s and 1880s, women had begun to win the right to vote in local affairs such as municipal elections, school board elections, or prohibition measures. These “partial suffrages” demonstrated that women could in fact responsibly and reasonably participate in a representative democracy (at least as voters). Once such successes were achieved and maintained over a period of time, restricting the full voting rights of woman became more and more suspect. If women were helping decide who was on the local school board, why should they not also have a voice in deciding who was president of the country? Such questions became more difficult for non-suffragists to answer, and thus the logic of restricting the woman’s vote began to crumble

The author of the second passage argues that the “partial suffrages” were most effective in bringing full voting rights for woman because

- A. through them woman were able to elect prosuffrage representatives.
- B. they showed women voting ably.
- C. they demonstrated that woman could participate in a full democracy.
- D. they demonstrated that woman could handle the intricacies of foreign policy.
- E. they established the power of the woman voter.



**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The second passage argues that the “partial suffrages” showed that woman could “responsibly and reasonably participate in a representative democracy.” These examples made the reasoning of non suffragists, that woman were not fit to vote, difficult to maintain. Choice B correctly points to this same idea.

#### QUESTION 873

The following two passages deal with the political movements working for the woman’s vote in America.

##### Passage 1

The first organized assertion of woman’s rights in the United States was made at the Seneca Falls convention in 1848. The convention, though, had little immediate impact because of the national issues that would soon embroil the country. The contentious debates involving slavery and state’s rights that preceded the Civil War soon took center stage in national debates.

Thus woman’s rights issues would have to wait until the war and its antecedent problems had been addressed before they would be addressed. In 1869, two organizations were formed that would play important roles in securing the woman’s right to vote. The first was the American Woman’s Suffrage Association (AWSA). Leaving federal and constitutional issues aside, the AWSA focused their attention on state-level politics. They also restricted their ambitions to securing the woman’s vote and downplayed discussion of women’s full equality. Taking a different track, the National Woman’s Suffrage Association (NWSA), led by Elizabeth Stanton and Susan B. Anthony, believed that the only way to assure the longterm security of the woman’s vote was to ground it in the constitution. The NWSA challenged the exclusion of woman from the Fifteenth Amendment, the amendment that extended the vote to African-American men. Furthermore, the NWSA linked the fight for suffrage with other inequalities faced by woman, such as marriage laws, which greatly disadvantaged women.

By the late 1880s the differences that separated the two organizations had receded in importance as the women’s movement had become a substantial and broad-based political force in the country. In 1890, the two organizations joined forces under the title of the National American Woman’s Suffrage Association (NAWSA). The NAWSA would go on to play a vital role in the further fight to achieve the woman’s vote.

##### Passage 2

In 1920, when Tennessee became the thirty-eighth state to approve the constitutional amendment securing the woman’s right to vote, woman’s suffrage became enshrined in the constitution. But woman’s suffrage did not happen in one fell swoop. The success of the woman’s suffrage movement was the story of a number of partial victories that led to the explicit endorsement of the woman’s right to vote in the constitution.

As early as the 1870s and 1880s, women had begun to win the right to vote in local affairs such as municipal elections, school board elections, or prohibition measures. These “partial suffrages” demonstrated that women could in fact responsibly and reasonably participate in a representative democracy (at least as voters). Once such successes were achieved and maintained over a period of time, restricting the full voting rights of woman became more and more suspect. If women were helping decide who was on the local school board, why should they not also have a voice in deciding who was president of the country? Such questions became more difficult for non-suffragists to answer, and thus the logic of restricting the woman’s vote began to crumble

Which of the following questions is NOT addressed in either passage?

- A. When did the woman’s right to vote become a constitutional amendment?
- B. What effect did the Civil War have on the woman’s suffrage movement?
- C. What are the names of two leaders of the National Woman’s Suffrage Association?
- D. What are “partial suffrages?”
- E. Which constitutional amendment gave women the vote?

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

To answer a question like this you have to clearly have in mind which passage discusses what. Neither passage mentions the number of the amendment that gave women the right to vote. The second passage mentions when the amendment became law in the first paragraph, so you can eliminate (A). The first passage mentions the Civil War in the first paragraph. The first passage mentions the leaders of NWSA in the second paragraph. The second passage is all about “partial suffrages,” and you’ve confirmed this in question 14. The only possible answer is (E).

#### QUESTION 874

The following two passages deal with the political movements working for the woman’s vote in America.

##### Passage 1

The first organized assertion of woman’s rights in the United States was made at the Seneca Falls convention in 1848. The convention, though, had little immediate impact because of the national issues that would soon embroil the country.

The contentious debates involving slavery and state’s rights that preceded the Civil War soon took center stage in national debates.

Thus woman’s rights issues would have to wait until the war and its antecedent problems had been addressed before they would be addressed. In 1869, two organizations were formed that would play important roles in securing the woman’s right to vote. The first was the American Woman’s Suffrage Association (AWSA). Leaving federal and constitutional issues aside, the AWSA focused their attention on state-level politics. They also restricted their ambitions to securing the woman’s vote and downplayed discussion of women’s full equality. Taking a different track, the National Woman’s Suffrage Association (NWSA), led by Elizabeth Stanton and Susan B. Anthony, believed that the only way to assure the longterm security of the woman’s vote was to ground it in the constitution. The NWSA challenged the exclusion of woman from the Fifteenth Amendment, the amendment that extended the vote to African-American men. Furthermore, the NWSA linked the fight for suffrage with other inequalities faced by woman, such as marriage laws, which greatly disadvantaged women.

By the late 1880s the differences that separated the two organizations had receded in importance as the women’s movement had become a substantial and broad-based political force in the country. In 1890, the two organizations joined forces under the title of the National American Woman’s Suffrage Association (NAWSA). The NAWSA would go on to play a vital role in the further fight to achieve the woman’s vote.

##### Passage 2

In 1920, when Tennessee became the thirty-eighth state to approve the constitutional amendment securing the woman’s right to vote, woman’s suffrage became enshrined in the constitution. But woman’s suffrage did not happen in one fell swoop. The success of the woman’s suffrage movement was the story of a number of partial victories that led to the explicit endorsement of the woman’s right to vote in the constitution.

As early as the 1870s and 1880s, women had begun to win the right to vote in local affairs such as municipal elections, school board elections, or prohibition measures. These “partial suffrages” demonstrated that women could in fact responsibly and reasonably participate in a representative democracy (at least as voters). Once such successes were achieved and maintained over a period of time, restricting the full voting rights of woman became more and more suspect. If women were helping decide who was on the local school board, why should they not also have a voice in deciding who was president of the country? Such questions became more difficult for non-suffragists to answer, and thus the logic of restricting the woman’s vote began to crumble

The author of the second passage would most likely see the work of the

- A. AWSA as crucial for the ultimate success of the suffrage movement.
- B. NWSA as indispensable for “partial suffrages.”
- C. NWSA as unimportant for the passage of the woman’s voting rights amendment.
- D. Seneca Falls convention as the most important single event in the women’s suffrage movement.
- E. the NAWSA as important for the unity of the woman’s suffrage movement.

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Recall that the author of the second passage saw the “partial suffrages,” the local successes of the woman’s movement in the 1870s and 1880s, as crucial to the ultimate success of the movement. The first passage says that AWSA focused on state-level issues. Choice A states as much and is the best choice. NWSA was specifically interested in federal and constitutional issues, so (B) is factually incorrect. The author of passage two agrees that the constitutional amendment was the ultimate success of the suffrage movement, so he or she would not agree with (C). (D) also contradicts that view. (E) is more difficult to eliminate, but the author of Passage 2 doesn’t mention any differences within the suffrage movement. Choice A is the best answer.

#### QUESTION 875

Farmlands, wetlands, forests, and deserts that composed the American landscape in the early twentieth century have frequently been transformed during the past thirty years into mushrooming metropolitan areas as urbanization spreads across the country. Many metropolitan areas in the United States are growing at extraordinary rates. “Urban growth is a vital issue that requires our careful attention from local to global scales,” said Barbara Ryan, USGS Associate Director of Geography.

“It is not until we begin to take a broad census of the land itself – tracking landscapes from a spatial perspective in a time scale of decades – that we can grasp the scale of the changes that have already occurred and predict the impact of changes to come.”

On average, between 1984 and 2004, Atlanta, Boston, Chicago, Denver, Houston, Las Vegas, Memphis, Minneapolis- St. Paul, Orlando, Phoenix, Pittsburgh, Raleigh-Durham, Reno-Sparks, Sacramento, Seattle-Tacoma, and Tampa-St. Petersburg averaged 173 square miles of additional urban land over the two decades, with Houston, Orlando, and Atlanta as the top three regions by area. The growth leaders by percentage change were Las Vegas (193 percent), Orlando (157 percent), and Phoenix (103 percent).

The tone of this passage is best described as

- A. restrained ardor
- B. dour
- C. neutral
- D. fanatical
- E. biased

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

You can infer the neutral tone from the unbiased quote and the dispassionate list of cities and statistics.



#### QUESTION 876

Farmlands, wetlands, forests, and deserts that composed the American landscape in the early twentieth century have frequently been transformed during the past thirty years into mushrooming metropolitan areas as urbanization spreads across the country. Many metropolitan areas in the United States are growing at extraordinary rates. “Urban growth is a vital issue that requires our careful attention from local to global scales,” said Barbara Ryan, USGS Associate Director of Geography.

“It is not until we begin to take a broad census of the land itself – tracking landscapes from a spatial perspective in a time scale of decades – that we can grasp the scale of the changes that have already occurred and predict the impact of changes to come.”

On average, between 1984 and 2004, Atlanta, Boston, Chicago, Denver, Houston, Las Vegas, Memphis, Minneapolis- St. Paul, Orlando, Phoenix, Pittsburgh, Raleigh-Durham, Reno-Sparks, Sacramento, Seattle-Tacoma, and Tampa-St. Petersburg averaged 173 square miles of additional urban land over the two decades, with Houston, Orlando, and Atlanta as the top three regions by area. The growth leaders by percentage change were Las Vegas (193 percent), Orlando (157 percent), and Phoenix (103 percent).

You can infer from this article that

- A. the author believes that further study on the issue of urban growth is needed
- B. the author heartily endorses urban growth
- C. the author is very much against urban sprawl and is actively working to limit it
- D. Seattle-Tacoma is getting overcrowded
- E. the author is inflating the change in land use to further his or her own agenda

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Make the inference from Barbara Ryan’s quote. There is no support for any of the other choices.

#### QUESTION 877

The small hive beetle, *Aethina tumida* (Order Coleoptera; Family Nitidulidae), was first discovered in Florida in June of 1998 and has now been found in six other states, Georgia, South Carolina, North Carolina, Pennsylvania, Ohio, and Minnesota. To date, the beetle has not been found in Virginia, but the movement of migratory beekeepers from Florida may have transported the beetle to other states. Recent findings also indicate transport of the beetles in packages. The small hive beetle can be a destructive pest of honey bee colonies, causing damage to combs, stored honey, and pollen. If a beetle infestation is sufficiently heavy, they may cause bees to abandon their hive. The beetles can also be a pest of stored combs and honey (in the comb) awaiting extraction. Beetle larvae may tunnel through combs of honey, causing discoloration and fermentation of honey. The small hive beetle is undesirable for all of the following reasons except

- A. the harm it can cause to the honeycomb
- B. potential deleterious effects to stored honey and pollen
- C. the possibility that bees may flee the hive
- D. the probability of the beetle attacking people and animals
- E. the way it can stain and spoil honey

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

This is a literal comprehension question. Every answer but Choice D can be found in the passage.

#### QUESTION 878

The small hive beetle, *Aethina tumida* (Order Coleoptera; Family Nitidulidae), was first discovered in Florida in June of 1998 and has now been found in six other states, Georgia, South Carolina, North Carolina, Pennsylvania, Ohio, and Minnesota. To date, the beetle has not been found in Virginia, but the movement of migratory beekeepers from Florida may have transported the beetle to other states. Recent findings also indicate transport of the beetles in packages. The small hive beetle can be a destructive pest of honey bee colonies, causing damage to combs, stored honey, and pollen. If a beetle infestation is sufficiently heavy, they may cause bees to abandon their hive. The beetles can also be a pest of stored combs and honey (in the comb) awaiting extraction. Beetle larvae may tunnel through combs of honey, causing discoloration and fermentation of honey. This passage was most likely written to

- A. help customers understand how difficult it is to raise commercial honey
- B. inform beekeepers about a menace that may be contaminating their hives
- C. warn consumers that the price of honey is likely to raise
- D. spark a federal bailout of the industry
- E. convince the Pure Food and Drug Administration to take the problem more seriously



**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The technical details and scientific tone suggest that the passage was written to inform beekeepers about a menace that may be contaminating their hives. Choices C, D, and E would have a more passionate, fiery tone; Choice A would be a complaint.

#### QUESTION 879

Although often confused with each other, global warming and ozone depletion are two separate problems threatening Earth's ecosystem today. Global warming is caused by the build-up of heat-trapping gases in the atmosphere. It was dubbed the "greenhouse effect" because it is similar to a greenhouse in that the sun's rays are allowed into the greenhouse but the heat from these rays is unable to escape. Ozone depletion, however, is the destruction of the ozone layer. Chemicals such as chlorofluorocarbons and methyl bromide react with ozone, leaving a "hole" in the ozone layer that lets dangerous UV rays through. Both are serious threats to life on Earth. While the greenhouse effect maintains the appropriate temperature for life on Earth, problems are exacerbated when the quantity of greenhouse gases in the Earth's atmosphere increases drastically. When this occurs, the amount of heat energy that is insulated within the Earth's atmosphere increases correspondingly and results in a rise in global temperature.

An increase of a mere few degrees Celsius does not appear very threatening. However, numbers can be deceiving. When you consider that the Ice Age resulted from temperatures only slightly cooler than those today, it is obvious that even very subtle temperature changes can significantly impact global climate. Global warming threatens to desecrate the natural habitats of organisms on Earth and disturb the stability of our ecosystem. The climate changes that would result from global warming could trigger droughts, heat waves, floods, and other extreme weather events.

Like most other environmental problems, humans are the cause of global warming. The burning of fossil fuels is largely responsible for the increase in the concentration of carbon dioxide in the atmosphere. Every time someone drives a car or powers their home with energy derived from power plants that use coal, carbon dioxide is released into the atmosphere. The atmospheric concentrations of carbon dioxide and methane have risen meteorically since preindustrial times, mainly due to the contributions of factories, cars, and large-scale agriculture. Even if we immediately stopped emitting greenhouse gases, we would continue to see the effects of global warming for decades because of the damage we have already inflicted.

Despite the pessimistic outlook, there are things that can be done to reduce global warming. Although the problem may seem overwhelming, individuals can make a positive difference in combating global warming. Simple things like driving less, using public transportation, and conserving electricity generated by combustion of fossil fuels can help reduce the emissions of greenhouse gases. It is important to realize that it is not too late to make a difference.

If everyone does what they can to reduce their contributions of greenhouse gases to the atmosphere, the efforts of people around the world will act in concert to thwart the progression of global warming. If the effort is not made immediately,

the delicate global ecosystem could be thrown irreversibly out of balance, and the future of life on Earth may be jeopardized. The "greenhouse effect" is



- A. global warming
- B. another term for the Ice Age
- C. ozone depletion
- D. a chemical that is harming Earth
- E. a type of gas

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The answer is directly stated in the second and third sentences.

#### QUESTION 880

Although often confused with each other, global warming and ozone depletion are two separate problems threatening Earth's ecosystem today. Global warming is caused by the build-up of heat-trapping gases in the atmosphere. It was dubbed the "greenhouse effect" because it is similar to a greenhouse in that the sun's rays are allowed into the greenhouse but the heat from these rays is unable to escape. Ozone depletion, however, is the destruction of the ozone layer. Chemicals such as chlorofluorocarbons and methyl bromide react with ozone, leaving a "hole" in the ozone layer that lets dangerous UV rays through. Both are serious threats to life on Earth. While the greenhouse effect maintains the appropriate temperature for life on Earth, problems are exacerbated when the quantity of greenhouse gases in the Earth's atmosphere increases drastically. When this occurs, the amount of heat energy that is insulated within the Earth's atmosphere increases correspondingly and results in a rise in global temperature.

An increase of a mere few degrees Celsius does not appear very threatening. However, numbers can be deceiving. When you consider that the Ice Age resulted from temperatures only slightly cooler than those today, it is obvious that even very subtle temperature changes can significantly impact global climate. Global warming threatens to desecrate the natural habitats of organisms on Earth and disturb the stability of our ecosystem. The climate changes that would result from global warming could trigger droughts, heat waves, floods, and other extreme weather events.

Like most other environmental problems, humans are the cause of global warming. The burning of fossil fuels is largely responsible for the increase in the concentration of carbon dioxide in the atmosphere. Every time someone drives a car or powers their home with energy derived from power plants that use coal, carbon dioxide is released into the atmosphere. The atmospheric concentrations of carbon dioxide and methane have risen meteorically since preindustrial times, mainly due to the contributions of factories, cars, and large-scale agriculture. Even if we immediately stopped emitting greenhouse gases, we would continue to see the effects of global warming for decades because of the damage we have already inflicted.

Despite the pessimistic outlook, there are things that can be done to reduce global warming. Although the problem may seem overwhelming, individuals can make a positive difference in combating global warming. Simple things like driving less, using public transportation, and conserving electricity generated by combustion of fossil fuels can help reduce the emissions of greenhouse gases. It is important to realize that it is not too late to make a difference.

If everyone does what they can to reduce their contributions of greenhouse gases to the atmosphere, the efforts of people around the world will act in concert to thwart the progression of global warming. If the effort is not made immediately, the delicate global ecosystem could be thrown irreversibly out of balance, and the future of life on Earth may be jeopardized.

The greenhouse effect is so serious because:

- A. no one really understands it
- B. it has been going on for a very long time
- C. it cannot be reversed
- D. it interferes with the ecosystem and changes weather patterns
- E. it leads to the destruction of the world's woodlands

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The answer is directly stated in the second paragraph.

#### QUESTION 881

Although often confused with each other, global warming and ozone depletion are two separate problems threatening Earth's ecosystem today. Global warming is caused by the build-up of heat-trapping gases in the atmosphere. It was dubbed the "greenhouse effect" because it is similar to a greenhouse in that the sun's rays are allowed into the greenhouse but the heat from these rays is unable to escape. Ozone depletion, however, is the destruction of the ozone layer. Chemicals such as chlorofluorocarbons and methyl bromide react with ozone, leaving a "hole" in the ozone layer that lets dangerous UV rays through. Both are serious threats to life on Earth. While the greenhouse effect maintains the appropriate temperature for life on Earth, problems are exacerbated when the quantity of greenhouse gases in the Earth's atmosphere increases drastically. When this occurs, the amount of heat energy that is insulated within the Earth's atmosphere increases correspondingly and results in a rise in global temperature.

An increase of a mere few degrees Celsius does not appear very threatening. However, numbers can be deceiving. When you consider that the Ice Age resulted from temperatures only slightly cooler than those today, it is obvious that even very subtle temperature changes can significantly impact global climate. Global warming threatens to desecrate the natural habitats of organisms on Earth and disturb the stability of our ecosystem. The climate changes that would result from global warming could trigger droughts, heat waves, floods, and other extreme weather events.

Like most other environmental problems, humans are the cause of global warming. The burning of fossil fuels is largely responsible for the increase in the concentration of carbon dioxide in the atmosphere. Every time someone drives a car or powers their home with energy derived from power plants that use coal, carbon dioxide is released into the atmosphere. The atmospheric concentrations of carbon dioxide and methane have risen meteorically since preindustrial times, mainly due to the contributions of factories, cars, and large-scale agriculture. Even if we immediately stopped emitting greenhouse gases, we would continue to see the effects of global warming for decades because of the damage we have already inflicted.

Despite the pessimistic outlook, there are things that can be done to reduce global warming. Although the problem may seem overwhelming, individuals can make a positive difference in combating global warming. Simple things like driving less, using public transportation, and conserving electricity generated by combustion of fossil fuels can help reduce the emissions of greenhouse gases. It is important to realize that it is not too late to make a difference.

If everyone does what they can to reduce their contributions of greenhouse gases to the atmosphere, the efforts of people around the world will act in concert to thwart the progression of global warming. If the effort is not made immediately, the delicate global ecosystem could be thrown irreversibly out of balance, and the future of life on Earth may be jeopardized. As used in this passage, exacerbated (line 19) means

- A. annoyed
- B. improved
- C. worsened
- D. embittered
- E. exasperated

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

You can infer the definition from the context clues “destruction” and desecrate.

#### QUESTION 882

Although often confused with each other, global warming and ozone depletion are two separate problems threatening Earth’s ecosystem today. Global warming is caused by the build-up of heat-trapping gases in the atmosphere. It was dubbed the “greenhouse effect” because it is similar to a greenhouse in that the sun’s rays are allowed into the greenhouse but the heat from these rays is unable to escape. Ozone depletion, however, is the destruction of the ozone layer. Chemicals such as chlorofluorocarbons and methyl bromide react with ozone, leaving a “hole” in the ozone layer that lets dangerous UV rays through. Both are serious threats to life on Earth. While the greenhouse effect maintains the appropriate temperature for life on Earth, problems are exacerbated when the quantity of greenhouse gases in the Earth’s atmosphere increases drastically. When this occurs, the amount of heat energy that is insulated within the Earth’s atmosphere increases correspondingly and results in a rise in global temperature.

An increase of a mere few degrees Celsius does not appear very threatening. However, numbers can be deceiving. When you consider that the Ice Age resulted from temperatures only slightly cooler than those today, it is obvious that even very subtle temperature changes can significantly impact global climate. Global warming threatens to desecrate the natural habitats of organisms on Earth and disturb the stability of our ecosystem. The climate changes that would result from global warming could trigger droughts, heat waves, floods, and other extreme weather events.

Like most other environmental problems, humans are the cause of global warming. The burning of fossil fuels is largely responsible for the increase in the concentration of carbon dioxide in the atmosphere. Every time someone drives a car or powers their home with energy derived from power plants that use coal, carbon dioxide is released into the atmosphere. The atmospheric concentrations of carbon dioxide and methane have risen meteorically since preindustrial times, mainly due to the contributions of factories, cars, and large-scale agriculture. Even if we immediately stopped emitting greenhouse gases, we would continue to see the effects of global warming for decades because of the damage we have already inflicted.

Despite the pessimistic outlook, there are things that can be done to reduce global warming. Although the problem may seem overwhelming, individuals can make a positive difference in combating global warming. Simple things like driving less, using public transportation, and conserving electricity generated by combustion of fossil fuels can help reduce the emissions of greenhouse gases. It is important to realize that it is not too late to make a difference.

If everyone does what they can to reduce their contributions of greenhouse gases to the atmosphere, the efforts of people around the world will act in concert to thwart the progression of global warming. If the effort is not made immediately, the delicate global ecosystem could be thrown irreversibly out of balance, and the future of life on Earth may be jeopardized.

The author of this selection is most likely:

- A. a scientist looking for alternate fuel sources, especially solar and wind power
- B. an industrialist determined to corner the market on fossil fuels
- C. a public advocate trying to improve the ecosystem
- D. a Web site for vegetarians
- E. an animal-rights activist

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

You can infer the answer from the specific details describing ways that people can help correct the problem and improve the ecosystem.

#### QUESTION 883

Although often confused with each other, global warming and ozone depletion are two separate problems threatening Earth's ecosystem today. Global warming is caused by the build-up of heat-trapping gases in the atmosphere. It was dubbed the "greenhouse effect" because it is similar to a greenhouse in that the sun's rays are allowed into the greenhouse but the heat from these rays is unable to escape. Ozone depletion, however, is the destruction of the ozone layer. Chemicals such as chlorofluorocarbons and methyl bromide react with ozone, leaving a "hole" in the ozone layer that lets dangerous UV rays through. Both are serious threats to life on Earth. While the greenhouse effect maintains the appropriate temperature for life on Earth, problems are exacerbated when the quantity of greenhouse gases in the Earth's atmosphere increases drastically. When this occurs, the amount of heat energy that is insulated within the Earth's atmosphere increases correspondingly and results in a rise in global temperature.

An increase of a mere few degrees Celsius does not appear very threatening. However, numbers can be deceiving. When you consider that the Ice Age resulted from temperatures only slightly cooler than those today, it is obvious that even very subtle temperature changes can significantly impact global climate. Global warming threatens to desecrate the natural habitats of organisms on Earth and disturb the stability of our ecosystem. The climate changes that would result from global warming could trigger droughts, heat waves, floods, and other extreme weather events.

Like most other environmental problems, humans are the cause of global warming. The burning of fossil fuels is largely responsible for the increase in the concentration of carbon dioxide in the atmosphere. Every time someone drives a car or powers their home with energy derived from power plants that use coal, carbon dioxide is released into the atmosphere. The atmospheric concentrations of carbon dioxide and methane have risen meteorically since preindustrial times, mainly due to the contributions of factories, cars, and large-scale agriculture. Even if we immediately stopped emitting greenhouse gases, we would continue to see the effects of global warming for decades because of the damage we have already inflicted.

Despite the pessimistic outlook, there are things that can be done to reduce global warming. Although the problem may seem overwhelming, individuals can make a positive difference in combating global warming. Simple things like driving less, using public transportation, and conserving electricity generated by combustion of fossil fuels can help reduce the emissions of greenhouse gases. It is important to realize that it is not too late to make a difference.

If everyone does what they can to reduce their contributions of greenhouse gases to the atmosphere, the efforts of people around the world will act in concert to thwart the progression of global warming. If the effort is not made immediately, the delicate global ecosystem could be thrown irreversibly out of balance, and the future of life on Earth may be jeopardized.

In the above passage the word thwart is used to mean?

- A. baffle
- B. hinder
- C. facilitate
- D. countenance
- E. increase

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

You can infer the definition from the context clues "the progression of global warming."



#### QUESTION 884

The next morning a message came from Lady Berrick, to say that she would see her nephew after breakfast. Left by myself, I walked toward the pier, and met with a man who asked me to hire his boat. He had lines and bait, at my service. Most unfortunately, as the event proved, I decided on occupying an hour or two by sea fishing.

The wind shifted while we were out, and before we could get back to the harbor, the tide had turned against us. It was six o'clock when I arrived at the hotel. A little open carriage was waiting at the door. I found Romaine impatiently expecting me, and no signs of dinner on the table. He informed me that he had accepted an invitation, in which I was included, and promised to explain everything in the carriage. Our driver took the road that led toward the High Town. I subordinated my curiosity to my sense of politeness, and asked for news of his aunt's health. What selection best depicts the reason for the narrator's fishing episode as being "unfortunate?"

- A. The wind turned against them.
- B. The tide turned against them.
- C. There was obviously no catch due to the weather.
- D. No catch and having to pay extra for the additional hours.
- E. He missed his appointment with Romaine causing a late dinner.

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Although all the elements of nature contrived against him, the unfortunate aspect of the episode was that he was detained from keeping a scheduled appointment, which made for a delay in dinner for all parties concerned.

#### QUESTION 885

The next morning a message came from Lady Berrick, to say that she would see her nephew after breakfast. Left by myself, I walked toward the pier, and met with a man who asked me to hire his boat. He had lines and bait, at my service. Most unfortunately, as the event proved, I decided on occupying an hour or two by sea fishing.

The wind shifted while we were out, and before we could get back to the harbor, the tide had turned against us. It was six o'clock when I arrived at the hotel. A little open carriage was waiting at the door. I found Romaine impatiently expecting me, and no signs of dinner on the table. He informed me that he had accepted an invitation, in which I was included, and promised to explain everything in the carriage. Our driver took the road that led toward the High Town. I subordinated my curiosity to my sense of politeness, and asked for news of his aunt's health

In context, the word "subordinated" (at the end of the passage) most nearly means

- A. lowered the level of importance.
- B. left.
- C. ensured it was stifled.
- D. made certain to ignore.
- E. forgot about.

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

He purposefully, albeit out of some feelings of guilt, lessened the importance of his curiosity as to their dinner partner so that he might elevate the concern for his colleague's mother.

#### QUESTION 886

In the year 1860, the reputation of Doctor Wybrow as a London physician reached its highest point. It was reported on good authority that he was in receipt of one of the largest incomes derived from the practice of medicine in modern times. One afternoon, towards the close of the London season, the doctor had just taken his luncheon after a specially hard morning's work in his consulting-room, and with a formidable list of visits to patients at their own houses to fill up the rest of his day – when the servant announced that a lady wished to speak to him. "Who is she?" the Doctor asked. "A stranger?"

"Yes, sir."

"I see no strangers out of consulting-hours. Tell her what the hours are, and send her away."

"I have told her, sir."

"Well?"

"And she won't go."

"Won't go?" The doctor smiled as he repeated the words. He was a humorist in his way; and there was an absurd side to the situation which rather amused him. "Has this obstinate lady given you her name?" he inquired.

"No, sir. She refused to give any name – she said she wouldn't keep you five minutes, and the matter was too important to wait till to-morrow. There she is in the consulting-room; and how to get her out again is more than I know."

Doctor Wybrow considered for a moment. His knowledge of women (professionally speaking) rested on the ripe experience of more than thirty years; he had met with them in all their varieties – especially the variety which knows nothing of the value of time, and never hesitates at sheltering itself behind the privileges of its sex. A glance at his watch informed him that he must soon begin his rounds among the patients who were waiting for him at their own houses. He decided forthwith on taking the only wise course that was open under the circumstances. In other words, he decided on taking to flight. "Is the carriage at the door?" he asked.

"Yes, sir."

"Very well. Open the house-door for me without making any noise, and leave the lady in undisturbed possession of the consulting-room. When she gets tired of waiting, you know what to tell her. If she asks when I am expected to return, say that I dine at my club, and spend the evening at the theatre. Now then, softly, Thomas! If your shoes creak, I am a lost man."

What may be inferred in the opening paragraph?

- A. Physicians didn't get much money in those days.
- B. Somehow a reputation makes you a good physician.
- C. The physician that made the most money was the best physician.
- D. The physician with the best reputation earned the most money.
- E. The physician earning the most money would have the best reputation.

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Although not stated, it seems the author would have us infer that the best qualified physician was the one who made the most money and that would give him the best reputation.

#### QUESTION 887

In the year 1860, the reputation of Doctor Wybrow as a London physician reached its highest point. It was reported on good authority that he was in receipt of one of the largest incomes derived from the practice of medicine in modern times. One afternoon, towards the close of the London season, the doctor had just taken his luncheon after a specially hard morning's work in his consulting-room, and with a formidable list of visits to patients at their own houses to fill up the rest of his day – when the servant announced that a lady wished to speak to him. “Who is she?” the Doctor asked. “A stranger?”

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“I see no strangers out of consulting-hours. Tell her what the hours are, and send her away.”

“I have told her, sir.”

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Correlating irony, what type of humor is found in 3rd paragraph

- A. raucous
- B. blatant
- C. dramatic
- D. verbal
- E. situational

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:



The type of humor presented is based upon what is happening – that is, the situation that a woman has planted herself and will not leave despite the pleadings of Thomas, the servant.

#### QUESTION 888

In the year 1860, the reputation of Doctor Wybrow as a London physician reached its highest point. It was reported on good authority that he was in receipt of one of the largest incomes derived from the practice of medicine in modern times. One afternoon, towards the close of the London season, the doctor had just taken his luncheon after a specially hard morning's work in his consulting-room, and with a formidable list of visits to patients at their own houses to fill up the rest of his day – when the servant announced that a lady wished to speak to him. “Who is she?” the Doctor asked. “A stranger?”

“Yes, sir.”

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“I have told her, sir.”

“Well?”

“And she won't go.”

“Won't go?” The doctor smiled as he repeated the words. He was a humorist in his way; and there was an absurd side to the situation which rather amused him. “Has this obstinate lady given you her name?” he inquired.

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“Yes, sir.”

“Very well. Open the house-door for me without making any noise, and leave the lady in undisturbed possession of the consulting-room. When she gets tired of waiting, you know what to tell her. If she asks when I am expected to return, say that I dine at my club, and spend the evening at the theatre.

Now then, softly, Thomas! If your shoes creak, I am a lost man.”

What literary device is being used with “(professionally speaking)” in the 2nd last paragraph?

- A. influx
- B. aside
- C. machination
- D. derisive



E. satire

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Normally used in drama, when a speaker (or narrator) turns to let the audience know some information not openly represented, it is called an aside or small digression.

#### QUESTION 889

In the year 1860, the reputation of Doctor Wybrow as a London physician reached its highest point. It was reported on good authority that he was in receipt of one of the largest incomes derived from the practice of medicine in modern times. One afternoon, towards the close of the London season, the doctor had just taken his luncheon after a specially hard morning's work in his consulting-room, and with a formidable list of visits to patients at their own houses to fill up the rest of his day – when the servant announced that a lady wished to speak to him. “Who is she?” the Doctor asked. “A stranger?”

“Yes, sir.”

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“I have told her, sir.”

“Well?”

“And she won't go.”

“Won't go?” The doctor smiled as he repeated the words. He was a humorist in his way; and there was an absurd side to the situation which rather amused him. “Has this obstinate lady given you her name?” he inquired.

“No, sir. She refused to give any name – she said she wouldn't keep you five minutes, and the matter was too important to wait till to-morrow. There she is in the consulting-room; and how to get her out again is more than I know.”

Doctor Wybrow considered for a moment. His knowledge of women (professionally speaking) rested on the ripe experience of more than thirty years; he had met with them in all their varieties – especially the variety which knows nothing of the value of time, and never hesitates at sheltering itself behind the privileges of its sex. A glance at his watch informed him that he must soon begin his rounds among the patients who were waiting for him at their own houses. He decided forthwith on taking the only wise course that was open under the circumstances. In other words, he decided on taking to flight. “Is the carriage at the door?” he asked.

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“Very well. Open the house-door for me without making any noise, and leave the lady in undisturbed possession of the consulting-room. When she gets tired of waiting, you know what to tell her. If she asks when I am expected to return, say that I dine at my club, and spend the evening at the theatre.

Now then, softly, Thomas! If your shoes creak, I am a lost man.”

What was the female characteristic that was most often observed by Doctor Wybrow?

- A. Once their mind was committed to something, it was impossible to change.
- B. They were all at the same a most peculiarly stubborn species.
- C. Notwithstanding their generally good nature, if cornered, they could become reticent.
- D. When set upon a mission or no, the element of an appreciation of time is escaped.
- E. When it comes to determination, there is no creature on earth so prepared to fixate

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The good narrator tells us that “his knowledge of women,” and he had met with all kinds, “especially the variety which knows nothing of the value of time,” making Choice D correct.

#### QUESTION 890

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Now then, softly, Thomas! If your shoes creak, I am a lost man.”

What is meant by “and never hesitates at sheltering itself behind the privileges of its sex”?

- A. Because it is a known fact that women take time, members of the opposite sex need to simply accept the fact and deal with it accordingly.
- B. Women know that a gentlemen, such as a physician, would never be so rude as to not allow a lady the time requested lest they be considered offensive.
- C. Females have certain inherent rights and privileges, not the least of which is to take their time in all manners.
- D. People of class expect that women of breeding need extra allowances and that exercising the grace of slowness is a virtue.
- E. Certain appurtenances come with being a female, one of which is the ability and expectation of taking your time.

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

During the time of this writing, women were treated with the utmost respect, and one way to respect a lady is to give her the time and attention requested without rushing her and being rude. Choice B best matches this historical persuasion.

#### QUESTION 891

In the year 1860, the reputation of Doctor Wybrow as a London physician reached its highest point. It was reported on good authority that he was in receipt of one of the largest incomes derived from the practice of medicine in modern times. One afternoon, towards the close of the London season, the doctor had just taken his luncheon after a specially hard morning’s work in his consulting-room, and with a formidable list of visits to patients at their own houses to fill up the rest of his day – when the servant announced that a lady wished to speak to him. “Who is she?” the Doctor asked. “A stranger?”

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“No, sir. She refused to give any name – she said she wouldn’t keep you five minutes, and the matter was too important to wait till to-morrow. There she is in the consulting-room; and how to get her out again is more than I know.”

Doctor Wybrow considered for a moment. His knowledge of women (professionally speaking) rested on the ripe experience of more than thirty years; he had met with them in all their varieties – especially the variety which knows nothing of the value of time, and never hesitates at sheltering itself behind the privileges of its sex. A glance at his watch informed him that he must soon begin his rounds among the patients who were waiting for him at their own houses. He decided forthwith on taking the only wise course that was open under the circumstances. In other words, he decided on taking to flight. “Is the carriage at the door?” he asked.

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“Very well. Open the house-door for me without making any noise, and leave the lady in undisturbed possession of the consulting-room. When she gets tired of waiting, you know what to tell her. If she asks when I am expected to return, say that I dine at my club, and spend the evening at the theatre.

Now then, softly, Thomas! If your shoes creak, I am a lost man.”

Why does the decision made by the physician strike the reader as unusual?

- A. It is unusual that an unidentified patient would attend the consultation room and refuse to leave when told the physician could not see them.
- B. It is not normally the case that physicians find themselves in a position of helping one at the expense of another.
- C. It seems incongruent that a physician whose job consists of listening to patients suggesting that the only wise course is to run away.
- D. Since the physician did not know the seriousness or the nature of the situation with the stranger, it seems strange that he didn’t at least find out.
- E. It is unusual because we know that a woman would take her time and that, unless the physician were to be considered rude, he would have to hear her complete story.

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Yes, it is also strange that the physician didn't at least ensure that there was not a real emergency with the case of the woman stranger, but, had this been the case, it surely would have presented itself as such. That being the case, the unusual element in the actions of the physician is the choice to run instead of professionally and determinately informing the woman she must return at another time.

#### QUESTION 892

In the year 1860, the reputation of Doctor Wybrow as a London physician reached its highest point. It was reported on good authority that he was in receipt of one of the largest incomes derived from the practice of medicine in modern times. One afternoon, towards the close of the London season, the doctor had just taken his luncheon after a specially hard morning's work in his consulting-room, and with a formidable list of visits to patients at their own houses to fill up the rest of his day – when the servant announced that a lady wished to speak to him. “Who is she?” the Doctor asked. “A stranger?”

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“I have told her, sir.”

“Well?”

“And she won't go.”

“Won't go?” The doctor smiled as he repeated the words. He was a humorist in his way; and there was an absurd side to the situation which rather amused him. “Has this obstinate lady given you her name?” he inquired.

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Now then, softly, Thomas! If your shoes creak, I am a lost man.”

Which is the best restatement of “leave the lady in undisturbed possession of the consulting-room”?

- A. Don't tell her I'm leaving, just leave her in there behind the closed door until I'm gone.
- B. Allow her to remain comfortably in the consulting-room until she feels well enough to depart.
- C. Ensure that she stays in the room until I'm safely out the door and when she sufficiently tires of waiting, explain to her I had no alternative but to call upon a pressing appointment.
- D. Be careful not to disturb the lady as we leave in case her condition is such that noise would bother her.
- E. If we make too much noise leaving, it could worsen her condition and then we could have to treat her for free.

**Correct Answer: C**

**Section: Reading**

**Explanation**

**Explanation/Reference:**

Explanation:

Choice C best restates the situation as the physician and his accomplice attempt to smuggle the physician out the door without disturbing the stranger awaiting in the consulting room.

#### QUESTION 893

In the year 1860, the reputation of Doctor Wybrow as a London physician reached its highest point. It was reported on good authority that he was in receipt of one of the largest incomes derived from the practice of medicine in modern times. One afternoon, towards the close of the London season, the doctor had just taken his luncheon after a specially hard morning's work in his consulting-room, and with a formidable list of visits to patients at their own houses to fill up the rest of his day – when the servant announced that a lady wished to speak to him. “Who is she?” the Doctor asked. “A stranger?”

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“I have told her, sir.”

“Well?”

“And she won't go.”

“Won't go?” The doctor smiled as he repeated the words. He was a humorist in his way; and there was an absurd side to the situation which rather amused him. “Has this obstinate lady given you her name?” he inquired.

“No, sir. She refused to give any name – she said she wouldn't keep you five minutes, and the matter was too important to wait till to-morrow. There she is in the consulting-room; and how to get her out again is more than I know.”

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Now then, softly, Thomas! If your shoes creak, I am a lost man.”

What device is being employed in “If your shoes creak, I am a lost man” sentence?



- A. litotes
- B. hyperbole
- C. understatement
- D. allusion
- E. paradox

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Although Choice E, “paradox,” seems likely in that a shoe creaking being the cause of a catastrophe seems contrary to common sense yet true (the definition of a paradox), it does not explain the last phrase, “I am a lost man.” Choice B, “hyperbole,” best fits the need as it is an overstatement that a creak of the shoe would alert the enemy, but even if that were the case, it is an overstatement (hyperbole) that the physician would be a “lost man.”

#### QUESTION 894

Mathew ascended three flights of stairs – passed half-way down a long arched gallery – and knocked at another old-fashioned oak door. This time the signal was answered. A low, clear, sweet voice, inside the room, inquired who was waiting without? In a few hasty words Mathew told his errand. Before he had done speaking the door was quietly and quickly opened, and Sarah Leeson confronted him on the threshold, with her candle in her hand.

Not tall, not handsome, not in her first youth – shy and irresolute in manner – simple in dress to the utmost limits of plainness – the lady’s-maid, in spite of all these disadvantages, was a woman whom it was impossible to look at without a feeling of curiosity, if not of interest. Few men, at first sight of her, could have resisted the desire to find out who she was; few would have been satisfied with receiving for answer, She is Mrs. Treverton’s maid; few would have refrained from the attempt to extract some secret information for themselves from her face and manner; and none, not even the most patient and practiced of observers, could have succeeded in discovering more than that she must have passed through the ordeal of some great suffering at some former period of her life. Much in her manner, and more in her face, said plainly and sadly: I am the wreck of something that you might once have liked to see; a wreck that can never be repaired – that must drift on through life unnoticed, unguided, unpitied – drift till the fatal shore is touched, and the waves of Time have swallowed up these broken relics of me forever.

This was the story that was told in Sarah Leeson’s face – this, and no more. No two men interpreting that story for themselves, would probably have agreed on the nature of the suffering which this woman had undergone. It was hard to say, at the outset, whether the past pain that had set its ineffaceable mark on her had been pain of the body or pain of the mind. But whatever the nature of the affliction she had suffered, the traces it had left were deeply and strikingly visible in every part of her face.

Her cheeks had lost their roundness and their natural color; her lips, singularly flexible in movement and delicate in form, had faded to an unhealthy paleness; her eyes, large and black and overshadowed by unusually thick lashes, had contracted an anxious startled look, which never left them and which piteously expressed the painful acuteness of her sensibility, the inherent timidity of her disposition. So far, the marks which sorrow or sickness had set on her were the marks common to most victims of mental or physical suffering. The one extraordinary personal deterioration which she had undergone consisted in the unnatural change that had passed over the color of her hair.

It was as thick and soft, it grew as gracefully, as the hair of a young girl; but it was as gray as the hair of an old woman. It seemed to contradict, in the most startling manner, every personal assertion of youth that still existed in her face. With all its haggardness and paleness, no one could have looked at it and supposed for a moment that it was the face of an elderly woman. Wan as they might be, there was not a wrinkle in her cheeks. Her eyes, viewed apart from their prevailing expression of uneasiness and timidity, still preserved that bright, clear moisture which is never seen in the eyes of the old. The skin about her temples was as delicately smooth as the skin of a child. These and other physical signs which never mislead, showed that she was still, as to years, in the very prime of her life.

Sickly and sorrow-stricken as she was, she looked, from the eyes downward, a woman who had barely reached thirty years of age. From the eyes upward, the effect of her abundant gray hair, seen in connection with her face, was not simply incongruous – it was absolutely startling; so startling as to make it no paradox to say that she would have looked most natural, most like herself if her hair had been dyed. In her case, Art would have seemed to be the truth, because Nature looked like falsehood.

What shock had stricken her hair, in the very maturity of its luxuriance, with the hue of an unnatural old age? Was it a serious illness, or a dreadful grief that had turned her gray in the prime of her womanhood? That question had often been agitated among her fellow-servants, who were all struck by the peculiarities of her personal appearance, and rendered a little suspicious of her, as well, by an inveterate habit that she had of talking to herself. Inquire as they might, however, their curiosity was always baffled. Nothing more could be discovered than that Sarah Leeson was, in the common phrase, touchy on the subject of her gray hair and her habit of talking to herself, and that Sarah Leeson’s mistress had long since forbidden every one, from her husband downward, to ruffle her maid’s tranquility by inquisitive questions.

What can the reader infer about the setting from the limited information in paragraph one?

- A. The house is in the country.
- B. The house is located in a city.
- C. It is a rather small house with ornate architecture.
- D. It is a large, old house.
- E. It is a large house with up-to-date modifications.

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The house is large as Mathew had to ascend three flights of stairs and pass down a long arched gallery. It is also old as he knocked on another old-fashioned oak door and was met with someone lighting the way with a candle.

**QUESTION 895**

Mathew ascended three flights of stairs – passed half-way down a long arched gallery – and knocked at another old-fashioned oak door. This time the signal was answered. A low, clear, sweet voice, inside the room, inquired who was waiting without? In a few hasty words Mathew told his errand. Before he had done speaking the door was quietly and quickly opened, and Sarah Leeson confronted him on the threshold, with her candle in her hand.

Not tall, not handsome, not in her first youth – shy and irresolute in manner – simple in dress to the utmost limits of plainness – the lady’s-maid, in spite of all these disadvantages, was a woman whom it was impossible to look at without a feeling of curiosity, if not of interest. Few men, at first sight of her, could have resisted the desire to find out who she was; few would have been satisfied with receiving for answer, She is Mrs. Treverton’s maid; few would have refrained from the attempt to extract some secret information for themselves from her face and manner; and none, not even the most patient and practiced of observers, could have succeeded in discovering more than that she must have passed through the ordeal of some great suffering at some former period of her life. Much in her manner, and more in her face, said plainly and sadly: I am the wreck of something that you might once have liked to see; a wreck that can never be repaired – that must drift on through life unnoticed, unguided, unpitied – drift till the fatal shore is touched, and the waves of Time have swallowed up these broken relics of me forever.

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Her cheeks had lost their roundness and their natural color; her lips, singularly flexible in movement and delicate in form, had faded to an unhealthy paleness; her eyes, large and black and overshadowed by unusually thick lashes, had contracted an anxious startled look, which never left them and which piteously expressed the painful acuteness of her sensibility, the inherent timidity of her disposition. So far, the marks which sorrow or sickness had set on her were the marks common to most victims of mental or physical suffering. The one extraordinary personal deterioration which she had undergone consisted in the unnatural change that had passed over the color of her hair.

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Sickly and sorrow-stricken as she was, she looked, from the eyes downward, a woman who had barely reached thirty years of age. From the eyes upward, the effect of her abundant gray hair, seen in connection with her face, was not simply incongruous – it was absolutely startling; so startling as to make it no paradox to say that she would have looked most natural, most like herself if her hair had been dyed. In her case, Art would have seemed to be the truth, because Nature looked like falsehood.

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What was the overall purpose of this excerpt?

- A. to explain that Sarah was a privileged maid
- B. to describe the setting of the house and those living there
- C. to give a detailed account of the character of Sarah
- D. to establish the unique relationship Sarah had with the other servants
- E. to present her individual relation to her mistress



**Correct Answer: C**

**Section: Reading**

**Explanation**

**Explanation/Reference:**

Explanation:

This entire passage is dedicated to presenting the smallest detail, including the thick eyelashes of Sarah.

**QUESTION 896**

Mathew ascended three flights of stairs – passed half-way down a long arched gallery – and knocked at another old-fashioned oak door. This time the signal was answered. A low, clear, sweet voice, inside the room, inquired who was waiting without? In a few hasty words Mathew told his errand. Before he had done speaking the door was quietly and quickly opened, and Sarah Leeson confronted him on the threshold, with her candle in her hand.

Not tall, not handsome, not in her first youth – shy and irresolute in manner – simple in dress to the utmost limits of plainness – the lady’s-maid, in spite of all these disadvantages, was a woman whom it was impossible to look at without a feeling of curiosity, if not of interest. Few men, at first sight of her, could have resisted the desire to find out who she was; few would have been satisfied with receiving for answer, She is Mrs. Treverton’s maid; few would have refrained from the attempt to extract some secret information for themselves from her face and manner; and none, not even the most patient and practiced of observers, could have succeeded in discovering more than that she must have passed through the ordeal of some great suffering at some former period of her life. Much in her manner, and more in her face, said plainly and sadly: I am the wreck of something that you might once have liked to see; a wreck that can never be repaired – that must drift on through life unnoticed, unguided, unpitied – drift till the fatal shore is touched, and the waves of Time have swallowed up these broken relics of me forever.

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- A. inescapable.
- B. horrible.
- C. devastating.
- D. ugly.
- E. inerasable.

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Inerasable or not capable of being erased. The past pain had marked Sarah's face permanently.

#### QUESTION 897

Mathew ascended three flights of stairs – passed half-way down a long arched gallery – and knocked at another old-fashioned oak door. This time the signal was answered. A low, clear, sweet voice, inside the room, inquired who was waiting without? In a few hasty words Mathew told his errand. Before he had done speaking the door was quietly and quickly opened, and Sarah Leeson confronted him on the threshold, with her candle in her hand.

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Why does the author end paragraph four with "But whatever. . . visible in every part of her face"?

- A. to impart that there was nowhere on her face you could not see the pain
- B. to indicate to the reader just how significant the damage to her face was
- C. to reaffirm to the reader that there was massive damage that was immediately noticeable
- D. to introduce the subject matter for the next paragraph
- E. to summate the previous writing in the passage to this point

**Correct Answer:** D

**Section:** Reading  
**Explanation**

**Explanation/Reference:**

Explanation:

The author uses the last line of the preceding paragraph to introduce the topic of the entire next paragraph where he describes, in minute detail, each mark left by the mysterious pain.

#### QUESTION 898

Mathew ascended three flights of stairs – passed half-way down a long arched gallery – and knocked at another old-fashioned oak door. This time the signal was answered. A low, clear, sweet voice, inside the room, inquired who was waiting without? In a few hasty words Mathew told his errand. Before he had done speaking the door was quietly and quickly opened, and Sarah Leeson confronted him on the threshold, with her candle in her hand.

Not tall, not handsome, not in her first youth – shy and irresolute in manner – simple in dress to the utmost limits of plainness – the lady's-maid, in spite of all these disadvantages, was a woman whom it was impossible to look at without a feeling of curiosity, if not of interest. Few men, at first sight of her, could have resisted the desire to find out who she was; few would have been satisfied with receiving for answer, She is Mrs. Treverton's maid; few would have refrained from the attempt to extract some secret information for themselves from her face and manner; and none, not even the most patient and practiced of observers, could have succeeded in discovering more than that she must have passed through the ordeal of some great suffering at some former period of her life. Much in her manner, and more in her face, said plainly and sadly: I am the wreck of something that you might once have liked to see; a wreck that can never be repaired – that must drift on through life unnoticed, unguided, unpitied – drift till the fatal shore is touched, and the waves of Time have swallowed up these broken relics of me forever.

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Sickly and sorrow-stricken as she was, she looked, from the eyes downward, a woman who had barely reached thirty years of age. From the eyes upward, the effect of her abundant gray hair, seen in connection with her face, was not simply incongruous – it was absolutely startling; so startling as to make it no paradox to say that she would have looked most natural, most like herself if her hair had been dyed. In her case, Art would have seemed to be the truth, because Nature looked like falsehood.

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What makes the term “unnatural” ironic as used in the passage?

- A. We know her to be only around 30 with all these marks.
- B. It was unusual that someone so young would have such markings.
- C. The markings would be visible in every part of her face.
- D. The gray hair was any more unnatural than any other markings was apparent.
- E. For a young girl in every other aspect, this pain caused graying hair.

**Correct Answer:** D

**Section:** Reading  
**Explanation**

**Explanation/Reference:**

Explanation:

It is ironic that all of the detail after sordid detail of the pain evidenced on this woman's face and the unusual markings and features should now be considered natural, but her gray hair is “unnatural.”

#### QUESTION 899

Mathew ascended three flights of stairs – passed half-way down a long arched gallery – and knocked at another old-fashioned oak door. This time the signal was answered. A low, clear, sweet voice, inside the room, inquired who was waiting without? In a few hasty words Mathew told his errand. Before he had done speaking the door was quietly and quickly opened, and Sarah Leeson confronted him on the threshold, with her candle in her hand.

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- A. pretty.
- B. pink.
- C. round.
- D. shapely.
- E. pale.

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:



Given all of the unusual features of Sarah's face, only Choice E is congruent with what we know.

#### QUESTION 900

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Not tall, not handsome, not in her first youth – shy and irresolute in manner – simple in dress to the utmost limits of plainness – the lady's-maid, in spite of all these disadvantages, was a woman whom it was impossible to look at without a feeling of curiosity, if not of interest. Few men, at first sight of her, could have resisted the desire to find out who she was; few would have been satisfied with receiving for answer, She is Mrs. Treverton's maid; few would have refrained from the attempt to extract some secret information for themselves from her face and manner; and none, not even the most patient and practiced of observers, could have succeeded in discovering more than that she must have passed through the ordeal of some great suffering at some former period of her life. Much in her manner, and more in her face, said plainly and sadly: I am the wreck of something that you might once have liked to see; a wreck that can never be repaired – that must drift on through life unnoticed, unguided, unpitied – drift till the fatal shore is touched, and the waves of Time have swallowed up these broken relics of me forever.

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Her cheeks had lost their roundness and their natural color; her lips, singularly flexible in movement and delicate in form, had faded to an unhealthy paleness; her eyes, large and black and overshadowed by unusually thick lashes, had contracted an anxious startled look, which never left them and which piteously expressed the painful acuteness of her sensibility, the inherent timidity of her disposition. So far, the marks which sorrow or sickness had set on her were the marks common to most victims of mental or physical suffering. The one extraordinary personal deterioration which she had undergone consisted in the unnatural change that had passed over the color of her hair.

It was as thick and soft, it grew as gracefully, as the hair of a young girl; but it was as gray as the hair of an old woman. It seemed to contradict, in the most startling manner, every personal assertion of youth that still existed in her face. With all its haggardness and paleness, no one could have looked at it and supposed for a moment that it was the face of an elderly woman. Wan as they might be, there was not a wrinkle in her cheeks. Her eyes, viewed apart from their prevailing expression of uneasiness and timidity, still preserved that bright, clear moisture which is never seen in the eyes of the old. The skin about her temples was as delicately smooth as the skin of a child. These and other physical signs which never mislead, showed that she was still, as to years, in the very prime of her life.

Sickly and sorrow-stricken as she was, she looked, from the eyes downward, a woman who had barely reached thirty years of age. From the eyes upward, the effect of her abundant gray hair, seen in connection with her face, was not simply incongruous – it was absolutely startling; so startling as to make it no paradox to say that she would have looked most natural, most like herself if her hair had been dyed. In her case, Art would have seemed to be the truth, because Nature looked like falsehood.

What shock had stricken her hair, in the very maturity of its luxuriance, with the hue of an unnatural old age? Was it a serious illness, or a dreadful grief that had turned her gray in the prime of her womanhood? That question had often been agitated among her fellow-servants, who were all struck by the peculiarities of her personal appearance, and rendered a little suspicious of her, as well, by an inveterate habit that she had of talking to herself. Inquire as they might, however, their curiosity was always baffled. Nothing more could be discovered than that Sarah Leeson was, in the common phrase, touchy on the subject of her gray hair and her habit of talking to herself, and that Sarah Leeson's mistress had long since forbidden every one, from her husband downward, to ruffle her maid's tranquility by inquisitive questions.

The phrase “Sickly and sorrow-stricken” is an example of which literary device?

- A. assonance
- B. repetition
- C. parallelism
- D. alliteration
- E. intonation

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The repetition of the first consonant sound of a series of words qualifies as alliteration.

#### QUESTION 901

Mathew ascended three flights of stairs – passed half-way down a long arched gallery – and knocked at another old-fashioned oak door. This time the signal was answered. A low, clear, sweet voice, inside the room, inquired who was waiting without? In a few hasty words Mathew told his errand. Before he had done speaking the door was quietly and quickly opened, and Sarah Leeson confronted him on the threshold, with her candle in her hand.

Not tall, not handsome, not in her first youth – shy and irresolute in manner – simple in dress to the utmost limits of plainness – the lady’s-maid, in spite of all these disadvantages, was a woman whom it was impossible to look at without a feeling of curiosity, if not of interest. Few men, at first sight of her, could have resisted the desire to find out who she was; few would have been satisfied with receiving for answer, She is Mrs. Treverton’s maid; few would have refrained from the attempt to extract some secret information for themselves from her face and manner; and none, not even the most patient and practiced of observers, could have succeeded in discovering more than that she must have passed through the ordeal of some great suffering at some former period of her life. Much in her manner, and more in her face, said plainly and sadly: I am the wreck of something that you might once have liked to see; a wreck that can never be repaired – that must drift on through life unnoticed, unguided, unpitied – drift till the fatal shore is touched, and the waves of Time have swallowed up these broken relics of me forever.

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What does the author mean with the statement “In her case, Art would have seemed to be the truth, because Nature looked like falsehood”?

- A. Usually women would have been presented in Art as natural as possible but in the case of Sarah, Art would have made improvements to Nature.
- B. Normally Art is perceptibly copying that which is natural (Nature), and this is reversed in the case of Sarah.
- C. Artists would not have used Sarah for a pose unless it was from the eyes downward.
- D. Artists would have had to modify Nature by painting her hair a different color than gray.
- E. Nature made Sarah look like a falsehood rather like Art.

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

There is a saying that Art imitates Life (or Nature). The author is saying that due to the extreme and unusual effects of this trauma on the woman, Life or that which was real; Nature looks more of the imitation rather than Art.

**QUESTION 902**

Mathew ascended three flights of stairs – passed half-way down a long arched gallery – and knocked at another old-fashioned oak door. This time the signal was answered. A low, clear, sweet voice, inside the room, inquired who was waiting without? In a few hasty words Mathew told his errand. Before he had done speaking the door was quietly and quickly opened, and Sarah Leeson confronted him on the threshold, with her candle in her hand.

Not tall, not handsome, not in her first youth – shy and irresolute in manner – simple in dress to the utmost limits of plainness – the lady’s-maid, in spite of all these disadvantages, was a woman whom it was impossible to look at without a feeling of curiosity, if not of interest. Few men, at first sight of her, could have resisted the desire to find out who she was; few would have been satisfied with receiving for answer, She is Mrs. Treverton’s maid; few would have refrained from the attempt to extract some secret information for themselves from her face and manner; and none, not even the most patient and practiced of observers, could have succeeded in discovering more than that she must have passed through the ordeal of some great suffering at some former period of her life. Much in her manner, and more in her face, said plainly and sadly: I am the wreck of something that you might once have liked to see; a wreck that can never be repaired – that must drift on through life unnoticed, unguided, unpitied – drift till the fatal shore is touched, and the waves of Time have swallowed up these broken relics of me forever.

This was the story that was told in Sarah Leeson’s face – this, and no more. No two men interpreting that story for themselves, would probably have agreed on the nature of the suffering which this woman had undergone. It was hard to say, at the outset, whether the past pain that had set its ineffaceable mark on her had been pain of the body or pain of the mind. But whatever the nature of the affliction she had suffered, the traces it had left were deeply and strikingly visible in every part of her face.

Her cheeks had lost their roundness and their natural color; her lips, singularly flexible in movement and delicate in form, had faded to an unhealthy paleness; her eyes, large and black and overshadowed by unusually thick lashes, had contracted an anxious startled look, which never left them and which piteously expressed the painful acuteness of her sensibility, the inherent timidity of her disposition. So far, the marks which sorrow or sickness had set on her were the marks common to most victims of mental or physical suffering. The one extraordinary personal deterioration which she had undergone consisted in the unnatural change that had passed over the color of her hair.

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Sickly and sorrow-stricken as she was, she looked, from the eyes downward, a woman who had barely reached thirty years of age. From the eyes upward, the effect of her abundant gray hair, seen in connection with her face, was not simply incongruous – it was absolutely startling; so startling as to make it no paradox to say that she would have looked most natural, most like herself if her hair had been dyed. In her case, Art would have seemed to be the truth, because Nature looked like falsehood.

What shock had stricken her hair, in the very maturity of its luxuriance, with the hue of an unnatural old age? Was it a serious illness, or a dreadful grief that had turned her gray in the prime of her womanhood? That question had often been agitated among her fellow-servants, who were all struck by the peculiarities of her personal appearance, and rendered a little suspicious of her, as well, by an inveterate habit that she had of talking to herself. Inquire as they might, however, their curiosity was always baffled. Nothing more could be discovered than that Sarah Leeson was, in the common phrase, touchy on the subject of her gray hair and her habit of talking to herself, and that Sarah Leeson’s mistress had long since forbidden every one, from her husband downward, to ruffle her maid’s tranquility by inquisitive questions. In context, the word “inveterate” in the last paragraph most closely means

- A. a particularly bad.
- B. occurring over a prolonged period.
- C. something only present in vertebrates.
- D. positively unacceptable.
- E. rude.



**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

An inveterate habit is one occurring over a prolonged period of time. This is an important detail as it delineates a time frame for Sarah’s life-changing event.

**QUESTION 903**

Mathew ascended three flights of stairs – passed half-way down a long arched gallery – and knocked at another old-fashioned oak door. This time the signal was answered. A low, clear, sweet voice, inside the room, inquired who was waiting without? In a few hasty words Mathew told his errand. Before he had done speaking the door was quietly and quickly opened, and Sarah Leeson confronted him on the threshold, with her candle in her hand.

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What may the reader infer from “and that Sarah Leeson's mistress. . .by inquisitive questions” at the end of the passage?

- A. Sarah had a close bond with her mistress, even to the extent that the mistress might have some involvement with her pain.
- B. Sarah is a valuable servant and the mistress does not want the action of other servants to cause her distress.
- C. The mistress does not want to train another servant and does not want anything to upset Sarah and cause her to leave.
- D. Sarah is protected by her mistress, even when it comes to her husband, inasmuch as no one is allowed to disturb Sarah.
- E. Sarah knows something that the mistress does not want to get out and so she doesn't want Sarah upset.

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The author is quite revealing in this statement. Not only does the mistress forbid the other servants from disturbing Sarah, but she forbids her husband from doing so. This is an extremely bold posture for a woman during these times and may indicate some hidden relationship yet to be disclosed about just how much the mistress does know, or is even somehow involved with the cause or misfortune that befell Sarah.

#### QUESTION 904

Adapted from Volume Four of The Natural History of Animals: The Animal Life of the World in Its Various Aspects and Relations by James Richard Ainsworth Davis (1903)

The examples of protective resemblance so far quoted are mostly permanent adaptations to one particular sort of surrounding. There are, however, numerous animals which possess the power of adjusting their color more or less rapidly so as to harmonize with a changing environment.

Some of the best known of these cases are found among those mammals and birds that inhabit countries more or less covered with snow during a part of the year. A good instance is afforded by the Irish or variable hare, which is chiefly found in Ireland and Scotland. In summer, this looks very much like an ordinary hare, though rather grayer in tint and smaller in size, but in winter it becomes white with the exception of the black tips to the ears. Investigations that have been made on the closely allied American hare seem to show that the phenomenon is due to the growth of new hairs of white hue.

The common stoat is subject to similar color change in the northern parts of its range. In summer it is of a bright reddish brown color with the exception of the under parts, which are yellowish white, and the end of the tail, which is black. But in winter, the entire coat, save only the tip of the tail, becomes white, and in that condition the animal is known as an ermine. A similar example is afforded by the weasel. The seasonal change in the vegetarian Irish hare is purely of protective character, but in such an actively carnivorous creature as a stoat or weasel, it is aggressive as well, rendering the animal inconspicuous to its prey.

Based on the passage, which of the following can we infer would be the best reason for animals living in variable arctic environments to change their fur color?

- A. They would be warmer.
- B. They would be more difficult to see when surrounded by snow.
- C. They would be faster.
- D. They would more easily be able to attract a mate.
- E. They would be able to find food more quickly and easily.

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

If animals that live in arctic environments change their fur color, it is likely a seasonal change from brownish fur to predominantly white fur, as we've seen in the examples of the Irish hare, the stoat, and the weasel. What is specific about arctic environments? They likely involve a lot of snow, and are quite cold. Changing fur color to white would thus blend in with the snow and make an animal harder to see, as the last sentence suggests in saying that “in such an actively carnivorous creature as a stoat or weasel, [color change] is aggressive as well, rendering the animal inconspicuous to its prey.” we're not told anything in the passage that would support the assertion that it would make the animal warmer, or that would support any of the other answer choices.

#### QUESTION 905

Adapted from “Feathers of Sea Birds and Wild Fowl for Bedding” from The Utility of Birds by Edward Forbush (ed. 1922)



In the colder countries of the world, the feathers and down of waterfowl have been in great demand for centuries as filling for beds and pillows. Such feathers are perfect non-conductors of heat, and beds, pillows, or coverlets filled with them represent the acme of comfort and durability. The early settlers of New England saved for such purposes the feathers and down from the thousands of wild-fowl which they killed, but as the population increased in numbers, the quantity thus furnished was insufficient, and the people sought a larger supply in the vast colonies of ducks and geese along the Labrador coast.

The manner in which the feathers and down were obtained, unlike the method practiced in Iceland, did not tend to conserve and protect the source of supply. In Iceland, the people have continued to receive for many years a considerable income by collecting eider down, but there they do not “kill the goose that lays the golden eggs.” Ducks line their nests with down plucked from their own breasts and that of the eider is particularly valuable for bedding. In Iceland, these birds are so carefully protected that they have become as tame and unsuspicious as domestic fowls In North America. Where they are constantly hunted they often conceal their nests in the midst of weeds or bushes, but in Iceland, they make their nests and deposit their eggs in holes dug for them in the sod. A supply of the ducks is maintained so that the people derive from them an annual income.

In North America, quite a different policy was pursued. The demand for feathers became so great in the New England colonies about the middle of the eighteenth century that vessels were fitted out there for the coast of Labrador for the express purpose of securing the feathers and down of wild fowl. Eider down having become valuable and these ducks being in the habit of congregating by thousands on barren islands of the Labrador coast, the birds became the victims of the ships’ crews. As the ducks molt all their primary feathers at once in July or August and are then quite incapable of flight and the young birds are unable to fly until well grown, the hunters were able to surround the helpless birds, drive them together, and kill them with clubs. Otis says that millions of wildfowl were thus destroyed and that in a few years their haunts were so broken up by this wholesale slaughter and their numbers were so diminished that feather voyages became unprofitable and were given up.

This practice, followed by the almost continual eggging, clubbing, shooting, etc. by Labrador fishermen, may have been a chief factor in the extinction of the Labrador duck, that species of supposed restricted breeding range. No doubt had the eider duck been restricted in its breeding range to the islands of Labrador, it also would have been exterminated long ago.

Which of the following did NOT contribute to the success and profitability of the Labrador feather voyages?

- A. After the ducks being hunted lost their feathers, they could not fly
- B. The ducks hunted lost all of their main feathers at one time in the summer
- C. Fledgling ducks cannot fly
- D. When hunted, ducks attempt to conceal their nests in the surrounding vegetation.
- E. Ducks gathered in great numbers on islands on the coast of Labrador

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

In the passage’s third paragraph, the author writes, “As the ducks molt all their primary feathers at once in July or August and are then quite incapable of flight and the young birds are unable to fly until well grown, the hunters were able to surround the helpless birds drive them together and kill them with clubs.” This sentence tells readers that the Labrador feather voyages were helped by the fact that “ducks lose all their feathers at one time in the summer,” “after the ducks being hunted lost their feathers, they could not fly,” and “fledgling ducks cannot fly,” so none of these answer choices can be correct. This leaves us with the answer choices “Ducks gathered in great numbers on islands on the coast of Labrador” and “When hunted, ducks attempt to conceal their nests in the surrounding vegetation.” The latter of these is the correct answer; the fact that “Ducks gathered in great numbers on islands on the coast of Labrador” helped the voyages profit, but “When hunted, ducks attempt to conceal their nests in the surrounding vegetation” has nothing to do with the Labrador feather voyages. This detail is presented when describing the Icelandic practices of gathering eider down, and at any rate, would not be helpful to the voyages, as the ducks would hide their nests and likely themselves.

**QUESTION 906** Adapted from An Introduction to Astronomy by Forest Ray Moulton (1916 ed.)

It is doubtful if any important scientific idea ever sprang suddenly into the mind of a single man. The great intellectual movements in the world have had long periods of preparation, and often many men were groping for the same truth, without exactly seizing it, before it was fully comprehended.

The foundation on which all science rests is the principle that the universe is orderly, and that all phenomena succeed one another in harmony with invariable laws. Consequently, science was impossible until the truth of this principle was perceived, at least as applied to a limited part of nature.

The phenomena of ordinary observation, as, for example, the weather, depend on such a multitude of factors that it was not easy for men in their primitive state to discover that they occur in harmony with fixed laws. This was the age of superstition, when nature was supposed to be controlled by a great number of capricious gods whose favor could be won by childish ceremonies. Enormous experience was required to dispel such errors and to convince men that the universe is one vast organization whose changes take place in conformity with laws which they can in no way alter.

The actual dawn of science was in prehistoric times, probably in the civilizations that flourished in the valleys of the Nile and the Euphrates. In the very earliest records of these people that have come down to modern times it is found that they were acquainted with many astronomical phenomena and had coherent ideas with respect to the motions of the sun, moon, planets, and stars. It is perfectly clear from their writings that it was from their observations of the heavenly bodies that they first obtained the idea that the universe is not a chaos. Day and night were seen to succeed each other regularly, the moon was found to pass through its phases systematically, the seasons followed one another in order, and in fact the more conspicuous celestial phenomena were observed to occur in an orderly sequence. It is to the glory of astronomy that it first led men to the conclusion that law reigns in the universe.

Which of the following is the best image for the author’s view of the universe?

- A. It is a structured whole.
- B. It is relatively ordered chaos.
- C. Its highest beauties are found in the stars.
- D. None of the other answers
- E. It is the source of the greatest of all marvels, particularly life itself.

**Correct Answer:** A

**Section:** Reading  
**Explanation**

**Explanation/Reference:**

Explanation: Sometimes, the answer to a question can be found in a single sentence. In the case of this question, the answer is found in the very last sentence: "It is to the glory of astronomy that it first led men to the conclusion that law reigns in the universe." If law reigns in the universe, this means that it is an orderly whole, not deviating from its law-like course of events. This is the best answer among those provided.

**QUESTION 907**

Adapted from "Introduced Species That Have Become Pests" in Our Vanishing Wild Life, Its Extermination and Protection by William Temple Hornaday (1913)

The man who successfully transplants or "introduces" into a new habitat any persistent species of living thing assumes a very grave responsibility. Every introduced species is doubtful gravel until panned out. The enormous losses that have been inflicted upon the world through the perpetuation of follies with wild vertebrates and insects would, if added together, be enough to purchase a principality. The most aggravating feature of these follies in transplantation is that never yet have they been made severely punishable. We are just as careless and easygoing on this point as we were about the government of the Yellowstone Park in the days when Howell and other poachers destroyed our first national bison herd, and when caught red-handed – as Howell was, skinning seven Park bison cows – could not be punished for it, because there was no penalty prescribed by any law. Today, there is a way in which any revengeful person could inflict enormous damage on the entire South, at no cost to himself, involve those states in enormous losses and the expenditure of vast sums of money, yet go absolutely unpunished!

The gypsy moth is a case in point. This winged calamity was imported at Maiden, Massachusetts, near Boston, by a French entomologist, Mr. Leopold Trouvelot, in 1868 or 69. History records the fact that the man of science did not purposely set free the pest. He was endeavoring with live specimens to find a moth that would produce a cocoon of commercial value to America, and a sudden gust of wind blew out of his study, through an open window, his living and breeding specimens of the gypsy moth. The moth itself is not bad to look at, but its larvae is a great, overgrown brute with an appetite like a hog. Immediately Mr. Trouvelot sought to recover his specimens, and when he failed to find them all, like a man of real honor, he notified the State authorities of the accident. Every effort was made to recover all the specimens, but enough escaped to produce progeny that soon became a scourge to the trees of Massachusetts. The method of the big, nasty-looking mottled-brown caterpillar was very simple. It devoured the entire foliage of every tree that grew in its sphere of influence.

The gypsy moth spread with alarming rapidity and persistence. In course of time, the state authorities of Massachusetts were forced to begin a relentless war upon it, by poisonous sprays and by fire. It was awful! Up to this date (1912) the New England states and the United States Government service have expended in fighting this pest about \$7,680,000!

The spread of this pest has been retarded, but the gypsy moth never will be wholly stamped out. Today it exists in Rhode Island, Connecticut, and New Hampshire, and it is due to reach New York at an early date. It is steadily spreading in three directions from Boston, its original point of departure, and when it strikes the State of New York, we, too, will begin to pay dearly for the Trouvelot experiment.

How does the author feel about Howell?

- A. The author greatly dislikes Howell for his audacious disrespect for nature.
- B. The author is annoyed by Howell's insistence that invasive species do not cause significant problems.
- C. The author agrees with Howell that invasive species are often problematic.
- D. The author thinks that Howell made a great mistake in releasing Gypsy moths into the United States.
- E. The author likes Howell because he helped identify a problem with the consequences available for environmental disruptors.

**Correct Answer:** A

**Section:** Reading  
**Explanation**

**Explanation/Reference:**

Explanation:

Let's look at the part of the first paragraph in which the author brings up Howell, paying attention to why he does so: "The most aggravating feature of these follies in transplantation is that never yet have they been made severely punishable. We are just as careless and easygoing on this point as we were about the government of the Yellowstone Park in the days when Howell and other poachers destroyed our first national bison herd, and when caught red-handed – as Howell was, skinning seven Park bison cows – could not be punished for it, because there was no penalty prescribed by any law." In mentioning Howell, the author is providing an example supporting his argument that harsher legal penalties are necessary for those who harm the environment. The author describes Howell as a "poacher" who "destroyed our first national bison herd" and was "caught red-handed." From this, we can tell that the best answer choice is "the author greatly dislikes Howell for his audacious disrespect for nature." One of the other answer choices attempts to get you to confuse Howell with Mr. Trouvelot, who released the gypsy moths – don't fall for that! Check the passage if you are worried at all about confusing the two so you can avoid pitfall answers like that one.

**QUESTION 908**

Adapted from "Introduced Species That Have Become Pests" in Our Vanishing Wild Life, Its Extermination and Protection by William Temple Hornaday (1913)

The man who successfully transplants or "introduces" into a new habitat any persistent species of living thing assumes a very grave responsibility. Every introduced species is doubtful gravel until panned out. The enormous losses that have been inflicted upon the world through the perpetuation of follies with wild vertebrates and insects would, if added together, be enough to purchase a principality. The most aggravating feature of these follies in transplantation is that never yet have they been made severely punishable. We are just as careless and easygoing on this point as we were about the government of the Yellowstone Park in the days when Howell and other poachers destroyed our first national bison herd, and when caught red-handed – as Howell was, skinning seven Park bison cows – could not be punished for it, because there was no penalty prescribed by any law. Today, there is a way in which any revengeful person could inflict enormous damage on the entire South, at no cost to himself, involve those states in enormous losses and the expenditure of vast sums of money, yet go absolutely unpunished!

The gypsy moth is a case in point. This winged calamity was imported at Maiden, Massachusetts, near Boston, by a French entomologist, Mr. Leopold Trouvelot, in 1868 or 69. History records the fact that the man of science did not purposely set free the pest. He was endeavoring with live specimens to find a moth that would produce a cocoon of commercial value to America, and a sudden gust of wind blew out of his study, through an open window, his living and breeding specimens of the gypsy moth. The moth itself is not bad to look at, but its larvae is a great, overgrown brute with an appetite like a hog. Immediately Mr. Trouvelot sought to recover his specimens, and when he failed to find them all, like a man of real honor, he notified the State authorities of the accident. Every effort was made to recover all the specimens, but enough escaped to produce progeny that soon became a scourge to the trees of Massachusetts. The method of the big, nasty-looking mottled-brown caterpillar was very simple. It devoured the entire foliage of every tree that grew in its sphere of influence.

The gypsy moth spread with alarming rapidity and persistence. In course of time, the state authorities of Massachusetts were forced to begin a relentless war upon it, by poisonous sprays and by fire. It was awful! Up to this date (1912) the New England states and the United States Government service have expended in fighting this pest about \$7,680,000! The spread of this pest has been retarded, but the gypsy moth never will be wholly stamped out. Today it exists in Rhode Island, Connecticut, and New Hampshire, and it is due to reach New York at an early date. It is steadily spreading in three directions from Boston, its original point of departure, and when it strikes the State of New York, we, too, will begin to pay dearly for the Trouvelot experiment.

Which of the following best describes an opinion held by the author?

- A. Farmers should place nets around their fields and orchards to prevent the gypsy moths from getting to their crops.
- B. Despite spending a great deal of money, the United States will never be rid of the gypsy moth.
- C. It is difficult to say what the future holds for the fate of the gypsy moth in the United States.
- D. We should introduce a new species of animal that eats gypsy moths to combat the problems they cause.
- E. Efforts to contain the gypsy moth will improve as technology improves, until all of the moths in the United States have been eradicated.

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The first sentence of the passage's last paragraph provides the information we need to answer this question correctly: the author writes, "The spread of this pest has been retarded, but the gypsy moth never will be wholly stamped out." We can thus definitively say that he thinks that "despite spending a great deal of money, the United States will never be rid of the gypsy moth."

#### QUESTION 909

Adapted from "Recent Views as to Direct Action of Light on the Colors of Flowers and Fruits" in Tropical Nature, and Other Essays by Alfred Russel Wallace (1878)

The theory that the brilliant colors of flowers and fruits is due to the direct action of light has been supported by a recent writer by examples taken from the arctic instead of from the tropical flora. In the arctic regions, vegetation is excessively rapid during the short summer, and this is held to be due to the continuous action of light throughout the long summer days. "The further we advance towards the north, the more the leaves of plants increase in size as if to absorb a greater proportion of the solar rays. M. Grisebach says that during a journey in Norway he observed that the majority of deciduous trees had already, at the 60th degree of latitude, larger leaves than in Germany, while M. Ch. Martins has made a similar observation as regards the leguminous plants cultivated in Lapland." The same writer goes on to say that all the seeds of cultivated plants acquire a deeper color the further north they are grown, white haricots becoming brown or black, and white wheat becoming brown, while the green color of all vegetation becomes more intense. The flowers also are similarly changed: those which are white or yellow in central Europe becoming red or orange in Norway. This is what occurs in the Alpine flora, and the cause is said to be the same in both – the greater intensity of the sunlight. In the one the light is more persistent, in the other more intense because it traverses a less thickness of atmosphere. Admitting the facts as above stated to be in themselves correct, they do not by any means establish the theory founded on them; and it is curious that Grisebach, who has been quoted by this writer for the fact of the increased size of the foliage, gives a totally different explanation of the more vivid colors of Arctic flowers. He says, "We see flowers become larger and more richly colored in proportion as, by the increasing length of winter, insects become rarer, and their cooperation in the act of fecundation is exposed to more uncertain chances." (Vegetation du Globe, col. i. p. 61–French translation.) This is the theory here adopted to explain the colors of Alpine plants, and we believe there are many facts that will show it to be the preferable one. The statement that the white and yellow flowers of temperate Europe become red or golden in the Arctic regions must we think be incorrect. By roughly tabulating the colors of the plants given by Sir Joseph Hooker as permanently Arctic, we find among fifty species with more or less conspicuous flowers, twenty-five white, twelve yellow, eight purple or blue, three lilac, and two red or pink; showing a very similar proportion of white and yellow flowers to what obtains further south.

The author brings up Joseph Hooker's research in order to \_\_\_\_\_.

- A. demonstrate that the colors of flowers change at varying latitudes
- B. suggest that a follow-up experiment be performed to check his results
- C. disprove the theory of the "recent writer" quoted in the first paragraph
- D. provide evidence in favor of the author's theory, which disagrees with all of the previously mentioned theories
- E. support Martins' theory

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The author brings up Joseph Hooker's research near the end of the second paragraph, stating, "By roughly tabulating the colors of the plants given by Sir Joseph Hooker as permanently Arctic, we find among fifty species with more or less conspicuous flowers, twenty-five white, twelve yellow, eight purple or blue, three lilac, and two red or pink; showing a very similar proportion of white and yellow flowers to what obtains further south." This immediately follows the sentence, "The statement that the white and yellow flowers of temperate Europe become red or golden in the Arctic regions must we think be incorrect." In this sentence, the author is doubting the veracity of the "recent writer" quoted in the first paragraph. The author then uses Hooker's evidence to disprove the theory of the "recent writer," because if the theory of the "recent writer" were correct, there would be very few white or yellow flowers in the Arctic and many red or golden ones, and Hooker's evidence shows that this is not the case, as most of the Arctic flowers he observed were white. So, the correct answer is that the author uses Joseph Hooker's evidence to "disprove the theory of the 'recent writer' quoted in the first paragraph." "Provide evidence in favor of the author's theory, which disagrees with all of the previously mentioned scientists' statements" cannot be the correct answer because the author is in agreement with M. Grisebach.

**QUESTION 910** Adapted from Ice-Caves of France and Switzerland by George Forrest Browne (1865)

This account states that the cave is in the county of Thorn, among the lowest spurs of the Carpathians. The entrance, which faces the north, and is exposed to the cold winds from the snowy part of the Carpathian range, is eighteen fathoms high and nine broad; and the cave spreads out laterally, and descends to a point fifty fathoms below the entrance, where it is twenty-six fathoms in breadth, and of irregular height. Beyond this no one had at that time penetrated, on account of the unsafe footing, although many distant echoes were returned by the farther recesses of the cave; indeed, to get even so far as this, much step-cutting was necessary.

When the external frost of winter comes on, the account proceeds, the effect in the cave is the same as if fires had been lighted there: the ice melts, and swarms of flies and bats and hares take refuge in the interior from the severity of the winter. As soon as spring arrives, the warmth of winter disappears from the interior, water exudes from the roof and is converted into ice, while the more abundant supplies which pour down on to the sandy floor are speedily frozen there. In the dog-days, the frost is so intense that a small icicle becomes in one day a huge mass of ice; but a cool day promptly brings a thaw, and the cave is looked upon as a barometer, not merely feeling, but also presaging, the changes of weather. The people of the neighborhood, when employed in field-work, arrange their labour so that the mid-day meal may be taken near the cave, when they either ice the water they have brought with them, or drink the melted ice, which they consider very good for the stomach. It had been calculated that six hundred weekly carts would not be sufficient to keep the cavern free from ice. The ground above the cave is peculiarly rich in grass.

In explanation of these phenomena, Bell threw out the following suggestions, which need no comment. The earth being of itself cold and damp, the external heat of the atmosphere, by partially penetrating into the ground, drives in this native cold to the inner parts of the earth, and makes the cold there more dense. On the other hand, when the external air is cold, it draws forth towards the surface the heat there may be in the inner part of the earth, and thus makes caverns warm. In support and illustration of this view, he states that in the hotter parts of Hungary, when the people wish to cool their wine, they dig a hole two feet deep, and place in it the flagon of wine, and, after filling up the hole again, light a blazing fire upon the surface, which cools the wine as if the flagon had been laid in ice. He also suggests that possibly the cold winds from the Carpathians bring with them imperceptible particles of snow, which reach the water of the cave, and convert it into ice. Further, the rocks of the Carpathians abound in salts, niter, alum, etc., which may, perhaps, mingle with such snowy particles, and produce the ordinary effect of the snow and salt in the artificial production of ice.

Which of the following sentences best describes the function of the first paragraph within the passage as a whole?

- A. An argument about incorrect information which is being circulated about the cave, particularly about depth
- B. A description of the woeful state of the cave at the time of the author's arrival there
- C. A lengthy summation of all of the information available to the author on the cave
- D. A manifesto of what the author hopes to achieve in his study of the cave and the details he was given about it
- E. A brief introduction, explaining the location and the existing knowledge about the cave and its shape

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The first paragraph introduces the topic of the cave by discussing its location and general characteristics. It does not argue, give all the information about the cave, describe the poor state of the cave, or state what the author hopes to achieve.

**QUESTION 911**

Adapted from A Practical Treatise on the Hive and Honey-Bee by Lorenzo Lorraine Langstroth (1857 ed.)

Of all the numerous enemies of the honey-bee, the Bee-Moth (*Tinea mellonella*), in climates of hot summers, is by far the most to be dreaded. So widespread and fatal have been its ravages in this country that thousands have abandoned the cultivation of bees in despair, and in districts which once produced abundant supplies of the purest honey, bee-keeping has gradually dwindled down into a very insignificant pursuit. Contrivances almost without number have been devised to defend the bees against this invidious foe, but still it continues its desolating inroads, almost unchecked, laughing as it were to scorn at all the so-called "moth-proof" hives, and turning many of the ingenious fixtures designed to entrap or exclude it into actual aids and comforts in its nefarious designs.

I should feel but little confidence in being able to reinstate bee-keeping in our country into a certain and profitable pursuit if I could not show the apiarian in what way he can safely bid defiance to the pestiferous assaults of this, his most implacable enemy. I have patiently studied its habits for years, and I am at length able to announce a system of management founded upon the peculiar construction of my hives, which will enable the careful bee-keeper to protect his colonies against the monster. The bee-moth infects our apiaries, just as weeds take possession of a fertile soil. Before explaining the means upon which I rely to circumvent the moth, I will first give a brief description of its habits.

Swammerdam, towards the close of the seventeenth century, gave a very accurate description of this insect, which was then called by the very expressive name of the "bee-wolf." He has furnished good drawings of it, in all its changes, from the worm to the perfect moth, together with the peculiar webs or galleries that it constructs and from which the name of *Tinea galleria* or "gallery moth" has been given to it by some entomologists. He failed, however, to discriminate between the male and female, which, because they differ so much in size and appearance, he supposed to be two different species of the wax-moth. It seems to have been a great pest in his time, and even Virgil speaks of the "*dirum tineæ* genus," the dreadful offspring of the moth; that is the worm.

This destroyer usually makes its appearance about the hives in April or May, the time of its coming depending upon the warmth of the climate or the forwardness of the season. It is seldom seen on the wing (unless startled from its lurking place about the hive) until towards dark, and is evidently chiefly nocturnal in its habits. In dark cloudy days, however, I have noticed it on the wing long before sunset, and if several such days follow in succession, the female, oppressed with the urgent necessity of laying her eggs, may be seen endeavoring to gain admission to the hives. The female is much larger than the male, and "her color is deeper and more inclining to a darkish gray, with small spots or blackish streaks on the interior edge of her upper wings." The color of the male inclines more to a light gray; they might easily be mistaken for different species of moths. These insects are surprisingly agile, both on foot and on the wing. The motions of a bee are very slow in comparison. "They are," says Reaumur, "the most nimble-footed creatures that I know." "If the approach to the apiary be observed of a moonlight evening, the moths will be found flying or running round the hives, watching an opportunity to enter, whilst the bees that have to guard the entrances against their intrusion will be seen acting as vigilant sentinels, performing continual rounds near this important post, extending their antenna to the utmost, and moving them to the right and left alternately. Woe to the unfortunate moth that comes within their reach!" "It is curious," says Huber, "to observe how artfully the moth knows how to profit, to the disadvantage of the bees, which require much light for seeing objects; and the precautions taken by the latter in reconnoitering and expelling so dangerous an enemy."

In the third paragraph the information about Swammerdam's name for the moth serves to \_\_\_\_\_.

- A. show that Swammerdam was not scientific in his approach to bee keeping
- B. suggest that the bee-moth preys on other insects besides bees
- C. show that in the seventeenth century people were ill-educated in the fields of science and nature



- D. show how much of a menace it has always been to bees
- E. mock the moth as something feared yet destroyable

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The author refers to Swammerdam's name for the moths as "the very expressive name" and as we can see the name "bee-wolf" tells us as a reader that even in Swammerdam's time the bee was a menace. The name, and its inclusion in the passage, serves to prove that the bee-moth has been long thought of as a menace to bees.

#### QUESTION 912

Adapted from "Introduced Species That Have Become Pests" in Our Vanishing Wild Life, Its Extermination and Protection by William Temple Hornaday (1913)

The man who successfully transplants or "introduces" into a new habitat any persistent species of living thing assumes a very grave responsibility. Every introduced species is doubtful gravel until panned out. The enormous losses that have been inflicted upon the world through the perpetuation of follies with wild vertebrates and insects would, if added together, be enough to purchase a principality. The most aggravating feature of these follies in transplantation is that never yet have they been made severely punishable. We are just as careless and easygoing on this point as we were about the government of the Yellowstone Park in the days when Howell and other poachers destroyed our first national bison herd, and when caught red-handed – as Howell was, skinning seven Park bison cows – could not be punished for it, because there was no penalty prescribed by any law. Today, there is a way in which any revengeful person could inflict enormous damage on the entire South, at no cost to himself, involve those states in enormous losses and the expenditure of vast sums of money, yet go absolutely unpunished!

The gypsy moth is a case in point. This winged calamity was imported at Maiden, Massachusetts, near Boston, by a French entomologist, Mr. Leopold Trouvelot, in 1868 or 69. History records the fact that the man of science did not purposely set free the pest. He was endeavoring with live specimens to find a moth that would produce a cocoon of commercial value to America, and a sudden gust of wind blew out of his study, through an open window, his living and breeding specimens of the gypsy moth. The moth itself is not bad to look at, but its larvae is a great, overgrown brute with an appetite like a hog. Immediately Mr. Trouvelot sought to recover his specimens, and when he failed to find them all, like a man of real honor, he notified the State authorities of the accident. Every effort was made to recover all the specimens, but enough escaped to produce progeny that soon became a scourge to the trees of Massachusetts. The method of the big, nasty-looking mottled-brown caterpillar was very simple. It devoured the entire foliage of every tree that grew in its sphere of influence.

The gypsy moth spread with alarming rapidity and persistence. In course of time, the state authorities of Massachusetts were forced to begin a relentless war upon it, by poisonous sprays and by fire. It was awful! Up to this date (1912) the New England states and the United States Government service have expended in fighting this pest about \$7,680,000!

The spread of this pest has been retarded, but the gypsy moth never will be wholly stamped out. Today it exists in Rhode Island, Connecticut, and New Hampshire, and it is due to reach New York at an early date. It is steadily spreading in three directions from Boston, its original point of departure, and when it strikes the State of New York, we, too, will begin to pay dearly for the Trouvelot experiment.

The main reason the author mentions Howell's story is \_\_\_\_\_.

- A. to lament the loss of the United States' first national bison herd
- B. to attack Howell's actions as reprehensible
- C. to provide an account that shows how bad it is that environmental offenders cannot be legally punished
- D. to argue for putting a fence up around Yellowstone National Park to keep out poachers
- E. to suggest that the loss of bison is a more important problem than those caused by the gypsy moth

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

This question may initially seem tricky because Howell's story accomplishes many of the answer choices' statements: the author does attack Howell's actions as reprehensible, and he does lament the loss of the United States' first national bison herd. However, these are consequences of the story, not reasons why the author brought it up in the first place. The only answer choice that explains why the author mentions the story is "to provide an account that shows how bad it is that environmental offenders cannot be legally punished," so this is the correct answer.

#### QUESTION 913 "The Cell Cycle" by

Joseph Ritchie (2014)

The process by which cells divide and multiply is known as the cell cycle. This cycle consists of two main phases: interphase and mitosis. Each phase consists of a series of clearly defined and observable steps. At the conclusion of the cycle, each parent cell produces two genetically identical daughter cells that may also replicate by proceeding through the cell cycle.

Roughly ninety percent of the cell cycle is spent in interphase. Interphase is comprised of three main steps: the first gap phase, the synthesis phase (also called "S phase"), and the second gap phase. The initial gap phase is a period of cellular preparation in which the cell increases in size and readies itself for DNA synthesis. In the synthesis phase, or S phase, DNA replication occurs, so that when the cell divides, each daughter cell will have the DNA necessary to function properly. In the second gap phase, the cell grows in size and prepares for cellular division in the mitotic phase. At the end of each gap phase, the cell has to pass a regulatory checkpoint to ensure that nothing is going wrong. If anything has gone wrong, the checkpoints stop the cell from proceeding through the cell cycle any further.

The next part of the cell cycle is mitosis. Mitosis is a form of cell division and is broken down into five distinct phases. During prophase, the genetic material contained in the cell's chromatin condenses into distinct chromosomes.

Prometaphase is marked by the breakdown of the cell's nuclear envelope and the formation of centrosomes at the poles of the cell. During metaphase, the cell's chromosomes are moved to the center of the cell. A checkpoint ensures that the chromosomes are properly aligned on the center and halts the cell cycle if any errors have occurred. In anaphase, chromosomes break apart at their center, or centromere, and sister chromatids move to opposite ends of the cell. Lastly, telophase and cytokinesis occur as nuclear membranes form to physically divide the cell into two new daughter cells. Chromosomes also unwind into loose chromatin during this part of mitosis. Cytokinesis is defined as the division of the each cell's cytoplasm and organelles. At the conclusion of the cell cycle, two genetically identical daughter cells have formed.

The cell cycle operates by a series of checkpoints and external cues. This system of checks enables the cell to enter a state of dormancy known as the gap zero phase when conditions or other factors inhibit the cell cycle. Conversely, unregulated and uncontrolled cellular division can occur under certain circumstances. A cell in a state of uncontrolled division is known to be cancerous. Lastly, cells have the ability to mediate their own death by way of apoptosis if certain genetic or physical abnormalities exist. The cell cycle is a complex process that enables cells to replicate and proliferate under a stringent set of checks and balances that produce healthy and viable daughter cells that are each able to perform the process in the future.

Which of the following lists the steps of mitosis in the order in which they occur?

- A. Prometaphase, metaphase, anaphase, prophase, telophase and cytokinesis
- B. Synthesis phase, first gap phase, second gap phase
- C. First gap phase, synthesis phase, second gap phase
- D. Prophase, prometaphase, metaphase, anaphase, telophase and cytokinesis

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The third paragraph discusses mitosis, and talks about prophase, then prometaphase, then metaphase, then anaphase, then telophase and cytokinesis, so this is the correct order. The answer choices that discuss the first gap phase, synthesis phase, and the second gap phase are referring to the stages of interphase, not mitosis, so it's important to make this distinction while reading!

**QUESTION 914** "The Cell Cycle" by  
Joseph Ritchie (2014)

The process by which cells divide and multiply is known as the cell cycle. This cycle consists of two main phases: interphase and mitosis. Each phase consists of a series of clearly defined and observable steps. At the conclusion of the cycle, each parent cell produces two genetically identical daughter cells that may also replicate by proceeding through the cell cycle.

Roughly ninety percent of the cell cycle is spent in interphase. Interphase is comprised of three main steps: the first gap phase, the synthesis phase (also called "S phase"), and the second gap phase. The initial gap phase is a period of cellular preparation in which the cell increases in size and readies itself for DNA synthesis. In the synthesis phase, or S phase, DNA replication occurs, so that when the cell divides, each daughter cell will have the DNA necessary to function properly. In the second gap phase, the cell grows in size and prepares for cellular division in the mitotic phase. At the end of each gap phase, the cell has to pass a regulatory checkpoint to ensure that nothing is going wrong. If anything has gone wrong, the checkpoints stop the cell from proceeding through the cell cycle any further.

The next part of the cell cycle is mitosis. Mitosis is a form of cell division and is broken down into five distinct phases. During prophase, the genetic material contained in the cell's chromatin condenses into distinct chromosomes.

Prometaphase is marked by the breakdown of the cell's nuclear envelope and the formation of centrosomes at the poles of the cell. During metaphase, the cell's chromosomes are moved to the center of the cell. A checkpoint ensures that the chromosomes are properly aligned on the center and halts the cell cycle if any errors have occurred. In anaphase, chromosomes break apart at their center, or centromere, and sister chromatids move to opposite ends of the cell. Lastly, telophase and cytokinesis occur as nuclear membranes form to physically divide the cell into two new daughter cells. Chromosomes also unwind into loose chromatin during this part of mitosis. Cytokinesis is defined as the division of the each cell's cytoplasm and organelles. At the conclusion of the cell cycle, two genetically identical daughter cells have formed.

The cell cycle operates by a series of checkpoints and external cues. This system of checks enables the cell to enter a state of dormancy known as the gap zero phase when conditions or other factors inhibit the cell cycle. Conversely, unregulated and uncontrolled cellular division can occur under certain circumstances. A cell in a state of uncontrolled division is known to be cancerous. Lastly, cells have the ability to mediate their own death by way of apoptosis if certain genetic or physical abnormalities exist. The cell cycle is a complex process that enables cells to replicate and proliferate under a stringent set of checks and balances that produce healthy and viable daughter cells that are each able to perform the process in the future.

Where does DNA synthesis and replication occur in the cell cycle?

- A. Prophase
- B. Telophase
- C. S phase
- D. Metaphase

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The S phase, or synthesis phase, of interphase is where DNA replication and synthesis take place. This occurs before mitotic division of the nucleus. The other answers are incorrect because they take place during mitosis. The DNA needs to be replicated before mitosis occurs, or each daughter cell will not receive enough DNA to function properly.

#### QUESTION 915

Adapted from “Feathers of Sea Birds and Wild Fowl for Bedding” from *The Utility of Birds* by Edward Forbush (ed. 1922)

In the colder countries of the world, the feathers and down of waterfowl have been in great demand for centuries as filling for beds and pillows. Such feathers are perfect non-conductors of heat, and beds, pillows, or coverlets filled with them represent the acme of comfort and durability. The early settlers of New England saved for such purposes the feathers and down from the thousands of wild-fowl which they killed, but as the population increased in numbers, the quantity thus furnished was insufficient, and the people sought a larger supply in the vast colonies of ducks and geese along the Labrador coast.

The manner in which the feathers and down were obtained, unlike the method practiced in Iceland, did not tend to conserve and protect the source of supply. In Iceland, the people have continued to receive for many years a considerable income by collecting eider down, but there they do not “kill the goose that lays the golden eggs.” Ducks line their nests with down plucked from their own breasts and that of the eider is particularly valuable for bedding. In Iceland, these birds are so carefully protected that they have become as tame and unsuspicious as domestic fowls in North America. Where they are constantly hunted they often conceal their nests in the midst of weeds or bushes, but in Iceland, they make their nests and deposit their eggs in holes dug for them in the sod. A supply of the ducks is maintained so that the people derive from them an annual income.

In North America, quite a different policy was pursued. The demand for feathers became so great in the New England colonies about the middle of the eighteenth century that vessels were fitted out there for the coast of Labrador for the express purpose of securing the feathers and down of wild fowl. Eider down having become valuable and these ducks being in the habit of congregating by thousands on barren islands of the Labrador coast, the birds became the victims of the ships’ crews. As the ducks molt all their primary feathers at once in July or August and are then quite incapable of flight and the young birds are unable to fly until well grown, the hunters were able to surround the helpless birds, drive them together, and kill them with clubs. Otis says that millions of wildfowl were thus destroyed and that in a few years their haunts were so broken up by this wholesale slaughter and their numbers were so diminished that feather voyages became unprofitable and were given up.

This practice, followed by the almost continual eggging, clubbing, shooting, etc. by Labrador fishermen, may have been a chief factor in the extinction of the Labrador duck, that species of supposed restricted breeding range. No doubt had the eider duck been restricted in its breeding range to the islands of Labrador, it also would have been exterminated long ago.

In the context of the passage as a whole, the fourth paragraph serves to \_\_\_\_\_.

- A. describe some of the benefits of the Labrador feather voyages
- B. describe why eider down is a valuable commodity
- C. compare and contrast Icelandic and North American down-harvesting methods
- D. detail further repercussions of the Labrador feather voyages
- E. provide more historical details about how the Labrador feather voyages were organized

**Correct Answer:** D

**Section:** Reading

**Explanation**



**Explanation/Reference:**

Explanation:

Let’s look at what each paragraph is accomplishing in the context of the passage as a whole:

First paragraph: introduces and describes eider down

Second paragraph: describes Icelandic method of collecting eider down, which protects the duck population

Third paragraph: describes the North American method of collecting eider down, which destroys the duck population

Fourth paragraph: suggests that the Labrador feather voyages may have contributed to the extinction of the Labrador duck and says that they stopped because the duck populations were so much smaller that the trips were no longer profitable

Now that we have considered the structure of the passage’s argument as a whole, it should be easier to answer this question. “Compare and contrast Icelandic and North American down-harvesting methods” describes the second and third paragraphs, whereas “describe why eider down is a valuable commodity” describes the first paragraph. The Labrador feather voyages are cast in a negative light throughout the entire passage, so “describe some of the benefits of the Labrador feather voyages” cannot be the correct answer as benefits of them are never discussed. The fourth paragraph does not “provide more historical details about how the Labrador feather voyages were organized”; it describes their aftermath, so this answer choice cannot be correct. That the fourth paragraph serves to “detail further repercussions of the Labrador feather voyages” is the best answer choice. It discusses the effects of the Labrador feather voyages on the duck population and suggests that they may have contributed to the extinction of a particular species of duck that had a limited habitat.

#### QUESTION 916

Adapted from “Recent Views as to Direct Action of Light on the Colors of Flowers and Fruits” in *Tropical Nature, and Other Essays* by Alfred Russel Wallace (1878)

The theory that the brilliant colors of flowers and fruits is due to the direct action of light has been supported by a recent writer by examples taken from the arctic instead of from the tropical flora. In the arctic regions, vegetation is excessively rapid during the short summer, and this is held to be due to the continuous action of light throughout the long summer days. “The further we advance towards the north, the more the leaves of plants increase in size as if to absorb a greater proportion of the solar rays. M. Grisebach says that during a journey in Norway he observed that the majority of deciduous trees had already, at the 60th degree of latitude, larger leaves than in Germany, while M. Ch. Martins has made a similar observation as regards the leguminous plants cultivated in Lapland.” The same writer goes on to say that all the seeds of cultivated plants acquire a deeper color the further north they are grown, white haricots becoming brown or black, and white wheat becoming brown, while the green color of all vegetation becomes more intense. The flowers also are similarly changed: those which are white or yellow in central Europe becoming red or orange in Norway. This is what occurs in the Alpine flora, and the cause is said to be the same in both – the greater intensity of the sunlight. In the one the light is more persistent, in the other more intense because it traverses a less thickness of atmosphere.

Admitting the facts as above stated to be in themselves correct, they do not by any means establish the theory founded on them; and it is curious that Grisebach, who has been quoted by this writer for the fact of the increased size of the foliage, gives a totally different explanation of the more vivid colors of Arctic flowers. He says, “We see flowers become larger and more richly colored in proportion as, by the increasing length of winter, insects become rarer, and their cooperation in the act of fecundation is exposed to more uncertain chances.” (Vegetation du Globe, col. i. p. 61–French translation.) This is the theory here adopted to explain the colors of Alpine plants, and we believe there are many facts that will show it to be the preferable one. The statement that the white and yellow flowers of temperate Europe become red or golden in the Arctic regions must we think be incorrect. By roughly tabulating the colors of the plants given by Sir

Joseph Hooker as permanently Arctic, we find among fifty species with more or less conspicuous flowers, twenty-five white, twelve yellow, eight purple or blue, three lilac, and two red or pink; showing a very similar proportion of white and yellow flowers to what obtains further south.

Data gathered from a survey of the colors of different types of Arctic flowers is presented \_\_\_\_\_.

- A. at the end of the second paragraph
- B. at the end of the first paragraph
- C. nowhere in the passage
- D. at the beginning of the second paragraph
- E. at the beginning of the first paragraph

**Correct Answer: A**

**Section: Reading**

**Explanation**

**Explanation/Reference:**

Explanation:

This evidence is introduced at the end of the second paragraph, where the author says, "The statement that the white and yellow flowers of temperate Europe become red or golden in the Arctic regions must we think be incorrect. By roughly tabulating the colors of the plants given by Sir Joseph Hooker as permanently Arctic, we find among fifty species with more or less conspicuous flowers, twenty-five white, twelve yellow, eight purple or blue, three lilac, and two red or pink; showing a very similar proportion of white and yellow flowers to what obtains further south."

#### QUESTION 917

Adapted from "Taking a Second Look: An Analysis of Genetic Markers in Species Relatedness" by Joseph Ritchie (2014)

Phylogenetics is the study of genetic composition in various species and is used by evolutionary biologists to investigate similarities in the molecular sequences of proteins in varying organisms. The amino acid sequences that build proteins are used to construct mathematical matrices that aid in determining evolutionary ties through the investigation of percentage similarities. The study of these matrices helps to expose evolutionary relationships between species that may not have the same overt characteristics.

Species adapt and evolve based on the pressures that exist in their environment. Climate, food source, and habitat availability are only a few factors that act on species adaptation. These stressors can alter the physical characteristics of organisms. This divergence in evolution has made it difficult to determine the interrelatedness of organisms by analyzing their physical characteristics alone.

For instance, looking only at physical characteristics, the ghost bat resembles a pigeon more than a spider monkey; however, phylogenetics has found that the amino acid sequences that construct the beta hemoglobin molecules of bats are twenty percent more similar to those of mammalian primates than those of birds. This helps reject the assumption that common physical characteristics between species are all that is needed to determine relatedness.

The differences produced by divergent evolution observed in the forest-dwelling, arboreal spider monkey and the nocturnal, airborne ghost bat can be reconciled through homology. Homologous characteristics are anatomical traits that are similar in two or more different species. For instance, the bone structure of a spider monkey's wrist and fingers greatly resembles that of a bat's wing or even a whale's fin. These similarities are reinforced by phylogenetic evidence that supports the idea that physically dissimilar species can be evolutionarily related through anatomical and genetic similarities.

Paragraph four of the passage discusses which of the following?

- A. the physiological functions of the spider monkey's wrist and fingers, the bat's wing, and the whale's fin.
- B. the theory of evolution.
- C. the reasons why a spider monkey's wrist and fingers can resemble a bat's wing or a whale's fin.
- D. the unreliability of physical characteristics in determining species relatedness.

**Correct Answer: C**

**Section: Reading**

**Explanation**

**Explanation/Reference:**

Explanation:

One of paragraph four's central purposes is to give examples of homologous adaptation. It describes how the features of different species can possess anatomical similarities, even if the species are from vastly different habitats. The passage does not discuss the theory of evolution nor the physiological purposes of certain appendages, and the third paragraph, not the fourth, discusses the unreliability of physical characteristics in determining species relatedness.

#### QUESTION 918

Adapted from The Effects of Cross & Self-Fertilization in the Vegetable Kingdom by Charles Darwin (1876)

As it is impossible to exclude such minute pollen-carrying insects as Thrips, flowers which it was intended to fertilise with their own pollen may sometimes have been afterwards crossed with pollen brought by these insects from another flower on the same plant; but as we shall hereafter see, a cross of this kind does not produce any effect, or at most only a slight one. When two or more plants were placed near one another under the same net, as was often done, there is some real though not great danger of the flowers which were believed to be self-fertilized being afterwards crossed with pollen brought by Thrips from a distinct plant. I have said that the danger is not great because I have often found that plants which are self-sterile, unless aided by insects, remained sterile when several plants of the same species were placed under the same net. If, however, the flowers which had been presumably self-fertilized by me were in any case afterwards



crossed by Thrips with pollen brought from a distinct plant, crossed seedlings would have been included amongst the self-fertilized; but it should be especially observed that this occurrence would tend to diminish and not to increase any superiority in average height, fertility, etc., of the crossed over the self-fertilized plants.

As the flowers which were crossed were never castrated, it is probable or even almost certain that I sometimes failed to cross-fertilize them effectually, and that they were afterwards spontaneously self-fertilized. This would have been most likely to occur with dichogamous species, for without much care it is not easy to perceive whether their stigmas are ready to be fertilized when the anthers open. But in all cases, as the flowers were protected from wind, rain, and the access of insects, any pollen placed by me on the stigmatic surface whilst it was immature, would generally have remained there until the stigma was mature; and the flowers would then have been crossed as was intended. Nevertheless, it is highly probable that self-fertilized seedlings have sometimes by this means got included amongst the crossed seedlings. The effect would be, as in the former case, not to exaggerate but to diminish any average superiority of the crossed over the self-fertilized plants.

Errors arising from the two causes just named, and from others, – such as some of the seeds not having been thoroughly ripened, though care was taken to avoid this error – the sickness or unperceived injury of any of the plants, – will have been to a large extent eliminated, in those cases in which many crossed and self-fertilized plants were measured and an average struck. Some of these causes of error will also have been eliminated by the seeds having been allowed to germinate on bare damp sand, and being planted in pairs; for it is not likely that ill-matured and well-matured, or diseased and healthy seeds, would germinate at exactly the same time. The same result will have been gained in the several cases in which only a few of the tallest, finest, and healthiest plants on each side of the pots were measured.

Kolreuter and Gartner have proved that with some plants several, even as many as from fifty to sixty, pollen-grains are necessary for the fertilization of all the ovules in the ovarium. Naudin also found in the case of *Mirabilis* that if only one or two of its very large pollen-grains were placed on the stigma, the plants raised from such seeds were dwarfed. I was therefore careful to give an amply sufficient supply of pollen, and generally covered the stigma with it; but I did not take any special pains to place exactly the same amount on the stigmas of the self-fertilized and crossed flowers. After having acted in this manner during two seasons, I remembered that Gartner thought, though without any direct evidence, that an excess of pollen was perhaps injurious. It was therefore necessary to ascertain whether the fertility of the flowers was affected by applying a rather small and an extremely large quantity of pollen to the stigma. Accordingly a very small mass of pollen-grains was placed on one side of the large stigma in sixty-four flowers of *Ipomoea purpurea*, and a great mass of pollen over the whole surface of the stigma in sixty-four other flowers. In order to vary the experiment, half the flowers of both lots were on plants produced from self-fertilized seeds, and the other half on plants from crossed seeds. The sixty-four flowers with an excess of pollen yielded sixty-one capsules; and excluding four capsules, each of which contained only a single poor seed, the remainder contained on an average 5.07 seeds per capsule. The sixty-four flowers with only a little pollen placed on one side of the stigma yielded sixty-three capsules, and excluding one from the same cause as before, the remainder contained on an average 5.129 seeds. So that the flowers fertilized with little pollen yielded rather more capsules and seeds than did those fertilized with an excess; but the difference is too slight to be of any significance. On the other hand, the seeds produced by the flowers with an excess of pollen were a little heavier of the two; for 170 of them weighed 79.67 grains, whilst 170 seeds from the flowers with very little pollen weighed 79.20 grains. Both lots of seeds having been placed on damp sand presented no difference in their rate of germination. We may therefore conclude that my experiments were not affected by any slight difference in the amount of pollen used; a sufficiency having been employed in all cases.

It can reasonably be inferred from the passage that which of the following is true?

- A. Unripe seeds were of little concern in the experiments.
- B. Thrips feed exclusively on flowers.
- C. In one experiment around one hundred and twenty-eight flowers were used.
- D. Most of Naudin's studies did not concentrate on flowers.
- E. The flowers given an excess of pollen produced more seeds on average.



**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

In the last paragraph, the experiment mentioned used sixty-four flowers which were over-pollinated, and a further sixty four flowers which were under-pollinated. This makes a total of one hundred and twenty eight flowers.

**QUESTION 919** Adapted from *Essays on Early Ornithology and Kindred Subjects* by James R. McClymont (1920)

The voyagers named it the Angra de Santa Elena, and it may have been the bay which is now known as St. Helen's Bay. But it is worthy of note that the G. de Sta. Ellena of the Cantino Chart is laid down in a position which corresponds rather with that of Table Bay than with that of St. Helen's Bay.

The Portuguese came into contact with the inhabitants of the country adjacent to the anchorage. These people had tawny complexions, and carried wooden spears tipped with horn—assagais of a kind—and bows and arrows. They also used foxes' tails attached to short wooden handles. We are not informed for what purposes the foxes' tails were used. Were they used to brush flies away, or were they insignia of authority? The food of the natives was the flesh of whales, seals, and antelopes (gazellas), and the roots of certain plants. Crayfish or 'Cape lobsters' abounded near the anchorage.

The author of the *roteiro* affirms that the birds of the country resembled the birds in Portugal, and that amongst them were cormorants, larks, turtle-doves, and gulls. The gulls are called "guayvotas," but "guayvotas" is probably another instance of the eccentric orthography of the author and equivalent to "gaivotas."

In December the squadron reached the Angra de São Brás, which was either Mossel Bay or another bay in close proximity to Mossel Bay. Here penguins and seals were in great abundance. The author of the *roteiro* calls the penguins "sotelycairos," which is more correctly written "sotilicarios" by subsequent writers. The word is probably related to the Spanish "sotil" and the Latin "subtilis," and may contain an allusion to the supposed cunning of the penguins, which disappear by diving when an enemy approaches.

The sotilicarios, says the chronicler, could not fly because there were no quill-feathers in their wings; in size they were as large as drakes, and their cry resembled the braying of an ass. Castanheda, Goes, and Osorio also mention the sotilicario in their accounts of the first voyage of Vasco da Gama, and compare its flipper to the wing of a bat – a not wholly inept comparison, for the under-surface of the wings of penguins is wholly devoid of feathery covering. Manuel de Mesquita Perestrello, who visited the south coast of Africa in 1575, also describes the Cape penguin. From a manuscript of his *Roteiro* in the Oporto Library, one learns that the flippers of the sotilicario were covered with minute feathers, as indeed they are on the upper surface and that they dived after fish, upon which they fed, and on which they fed their young, which were hatched in nests constructed of fishbones. There is nothing to cavil at in these statements, unless it be that which asserts that the nests were constructed of fishbones, for this is not in accordance with the observations of contemporary naturalists, who tell us that the nests of the Cape Penguin (*Spheniscus demersus*) are constructed of stones, shells, and debris. It is, therefore, probable that the fishbones which Perestrello saw were the remains of repasts of seals.

Seals, says the roteiro, were in great number at the Angra de São Bràs. On one occasion the number was counted and was found to be three thousand. Some were as large as bears and their roaring was as the roaring of lions. Others, which were very small, bleated like kids. These differences in size and in voice may be explained by differences in the age and in the sex of the seals, for seals of different species do not usually resort to the same locality. The seal which formerly frequented the south coast of Africa – for it is, I believe, no longer a denizen of that region – was that which is known to naturalists as *Arctocephalus delalandii*, and, as adult males sometimes attain eight and a half feet in length, it may well be described as of the size of a bear. Cubs from six to eight months of age measure about two feet and a half in length. The Portuguese caught anchovies in the bay, which they salted to serve as provisions on the voyage. They anchored a second time in the Angra de São Bràs in March, 1499, on their homeward voyage.

Yet one more allusion to the penguins and seals of the Angra de São Bràs is of sufficient historical interest to be mentioned. The first Dutch expedition to Bantam weighed anchor on the 2nd of April, 1595, and on the 4th of August of the same year the vessels anchored in a harbor called "Ague Sambras," in eight or nine fathoms of water, on a sandy bottom. So many of the sailors were sick with scurvy – "thirty or thirty-three," said the narrator, "in one ship" – that it was necessary to find fresh fruit for them. "In this bay," runs the English translation of the narrative, "lieth a small Island wherein are many birds called Pyncuins and sea Wolves that are taken with men's hands." In the original Dutch narrative by Willem Lodewyckszoon, published in Amsterdam in 1597, the name of the birds appears as "Pinguïjns."

Based on the first text the author describes, the probable reason for the name given to the penguins was to \_\_\_\_\_.

- A. describe their nesting habits
- B. elaborate on their character and behavior
- C. commemorate the voyage that discovered them
- D. differentiate them from other birds found in Portugal
- E. suggest that they are flightless

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The author describes the possible root of the penguins name in the roteiro, saying that “the word is probably related to the Spanish "sotil" and the Latin "subtilis," and may contain an allusion to the supposed cunning of the penguins, which disappear by diving when an enemy approaches.” Thus, the probable reason for the name is that it alludes to the nature of the penguins.

**QUESTION 920** Adapted from Ice-Caves of France and Switzerland by George Forrest Browne (1865)

This account states that the cave is in the county of Thorn, among the lowest spurs of the Carpathians. The entrance, which faces the north, and is exposed to the cold winds from the snowy part of the Carpathian range, is eighteen fathoms high and nine broad; and the cave spreads out laterally, and descends to a point fifty fathoms below the entrance, where it is twenty-six fathoms in breadth, and of irregular height. Beyond this no one had at that time penetrated, on account of the unsafe footing, although many distant echoes were returned by the farther recesses of the cave; indeed, to get even so far as this, much step-cutting was necessary.

When the external frost of winter comes on, the account proceeds, the effect in the cave is the same as if fires had been lighted there: the ice melts, and swarms of flies and bats and hares take refuge in the interior from the severity of the winter. As soon as spring arrives, the warmth of winter disappears from the interior, water exudes from the roof and is converted into ice, while the more abundant supplies which pour down on to the sandy floor are speedily frozen there. In the dog-days, the frost is so intense that a small icicle becomes in one day a huge mass of ice; but a cool day promptly brings a thaw, and the cave is looked upon as a barometer, not merely feeling, but also presaging, the changes of weather.

The people of the neighborhood, when employed in field-work, arrange their labour so that the mid-day meal may be taken near the cave, when they either ice the water they have brought with them, or drink the melted ice, which they consider very good for the stomach. It had been calculated that six hundred weekly carts would not be sufficient to keep the cavern free from ice. The ground above the cave is peculiarly rich in grass.

In explanation of these phenomena, Bell threw out the following suggestions, which need no comment. The earth being of itself cold and damp, the external heat of the atmosphere, by partially penetrating into the ground, drives in this native cold to the inner parts of the earth, and makes the cold there more dense. On the other hand, when the external air is cold, it draws forth towards the surface the heat there may be in the inner part of the earth, and thus makes caverns warm.

In support and illustration of this view, he states that in the hotter parts of Hungary, when the people wish to cool their wine, they dig a hole two feet deep, and place in it the flagon of wine, and, after filling up the hole again, light a blazing fire upon the surface, which cools the wine as if the flagon had been laid in ice. He also suggests that possibly the cold winds from the Carpathians bring with them imperceptible particles of snow, which reach the water of the cave, and convert it into ice. Further, the rocks of the Carpathians abound in salts, nitre, alum, etc., which may, perhaps, mingle with such snowy particles, and produce the ordinary effect of the snow and salt in the artificial production of ice.

It can reasonably be inferred from the passage that \_\_\_\_\_.

- A. the author does not respect Bell's opinion
- B. the ice is unsanitary
- C. the cave is in Hungary
- D. the cave is not far from civilization
- E. the cave is high in the mountains

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

We can infer that because the villagers' work is near the cave in summer and they use the cave's ice, there is some form of civilization in proximity to the cave. We know from the villager's use of the ice to melt it into water to drink that it is unlikely to be unsanitary. Bell's opinion is not commented on and is therefore, in the opinion of the author, possibly correct. The cave is in the country of Thorn and is at the base of the Carpathian Mountains, as is stated in the first paragraph.

**QUESTION 921**

Adapted from A Practical Treatise on the Hive and Honey-Bee by Lorenzo Lorraine Langstroth (1857 ed.)

Of all the numerous enemies of the honey-bee, the Bee-Moth (*Tinea mellonella*), in climates of hot summers, is by far the most to be dreaded. So widespread and fatal have been its ravages in this country that thousands have abandoned the cultivation of bees in despair, and in districts which once produced abundant supplies of the purest honey, bee-keeping has gradually dwindled down into a very insignificant pursuit. Contrivances almost without number have been devised to defend the bees against this invidious foe, but still it continues its desolating inroads, almost unchecked, laughing as it were to scorn at all the so-called "moth-proof" hives, and turning many of the ingenious fixtures designed to entrap or exclude it into actual aids and comforts in its nefarious designs.

I should feel but little confidence in being able to reinstate bee-keeping in our country into a certain and profitable pursuit if I could not show the apiarian in what way he can safely bid defiance to the pestiferous assaults of this, his most implacable enemy. I have patiently studied its habits for years, and I am at length able to announce a system of management founded upon the peculiar construction of my hives, which will enable the careful bee-keeper to protect his colonies against the monster. The bee-moth infects our apiaries, just as weeds take possession of a fertile soil. Before explaining the means upon which I rely to circumvent the moth, I will first give a brief description of its habits.

Swammerdam, towards the close of the seventeenth century, gave a very accurate description of this insect, which was then called by the very expressive name of the "bee-wolf." He has furnished good drawings of it, in all its changes, from the worm to the perfect moth, together with the peculiar webs or galleries that it constructs and from which the name of *Tinea galleria* or "gallery moth" has been given to it by some entomologists. He failed, however, to discriminate between the male and female, which, because they differ so much in size and appearance, he supposed to be two different species of the wax-moth. It seems to have been a great pest in his time, and even Virgil speaks of the "dirum tineæ genus," the dreadful offspring of the moth; that is the worm.

This destroyer usually makes its appearance about the hives in April or May, the time of its coming depending upon the warmth of the climate or the forwardness of the season. It is seldom seen on the wing (unless startled from its lurking place about the hive) until towards dark, and is evidently chiefly nocturnal in its habits. In dark cloudy days, however, I have noticed it on the wing long before sunset, and if several such days follow in succession, the female, oppressed with the urgent necessity of laying her eggs, may be seen endeavoring to gain admission to the hives. The female is much larger than the male, and "her color is deeper and more inclining to a darkish gray, with small spots or blackish streaks on the interior edge of her upper wings." The color of the male inclines more to a light gray; they might easily be mistaken for different species of moths. These insects are surprisingly agile, both on foot and on the wing. The motions of a bee are very slow in comparison. "They are," says Reaumur, "the most nimble-footed creatures that I know." "If the approach to the apiary be observed of a moonlight evening, the moths will be found flying or running round the hives, watching an opportunity to enter, whilst the bees that have to guard the entrances against their intrusion will be seen acting as vigilant sentinels, performing continual rounds near this important post, extending their antenna to the utmost, and moving them to the right and left alternately. Woe to the unfortunate moth that comes within their reach!" "It is curious," says Huber, "to observe how artfully the moth knows how to profit, to the disadvantage of the bees, which require much light for seeing objects; and the precautions taken by the latter in reconnoitering and expelling so dangerous an enemy." It can reasonably be inferred from the passage that \_\_\_\_\_.

- A. The moths are sluggish.
- B. The author dislikes honey.
- C. The author is a keen bee keeper.
- D. Bee-moths have only recently begun to trouble bee keepers.
- E. The bees do not guard against the moth.



**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

We know that someone wrote about the moths in the 17th century and called them "the 'bee-wolf'," so it doesn't seem likely that the problems they cause bee keepers only developed recently. We also know that the moths are quite fast from a description of their speed in the last paragraph. The author also states that the bees post "sentinels" to guard against the moths. We cannot tell from the passage if the author likes honey or not. The only thing we can really infer is that the author is a keen bee keeper, as he says in the passage that: "I have patiently studied [the bee-moth's] habits for years, and I am at length able to announce a system of management founded upon the peculiar construction of my hives." This tells us he has kept and studied bees for many years.

**QUESTION 922** "Darwinism's Effect on Science" by  
Matthew Minerd (2014)

For much of the history of human thought, the sciences have studied subjects that seemed to be eternal and unchanging. Even the basic laws of the Nile's flooding were investigated in the hopes of finding never-altering laws. Similarly, the scientific investigations of the ancient Near East and Greece into the regular laws of the stars ultimately looked for constant patterns. This overall pattern of scientific reasoning has left deep marks on the minds of almost all thinkers and found its apotheosis in modern physics. From the time of the early renaissance to the nineteenth century, physics represented the ultimate expression of scientific investigation for almost all thinkers. Its static laws appeared to be the unchanging principles of all motion and life on earth. By the nineteenth century, it had appeared that only a few details had to be "cleared up" before all science was basically known.

In many ways, this situation changed dramatically with the arrival of Darwinism. It would change even more dramatically in early twentieth-century physics as well. Darwin's theories of evolution challenged many aspects of the "static" worldview. Even those who did not believe that a divine being created an unchanging world were shaken by the new vistas opened up to science by his studies. It had been a long-accepted inheritance of Western culture to believe that the species of living organisms were unchanging in nature. Though there might be many different kinds of creatures, the kinds themselves were not believed to change. The thesis of a universal morphing of types shattered this cosmology, replacing the old world-view with a totally new one. Among the things that had to change in light of Darwin's work was the very view of science held by most people.

Which of the following is implied in this passage about modern physics?

- A. It was dogmatically tied to Renaissance ideas.
- B. It was viewed as the science that explained all others.

- C. None of the other answers
- D. It was singularly new in the history of scientific thought.
- E. It was freed of superstition during the Renaissance.

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The best sentence for answering this question is, "Its static laws appeared to be the unchanging principles of all motion and life on earth." The first paragraph implies that physics appeared to provide the principles needed for explaining all things. It would therefore appear to many to be the "science of sciences." (Indeed, this has been the temptation in real history as well, though that is another, complex story!)

**QUESTION 923** "Darwinism's Effect on Science" by  
Matthew Minerd (2014)

For much of the history of human thought, the sciences have studied subjects that seemed to be eternal and unchanging. Even the basic laws of the Nile's flooding were investigated in the hopes of finding never-altering laws. Similarly, the scientific investigations of the ancient Near East and Greece into the regular laws of the stars ultimately looked for constant patterns. This overall pattern of scientific reasoning has left deep marks on the minds of almost all thinkers and found its apotheosis in modern physics. From the time of the early renaissance to the nineteenth century, physics represented the ultimate expression of scientific investigation for almost all thinkers. Its static laws appeared to be the unchanging principles of all motion and life on earth. By the nineteenth century, it had appeared that only a few details had to be "cleared up" before all science was basically known.

In many ways, this situation changed dramatically with the arrival of Darwinism. It would change even more dramatically in early twentieth-century physics as well. Darwin's theories of evolution challenged many aspects of the "static" worldview. Even those who did not believe that a divine being created an unchanging world were shaken by the new vistas opened up to science by his studies. It had been a long-accepted inheritance of Western culture to believe that the species of living organisms were unchanging in nature. Though there might be many different kinds of creatures, the kinds themselves were not believed to change. The thesis of a universal morphing of types shattered this cosmology, replacing the old world-view with a totally new one. Among the things that had to change in light of Darwin's work was the very view of science held by most people.

Who was most affected by the changes caused by Darwinism?

- A. Religious believers
- B. Religious zealots
- C. Science teachers
- D. Publishers of science texts
- E. None of the other answers



**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

There have almost always been controversies about evolution, lasting to our day. Do not bring any of this to your reading of the passage; stick to the text. The general implication in the second paragraph is that everyone was affected by these changes in outlook – believers and non-believers alike. None of the limited groups listed in the answers is sufficient. Therefore, the best choice is "none of the other answers."

**QUESTION 924** "Darwinism's Effect on Science" by  
Matthew Minerd (2014)

For much of the history of human thought, the sciences have studied subjects that seemed to be eternal and unchanging. Even the basic laws of the Nile's flooding were investigated in the hopes of finding never-altering laws. Similarly, the scientific investigations of the ancient Near East and Greece into the regular laws of the stars ultimately looked for constant patterns. This overall pattern of scientific reasoning has left deep marks on the minds of almost all thinkers and found its apotheosis in modern physics. From the time of the early renaissance to the nineteenth century, physics represented the ultimate expression of scientific investigation for almost all thinkers. Its static laws appeared to be the unchanging principles of all motion and life on earth. By the nineteenth century, it had appeared that only a few details had to be "cleared up" before all science was basically known.

In many ways, this situation changed dramatically with the arrival of Darwinism. It would change even more dramatically in early twentieth-century physics as well. Darwin's theories of evolution challenged many aspects of the "static" worldview. Even those who did not believe that a divine being created an unchanging world were shaken by the new vistas opened up to science by his studies. It had been a long-accepted inheritance of Western culture to believe that the species of living organisms were unchanging in nature. Though there might be many different kinds of creatures, the kinds themselves were not believed to change. The thesis of a universal morphing of types shattered this cosmology, replacing the old world-view with a totally new one. Among the things that had to change in light of Darwin's work was the very view of science held by most people.

Given Darwin's statements, which of the following should be expected?

- A. Human beings will likely all die in a massive nuclear war.
- B. Although we do not train bears as pets today, we may well in years to come.
- C. There were no dogs at one time in the earth's history.



- D. Ancient physics was completely worthless.
- E. Humanity as it is today has reached its fixed state.

**Correct Answer: C**

**Section: Reading**

**Explanation**

**Explanation/Reference:**

Explanation:

The second paragraph of this selection mostly discusses the fact that Darwin's theories lead to the belief in the changing of creatures over time. This means that some species may never have existed. Also, it implies that new ones might have arisen. Therefore, among the options provided, the best answer is the one that says that perhaps dogs did not at one time exist.

**QUESTION 925** "Darwinism's Effect on Science" by  
Matthew Minerd (2014)

For much of the history of human thought, the sciences have studied subjects that seemed to be eternal and unchanging. Even the basic laws of the Nile's flooding were investigated in the hopes of finding never-altering laws. Similarly, the scientific investigations of the ancient Near East and Greece into the regular laws of the stars ultimately looked for constant patterns. This overall pattern of scientific reasoning has left deep marks on the minds of almost all thinkers and found its apotheosis in modern physics. From the time of the early renaissance to the nineteenth century, physics represented the ultimate expression of scientific investigation for almost all thinkers. Its static laws appeared to be the unchanging principles of all motion and life on earth. By the nineteenth century, it had appeared that only a few details had to be "cleared up" before all science was basically known.

In many ways, this situation changed dramatically with the arrival of Darwinism. It would change even more dramatically in early twentieth-century physics as well. Darwin's theories of evolution challenged many aspects of the "static" worldview. Even those who did not believe that a divine being created an unchanging world were shaken by the new vistas opened up to science by his studies. It had been a long-accepted inheritance of Western culture to believe that the species of living organisms were unchanging in nature. Though there might be many different kinds of creatures, the kinds themselves were not believed to change. The thesis of a universal morphing of types shattered this cosmology, replacing the old world-view with a totally new one. Among the things that had to change in light of Darwin's work was the very view of science held by most people.

What could we expect the author to discuss in a paragraph following the last paragraph of this passage?

- A. The new textbooks that arose after Darwin
- B. The religious reaction to Darwinism
- C. New theories of physics
- D. The new training needed for scientists after Darwin
- E. The limits in Darwin's reasoning



**Correct Answer: C**

**Section: Reading**

**Explanation**

**Explanation/Reference:**

Explanation:

At the beginning of the second paragraph, the passage states, "It would change even more dramatically in early twentieth-century physics as well." In general, this passage is about the general transition from one scientific outlook to another. The details of Darwinism (or of the publication of textbooks as well) is not the main concern. Likely, the author would continue his or her discussion by returning to the theme of twentieth-century physics as well.

**QUESTION 926**

Adapted from "Humming-Birds: As Illustrating the Luxuriance of Tropical Nature" in Tropical Nature, and Other Essays by Alfred Russel Wallace (1878)

The food of hummingbirds has been a matter of much controversy. All the early writers down to Buffon believed that they lived solely on the nectar of flowers, but since that time, every close observer of their habits maintains that they feed largely, and in some cases wholly, on insects. Azara observed them on the La Plata in winter taking insects out of the webs of spiders at a time and place where there were no flowers. Bullock, in Mexico, declares that he saw them catch small butterflies, and that he found many kinds of insects in their stomachs. Waterton made a similar statement. Hundreds and perhaps thousands of specimens have since been dissected by collecting naturalists, and in almost every instance their stomachs have been found full of insects, sometimes, but not generally, mixed with a proportion of honey. Many of them in fact may be seen catching gnats and other small insects just like fly-catchers, sitting on a dead twig over water, darting off for a time in the air, and then returning to the twig. Others come out just at dusk, and remain on the wing, now stationary, now darting about with the greatest rapidity, imitating in a limited space the evolutions of the goatsuckers, and evidently for the same end and purpose. Mr. Gosse also remarks, "All the hummingbirds have more or less the habit, when in flight, of pausing in the air and throwing the body and tail into rapid and odd contortions. This is most observable in the Polytmus, from the effect that such motions have on the long feathers of the tail. That the object of these quick turns is the capture of insects, I am sure, having watched one thus engaged pretty close to me." Based on what is said in the passage, the author most likely believes that \_\_\_\_\_.

- A. hummingbirds eat a mixture of flower nectar and insects, but mostly flower nectar
- B. hummingbirds eat a mixture of flower nectar and insects, but mostly insects
- C. hummingbirds eat only flower nectar
- D. None of the other answers
- E. hummingbirds eat neither flower nectar nor insects

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

This is a tricky question because in the passage, the author never directly states his opinion about what hummingbirds eat; readers have to infer it based on the evidence he presents. The author begins the passage by stating that while old scientists used to think hummingbirds ate only flower nectar, modern writers think that they eat “largely, and in some cases wholly,” on insects. He then presents evidence suggesting that hummingbirds eat insects, and in discussing the contents of hummingbirds’ stomachs, says that scientists sometimes find both insects and honey. For the rest of the paragraph, he provides evidence suggesting that hummingbirds eat insects.

What can we infer from this? Well, we can tell that it’s not likely that the author thinks hummingbirds eat only flower nectar, because he provides evidence supporting the idea that they eat insects. This means that we can also discard the answer choice “hummingbirds eat neither flower nectar nor insects.” It’s quite reasonable to think that the author thinks that “hummingbirds eat a mixture of flower nectar and insects” because he mentions that sometimes honey is found along with insects in hummingbirds’ stomachs. So, we need to figure out whether he probably believes that they eat mostly insects or mostly flower nectar. Let’s look at how the author phrases his description of the contents of hummingbirds’ stomachs: “in almost every instance their stomachs have been found full of insects, sometimes, but not generally, mixed with a proportion of honey.” So, if “in almost every instance” the hummingbird stomachs examined were “full of insects,” but “sometimes, but not generally” honey was also found, the correct answer must be “hummingbirds eat a mixture of flower nectar and insects, but mostly insects.”

#### QUESTION 927

Adapted from “Humming-Birds: As Illustrating the Luxuriance of Tropical Nature” in Tropical Nature, and Other Essays by Alfred Russel Wallace (1878)

The food of hummingbirds has been a matter of much controversy. All the early writers down to Buffon believed that they lived solely on the nectar of flowers, but since that time, every close observer of their habits maintains that they feed largely, and in some cases wholly, on insects. Azara observed them on the La Plata in winter taking insects out of the webs of spiders at a time and place where there were no flowers. Bullock, in Mexico, declares that he saw them catch small butterflies, and that he found many kinds of insects in their stomachs. Waterton made a similar statement. Hundreds and perhaps thousands of specimens have since been dissected by collecting naturalists, and in almost every instance their stomachs have been found full of insects, sometimes, but not generally, mixed with a proportion of honey. Many of them in fact may be seen catching gnats and other small insects just like fly-catchers, sitting on a dead twig over water, darting off for a time in the air, and then returning to the twig. Others come out just at dusk, and remain on the wing, now stationary, now darting about with the greatest rapidity, imitating in a limited space the evolutions of the goatsuckers, and evidently for the same end and purpose. Mr. Gosse also remarks, “All the hummingbirds have more or less the habit, when in flight, of pausing in the air and throwing the body and tail into rapid and odd contortions. This is most observable in the Polytmus, from the effect that such motions have on the long feathers of the tail. That the object of these quick turns is the capture of insects, I am sure, having watched one thus engaged pretty close to me.” Which of the following inferences does the passage expect its readers to make?

- A. If a hummingbird eats gnats, it will not eat honey.
- B. The author is the first scientist to ever have investigated what hummingbirds eat.
- C. Scientists rarely learn about hummingbirds by dissecting them.
- D. If a hummingbird consumes flower nectar, this nectar will turn into the honey that can be found in its stomach.
- E. Fly-catchers are a type of insect.

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Let’s consider each of the answer choices to identify the correct one. “The author is the first scientist to ever have investigated what hummingbirds eat.” – This cannot be true, because the author begins the passage by saying “The food of hummingbirds has been a matter of much controversy. All the early writers down to Buffon believed that they lived solely on the nectar of flowers, but since that time, every close observer of their habits maintains that they feed largely, and in some cases wholly, on insects.” He also cites numerous other scientists’ opinions throughout the passage, so he can’t be the first person to have investigated what hummingbirds eat.

“Fly-catchers are a type of insect.” - The passage mentions fly-catchers in the following sentence: “Many [hummingbirds] in fact may be seen catching gnats and other small insects just like fly-catchers, sitting on a dead twig over water, darting off for a time in the air, and then returning to the twig.” This is a tricky answer choice in that it’s easy to misread the sentence and think that “just like flycatchers” refers to “other small insects” when in fact it refers to the act of “catching.” The sentence is saying that hummingbirds catch insects in the same manner as fly-catchers, not that fly-catchers are a type of insect. Plus, we are being asked to identify an inference readers are expected to make, and if this sentence did mean that fly-catchers were insects, it would be overtly telling us this, and there would be nothing we’d have to infer.

“Scientists rarely learn about hummingbirds by dissecting them.” – This answer choice is proven wrong by the following sentence: “Hundreds and perhaps thousands of specimens have since been dissected by collecting naturalists, and in almost every instance their stomachs have been found full of insects, sometimes, but not generally, mixed with a proportion of honey.”

“If a hummingbird eats gnats, it will not eat honey.” – Given that the questions of whether hummingbirds eat insects or honey and in what proportions is the topic of the passage, it may be easy to choose this answer choice because it seems like the one closest to the passage’s main idea; however, nothing in the passage supports this assertion. “If a hummingbird consumes flower nectar, this nectar will turn into the honey that can be found in its stomach.” – This is the correct answer! The author initially states that “All the early writers down to Buffon believed that [hummingbirds] lived solely on the nectar of flowers”; however, he later states that “Hundreds and perhaps thousands of specimens have since been dissected by collecting naturalists, and in almost every instance their stomachs have been found full of insects, sometimes, but not generally, mixed with a proportion of honey.” The author does not address the idea that flower nectar and honey could be different substances, and instead expects the reader to treat these as one source of food.

#### QUESTION 928

Adapted from “Humming-Birds: As Illustrating the Luxuriance of Tropical Nature” in Tropical Nature, and Other Essays by Alfred Russel Wallace (1878)

The food of hummingbirds has been a matter of much controversy. All the early writers down to Buffon believed that they lived solely on the nectar of flowers, but since that time, every close observer of their habits maintains that they feed largely, and in some cases wholly, on insects. Azara observed them on the La Plata in winter taking insects out of the webs of spiders at a time and place where there were no flowers. Bullock, in Mexico, declares that he saw them catch small butterflies, and that he found many kinds of insects in their stomachs. Waterton made a similar statement. Hundreds and perhaps thousands of specimens have since been dissected by collecting naturalists, and in almost every instance their stomachs have been found full of insects, sometimes, but not generally, mixed with a proportion of honey. Many of them in fact may be seen catching gnats and other small insects just like fly-catchers, sitting on a dead twig over water, darting off for a time in the air, and then returning to the twig. Others come out just at dusk, and remain on the wing, now stationary, now darting about with the greatest rapidity, imitating in a limited space the evolutions of the goatsuckers, and evidently for the same end and purpose. Mr. Gosse also remarks, "All the hummingbirds have more or less the habit, when in flight, of pausing in the air and throwing the body and tail into rapid and odd contortions. This is most observable in the Polytmus, from the effect that such motions have on the long feathers of the tail. That the object of these quick turns is the capture of insects, I am sure, having watched one thus engaged pretty close to me." Based on the way the term is used in passage, what is "the Polytmus"?

- A. A type of hummingbird with a long tail
- B. A type of hummingbird with particularly bright coloring
- C. A scientific term for a fledgling hummingbird that cannot yet fly
- D. A type of carnivorous mammal that eats hummingbirds
- E. A species of flower that often attracts hummingbirds

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Let's look at the spot in the passage where "the Polytmus" is mentioned: "Mr. Gosse also remarks, 'All the hummingbirds have more or less the habit, when in flight, of pausing in the air and throwing the body and tail into rapid and odd contortions. This is most observable in the Polytmus, from the effect that such motions have on the long feathers of the tail.'"

From this context, we can tell that the Polytmus isn't a carnivorous hummingbird-eating mammal, or a species of flower: it is a hummingbird. It is mentioned in the context of flying, so it can't refer to a fledgling hummingbird that can't yet fly. So, is it mentioning a type of hummingbird with particularly bright coloring, or one with a long tail? Mr. Gosse mentions the Polytmus in particular because observers can easily see it contort in midair "from the effect that such motions have on the long feathers of the tail." So, the Polytmus must be "a type of hummingbird with a long tail."

**QUESTION 929** Adapted from An Introduction to Astronomy by Forest Ray Moulton (1916 ed.)

It is doubtful if any important scientific idea ever sprang suddenly into the mind of a single man. The great intellectual movements in the world have had long periods of preparation, and often many men were groping for the same truth, without exactly seizing it, before it was fully comprehended.

The foundation on which all science rests is the principle that the universe is orderly, and that all phenomena succeed one another in harmony with invariable laws. Consequently, science was impossible until the truth of this principle was perceived, at least as applied to a limited part of nature.

The phenomena of ordinary observation, as, for example, the weather, depend on such a multitude of factors that it was not easy for men in their primitive state to discover that they occur in harmony with fixed laws. This was the age of superstition, when nature was supposed to be controlled by a great number of capricious gods whose favor could be won by childish ceremonies. Enormous experience was required to dispel such errors and to convince men that the universe is one vast organization whose changes take place in conformity with laws which they can in no way alter.

The actual dawn of science was in prehistoric times, probably in the civilizations that flourished in the valleys of the Nile and the Euphrates. In the very earliest records of these people that have come down to modern times it is found that they were acquainted with many astronomical phenomena and had coherent ideas with respect to the motions of the sun, moon, planets, and stars. It is perfectly clear from their writings that it was from their observations of the heavenly bodies that they first obtained the idea that the universe is not a chaos. Day and night were seen to succeed each other regularly, the moon was found to pass through its phases systematically, the seasons followed one another in order, and in fact the more conspicuous celestial phenomena were observed to occur in an orderly sequence. It is to the glory of astronomy that it first led men to the conclusion that law reigns in the universe.

Based on the author's words, what could we say about the discoveries of Newton or Galileo, whom many consider to be geniuses far greater than most other scientists in history?

- A. They were the first to notice the orderliness of celestial motion.
- B. Their work must be seen in a broader context of scientific history.
- C. Their work came forth uniquely and suddenly, like Athena from the brow of Zeus.
- D. None of the other answers
- E. Their work was revolutionary, overturning the results of almost every previous finding.

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The very topic sentence of the first paragraph is all that is needed to answer this question correctly. Almost all scientific advances have been prepared by the work of many hands, and while some one person might have undertaken pivotal experiments, it should not be believe to have sprung directly from that one person alone. Hence, even though Galileo, Newton, and others are quite unique in their influence, they are not the sole sources of scientific thought.

**QUESTION 930**

Adapted from An Introduction to Astronomy by Forest Ray Moulton (1916 ed.)

It is doubtful if any important scientific idea ever sprang suddenly into the mind of a single man. The great intellectual movements in the world have had long periods of preparation, and often many men were groping for the same truth, without exactly seizing it, before it was fully comprehended.

The foundation on which all science rests is the principle that the universe is orderly, and that all phenomena succeed one another in harmony with invariable laws. Consequently, science was impossible until the truth of this principle was perceived, at least as applied to a limited part of nature.

The phenomena of ordinary observation, as, for example, the weather, depend on such a multitude of factors that it was not easy for men in their primitive state to discover that they occur in harmony with fixed laws. This was the age of superstition, when nature was supposed to be controlled by a great number of capricious gods whose favor could be won by childish ceremonies. Enormous experience was required to dispel such errors and to convince men that the universe is one vast organization whose changes take place in conformity with laws which they can in no way alter.

The actual dawn of science was in prehistoric times, probably in the civilizations that flourished in the valleys of the Nile and the Euphrates. In the very earliest records of these people that have come down to modern times it is found that they were acquainted with many astronomical phenomena and had coherent ideas with respect to the motions of the sun, moon, planets, and stars. It is perfectly clear from their writings that it was from their observations of the heavenly bodies that they first obtained the idea that the universe is not a chaos. Day and night were seen to succeed each other regularly, the moon was found to pass through its phases systematically, the seasons followed one another in order, and in fact the more conspicuous celestial phenomena were observed to occur in an orderly sequence. It is to the glory of astronomy that it first led men to the conclusion that law reigns in the universe.

Which of the following would be compatible with the underlined sentence?

- A. We might mark the start of scientific history with the first time that two cavemen realized that they could always make fire by means of a certain process of rubbing sticks.
- B. None of the other answers
- C. The chaos found in most ancient legends precluded any development of scientific knowledge.
- D. Without the Egyptians, science would likely have never developed.
- E. From the chaos of many facts, science arises when one great mind surveys the details in a new manner.

**Correct Answer: A**

**Section: Reading**

**Explanation**

**Explanation/Reference:**

Explanation:

"The foundation on which all science rests is the principle that the universe is orderly, and that all phenomena succeed one another in harmony with invariable laws."

The underlined sentence states that the foundation of science is the realization that there is an orderliness in the world. While we cannot say for certain how this dawned on the human race (and then was handed down), a good example of such a realization would be found in the case of cavemen realizing that fire does indeed arise from a regular ordering of causes. Seeing this regularity, they would have the startings of scientific knowledge.

**QUESTION 931** Adapted from An Introduction to Astronomy by Forest Ray Moulton (1916 ed.)

It is doubtful if any important scientific idea ever sprang suddenly into the mind of a single man. The great intellectual movements in the world have had long periods of preparation, and often many men were groping for the same truth, without exactly seizing it, before it was fully comprehended.

The foundation on which all science rests is the principle that the universe is orderly, and that all phenomena succeed one another in harmony with invariable laws. Consequently, science was impossible until the truth of this principle was perceived, at least as applied to a limited part of nature.

The phenomena of ordinary observation, as, for example, the weather, depend on such a multitude of factors that it was not easy for men in their primitive state to discover that they occur in harmony with fixed laws. This was the age of superstition, when nature was supposed to be controlled by a great number of capricious gods whose favor could be won by childish ceremonies. Enormous experience was required to dispel such errors and to convince men that the universe is one vast organization whose changes take place in conformity with laws which they can in no way alter.

The actual dawn of science was in prehistoric times, probably in the civilizations that flourished in the valleys of the Nile and the Euphrates. In the very earliest records of these people that have come down to modern times it is found that they were acquainted with many astronomical phenomena and had coherent ideas with respect to the motions of the sun, moon, planets, and stars. It is perfectly clear from their writings that it was from their observations of the heavenly bodies that they first obtained the idea that the universe is not a chaos. Day and night were seen to succeed each other regularly, the moon was found to pass through its phases systematically, the seasons followed one another in order, and in fact the more conspicuous celestial phenomena were observed to occur in an orderly sequence. It is to the glory of astronomy that it first led men to the conclusion that law reigns in the universe.

John Stuart Mill once wrote an essay on "Tideology" to discuss the social sciences, which he compared to knowledge of tides, about which he noted the concurrence of many different causes. Based on this passage, what do you think this means about the social sciences?

- A. They have always been around, for the tides have intrigued human persons from time immemorial.
- B. None of the other answers
- C. It is difficult to find regularity in their data.
- D. They are well developed, given the many other developments in science.
- E. Their emergence was crucial to the beginning of science.

**Correct Answer: C**



**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

In this passage, the author discusses the fact that it is very difficult to have science when there is a concurrence of many factors that are related to each other only with difficulty. If Mill was claiming that this was the case for the social sciences, it is safe to assume (based on our passage's reasoning, at least) that such sciences discover regularity only with great difficulty.

#### QUESTION 932

Adapted from "Darwin's Predecessors" by J. Arthur Thomson in *Evolution in Modern Thought* (1917 ed.)

In seeking to discover Darwin's relation to his predecessors, it is useful to distinguish the various services which he rendered to the theory of organic evolution.

As everyone knows, the general idea of the doctrine of descent is that the plants and animals of the present day are the lineal descendants of ancestors on the whole somewhat simpler, that these again are descended from yet simpler forms, and so on backwards towards the literal "Protozoa" and "Protophyta" about which we unfortunately know nothing. Now no one supposes that Darwin originated this idea, which in rudiment at least is as old as Aristotle. What Darwin did was to make it current intellectual coin. He gave it a form that commended itself to the scientific and public intelligence of the day, and he won widespread conviction by showing with consummate skill that it was an effective formula to work with, a key which no lock refused. In a scholarly, critical, and preeminently fair-minded way, admitting difficulties and removing them, foreseeing objections and forestalling them, he showed that the doctrine of descent supplied a modal interpretation of how our present-day fauna and flora have come to be.

In the second place, Darwin applied the evolution-idea to particular problems, such as the descent of man, and showed what a powerful tool it is, introducing order into masses of uncorrelated facts, interpreting enigmas both of structure and function, both bodily and mental, and, best of all, stimulating and guiding further investigation. But here again it cannot be claimed that Darwin was original. The problem of the descent or ascent of man, and other particular cases of evolution, had attracted not a few naturalists before Darwin's day, though no one [except Herbert Spencer in the psychological domain (1855)] had come near him in precision and thoroughness of inquiry.

In the third place, Darwin contributed largely to a knowledge of the factors in the evolution-process, especially by his analysis of what occurs in the case of domestic animals and cultivated plants, and by his elaboration of the theory of natural selection, which Alfred Russel Wallace independently stated at the same time, and of which there had been a few previous suggestions of a more or less vague description. It was here that Darwin's originality was greatest, for he revealed to naturalists the many different forms – often very subtle – which natural selection takes, and with the insight of a disciplined scientific imagination he realized what a mighty engine of progress it has been and is.

Which of the following sentences might we presume could have been in Darwin's work?

- A. The lunatic former position can now be set aside as a ghost from our past history.
- B. The ignorance of those basing their arguments upon prejudices has occluded their ability to reason at all.
- C. The collected data, though at odds with what was formerly held, provide a thorough basis for questioning certain details of the previous theories.
- D. With only one or two samples, we can overturn the former positions with ease.
- E. Without considering a single detail, it is possible to see that the opposing view is untenable.

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The key sentence for this question is: "In a scholarly, critical, and preeminently fair-minded way, admitting difficulties and removing them, foreseeing objections and forestalling them, he showed that the doctrine of descent supplied a modal interpretation of how our present-day fauna and flora have come to be."

All of the incorrect answers are either rude to the other parties or barely claim any facts for the position. According to the author of this passage at least, Darwin was critical but fair-minded. This is best represented by the prudently stated sentence, "The collected data, though at odds with what was formerly held, provide a thorough basis for questioning certain details of the previous theories."

#### QUESTION 933

Adapted from "Darwin's Predecessors" by J. Arthur Thomson in *Evolution in Modern Thought* (1917 ed.)

In seeking to discover Darwin's relation to his predecessors, it is useful to distinguish the various services which he rendered to the theory of organic evolution. As everyone knows, the general idea of the doctrine of descent is that the plants and animals of the present day are the lineal descendants of ancestors on the whole somewhat simpler, that these again are descended from yet simpler forms, and so on backwards towards the literal "Protozoa" and "Protophyta" about which we unfortunately know nothing. Now no one supposes that Darwin originated this idea, which in rudiment at least is as old as Aristotle. What Darwin did was to make it current intellectual coin. He gave it a form that commended itself to the scientific and public intelligence of the day, and he won widespread conviction by showing with consummate skill that it was an effective formula to work with, a key which no lock refused. In a scholarly, critical, and preeminently fairminded way, admitting difficulties and removing them, foreseeing objections and forestalling them, he showed that the doctrine of descent supplied a modal interpretation of how our present-day fauna and flora have come to be.

In the second place, Darwin applied the evolution-idea to particular problems, such as the descent of man, and showed what a powerful tool it is, introducing order into masses of uncorrelated facts, interpreting enigmas both of structure and function, both bodily and mental, and, best of all, stimulating and guiding further investigation. But here again it cannot be claimed that Darwin was original. The problem of the descent or ascent of man, and other particular cases of evolution, had attracted not a few naturalists before Darwin's day, though no one [except Herbert Spencer in the psychological domain (1855)] had come near him in precision and thoroughness of inquiry.

In the third place, Darwin contributed largely to a knowledge of the factors in the evolution-process, especially by his analysis of what occurs in the case of domestic animals and cultivated plants, and by his elaboration of the theory of natural selection, which Alfred Russel Wallace independently stated at the same time, and of which there had been a few previous suggestions of a more or less vague description. It was here that Darwin's originality was greatest, for he revealed to naturalists the many different forms – often very subtle – which natural selection takes, and with the insight of a disciplined scientific imagination he realized what a mighty engine of progress it has been and is.

Which of the following describes the descriptions provided by Darwin?

- A. Precise
- B. Vague
- C. Indeterminate
- D. Historical
- E. Paleontological

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

In the passage, it is said that many of the descriptions before Darwin's time were "suggestions of a more or less vague description." The passage is contrasting his work to these earlier descriptions, which lacked details (or at least are presented as so lacking in details). The only option that provides such a contrast is "precise."

#### QUESTION 934

Adapted from "Humming-Birds: As Illustrating the Luxuriance of Tropical Nature" in Tropical Nature, and Other Essays by Alfred Russel Wallace (1878)

The food of hummingbirds has been a matter of much controversy. All the early writers down to Buffon believed that they lived solely on the nectar of flowers, but since that time, every close observer of their habits maintains that they feed largely, and in some cases wholly, on insects. Azara observed them on the La Plata in winter taking insects out of the webs of spiders at a time and place where there were no flowers. Bullock, in Mexico, declares that he saw them catch small butterflies, and that he found many kinds of insects in their stomachs. Waterton made a similar statement. Hundreds and perhaps thousands of specimens have since been dissected by collecting naturalists, and in almost every instance their stomachs have been found full of insects, sometimes, but not generally, mixed with a proportion of honey. Many of them in fact may be seen catching gnats and other small insects just like fly-catchers, sitting on a dead twig over water, darting off for a time in the air, and then returning to the twig. Others come out just at dusk, and remain on the wing, now stationary, now darting about with the greatest rapidity, imitating in a limited space the evolutions of the goatsuckers, and evidently for the same end and purpose. Mr. Gosse also remarks, "All the hummingbirds have more or less the habit, when in flight, of pausing in the air and throwing the body and tail into rapid and odd contortions. This is most observable in the Polytmus, from the effect that such motions have on the long feathers of the tail. That the object of these quick turns is the capture of insects, I am sure, having watched one thus engaged pretty close to me."

What can we infer from the underlined sentence, "Many [hummingbirds] in fact may be seen catching gnats and other small insects just like fly-catchers, sitting on a dead twig over water, darting off for a time in the air, and then returning to the twig"?

- A. Some hummingbirds live in the desert.
- B. All hummingbirds live in the desert.
- C. All hummingbirds live near bodies of water.
- D. Some hummingbirds live near bodies of water.
- E. Gnats are rarely found near bodies of water.

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

What does the underlined sentence tell us? It refers to "Many" hummingbirds, not "all hummingbirds," so we can't infer that what it says holds true for all hummingbirds. This allows us to eliminate the answer choices that begin with "all hummingbirds," leaving us with "Gnats are rarely found near bodies of water," "Some hummingbirds live in the desert," and "Some hummingbirds live near a body of water." Regarding gnats, the sentence doesn't suggest that they are rarely found near bodies of water, since it mentions hummingbirds "may be seen catching gnats and other small insects just like fly-catchers" and implies that they do this by "sitting on a dead twig over water, darting off for a time in the air, and then returning to the twig." We're down to two answer choices: whether some hummingbirds live in the desert or near a body of water. The sentence doesn't mention anything about deserts; on the contrary, it tells us that "many" hummingbirds catch gnats. The way that these hummingbirds do this begins with them "sitting on a dead twig over water." So, we are told that many hummingbirds catch gnats and that in catching gnats, they sit over water. From this, we can infer that many hummingbirds live near bodies of water.

#### QUESTION 935

Adapted from "Introduced Species That Have Become Pests" in Our Vanishing Wild Life, Its Extermination and Protection by William Temple Hornaday (1913)

The man who successfully transplants or "introduces" into a new habitat any persistent species of living thing assumes a very grave responsibility. Every introduced species is doubtful gravel until panned out. The enormous losses that have been inflicted upon the world through the perpetuation of follies with wild vertebrates and insects would, if added together, be enough to purchase a principality. The most aggravating feature of these follies in transplantation is that never yet have they been made severely punishable. We are just as careless and easygoing on this point as we were about the government of the Yellowstone Park in the days when Howell and other poachers destroyed our first national bison herd, and when caught red-handed – as Howell was, skinning seven Park bison cows – could not be punished for it, because there was no penalty prescribed by any law. Today, there is a way in which any revengeful person could inflict enormous damage on the entire South, at no cost to himself, involve those states in enormous losses and the expenditure of vast sums of money, yet go absolutely unpunished!

The gypsy moth is a case in point. This winged calamity was imported at Maiden, Massachusetts, near Boston, by a French entomologist, Mr. Leopold Trouvelot, in 1868 or 69. History records the fact that the man of science did not purposely set free the pest. He was endeavoring with live specimens to find a moth that would produce a cocoon of commercial value to America, and a sudden gust of wind blew out of his study, through an open window, his living and breeding specimens of the gypsy moth. The moth itself is not bad to look at, but its larvae is a great, overgrown brute with an appetite like a hog. Immediately Mr. Trouvelot sought to recover his specimens, and when he failed to find them all, like a man of real honor, he notified the State authorities of the accident. Every effort was made to recover all the specimens, but enough escaped to produce progeny that soon became a scourge to the trees of Massachusetts. The method of the big, nasty-looking mottled-brown caterpillar was very simple. It devoured the entire foliage of every tree that grew in its sphere of influence.

The gypsy moth spread with alarming rapidity and persistence. In course of time, the state authorities of Massachusetts were forced to begin a relentless war upon it, by poisonous sprays and by fire. It was awful! Up to this date (1912) the New England states and the United States Government service have expended in fighting this pest about \$7,680,000!

The spread of this pest has been retarded, but the gypsy moth never will be wholly stamped out. Today it exists in Rhode Island, Connecticut, and New Hampshire, and it is due to reach New York at an early date. It is steadily spreading in three directions from Boston, its original point of departure, and when it strikes the State of New York, we, too, will begin to pay dearly for the Trouvelot experiment.

Based on the first paragraph, the author would be most likely to support \_\_\_\_\_.

- A. introducing damaging invasive species to the South
- B. a law severely punishing those who introduce invasive species that damage the environment
- C. granting Howell clemency for his actions
- D. keeping bison out of Yellowstone National Park
- E. an effort to catalogue the exact amount of money invasive species have cost the United States

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

One of the author's main points in the first paragraph is that harsher legal repercussions are needed for those who release damaging invasive species into the United States. This is clear when the author writes, "The most aggravating feature of these follies in transplantation is that never yet have they been made severely punishable." Thus, we can infer that the author would be most likely to support "a law severely punishing those who introduce invasive species that damage the environment." Though the author does discuss the potential for someone to introduce invasive species to the South, he is not in favor of this, and he clearly doesn't want to grant Howell clemency for his actions. (Furthermore, "clemency" somewhat implies that Howell has been charged with a crime, and the author explains that this isn't the case.)

The author does state, "The enormous losses that have been inflicted upon the world through the perpetuation of follies with wild vertebrates and insects would, if added together, be enough to purchase a principality," and we can therefore assume that he might support cataloguing the amount of money invasive species have cost the United States. However, this inference requires a much larger logical leap than does the one that the author would support harsher legal punishments for those who introduce damaging invasive species, making "a law severely punishing those who introduce invasive species that damage the environment" the best answer. If you're unsure when picking between answers to an inference question, it's usually a good idea to see which one is more relevant to the passage's topic and has the most evidence supporting it.

### QUESTION 936

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The gypsy moth is a case in point. This winged calamity was imported at Maiden, Massachusetts, near Boston, by a French entomologist, Mr. Leopold Trouvelot, in 1868 or 69. History records the fact that the man of science did not purposely set free the pest. He was endeavoring with live specimens to find a moth that would produce a cocoon of commercial value to America, and a sudden gust of wind blew out of his study, through an open window, his living and breeding specimens of the gypsy moth. The moth itself is not bad to look at, but its larvae is a great, overgrown brute with an appetite like a hog. Immediately Mr. Trouvelot sought to recover his specimens, and when he failed to find them all, like a man of real honor, he notified the State authorities of the accident. Every effort was made to recover all the specimens, but enough escaped to produce progeny that soon became a scourge to the trees of Massachusetts. The method of the big, nasty-looking mottled-brown caterpillar was very simple. It devoured the entire foliage of every tree that grew in its sphere of influence.

The gypsy moth spread with alarming rapidity and persistence. In course of time, the state authorities of Massachusetts were forced to begin a relentless war upon it, by poisonous sprays and by fire. It was awful! Up to this date (1912) the New England states and the United States Government service have expended in fighting this pest about \$7,680,000!

The spread of this pest has been retarded, but the gypsy moth never will be wholly stamped out. Today it exists in Rhode Island, Connecticut, and New Hampshire, and it is due to reach New York at an early date. It is steadily spreading in three directions from Boston, its original point of departure, and when it strikes the State of New York, we, too, will begin to pay dearly for the Trouvelot experiment.

If the author were to learn that the gypsy moth could be efficiently repelled from trees by coating them with a cheap, natural substance, he would likely feel \_\_\_\_\_.

- A. exuberant
- B. horrified
- C. anxious
- D. unsurprised
- E. pessimistic

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Throughout the passage, the author makes it apparent that he feels that the gypsy moth is a very damaging invasive species that causes a lot of problems in the United States. He calls it a “winged calamity” and, in the third paragraph, describes how it spread:

“The gypsy moth spread with alarming rapidity and persistence. In course of time, the state authorities of Massachusetts were forced to begin a relentless war upon it, by poisonous sprays and by fire. It was awful! Up to this date (1912) the New England states and the United States Government service have expended in fighting this pest about \$7,680,000!”

From this paragraph, we can tell that if the author were to learn that the gypsy moth could be efficiently stopped from damaging trees, he would be most likely to feel “exuberant,” or excited and happy. Nothing in the passage supports any of the other answers.

**QUESTION 937** "Interpreting the Copernican Revolution" by Matthew Minerd (2014)

The expressions of one discipline can often alter the way that other subjects understand themselves. Among such cases are numbered the investigations of Nicolaus Copernicus. Copernicus is best known for his views concerning heliocentrism, a view which eventually obliterated many aspects of the ancient/medieval worldview, at least from the standpoint of physical science. It had always been the natural view of mankind that the earth stood at the center of the universe, a fixed point in reference to the rest of the visible bodies. The sun, stars, and planets all rotated around the earth.

With time, this viewpoint became one of the major reference points for modern life. It provided a provocative image that was used – and often abused – by many people for various purposes. For those who wished to weaken the control of religion on mankind, it was said that the heliocentric outlook proved man’s insignificance. In contrast with earlier geocentrism, heliocentrism was said to show that man is not the center of the universe. He is merely one small being in the midst of a large cosmos. However, others wished to use the “Copernican Revolution” in a very different manner. These thinkers wanted to show that there was another “recentering” that had to happen. Once upon a time, we talked about the world. Now, however, it was necessary to talk of man as the central reference point. Just as the solar system was “centered” on the sun, so too should the sciences be centered on the human person.

However, both of these approaches are fraught with problems. Those who wished to undermine the religious mindset rather misunderstood the former outlook on the solar system. The earlier geocentric mindset did not believe that the earth was the most important body in the heavens. Instead, many ancient and medieval thinkers believed that the highest “sphere” above the earth was the most important being in the physical universe. Likewise, the so-called “Copernican Revolution” in physics was different from the one applied to the human person. Copernicus’ revolution showed that the human point of view was not the center, whereas the later forms of “Copernican revolution” wished to show just the opposite.

Of course, there are many complexities in the history of such important changes in scientific outlook. Nevertheless, it is fascinating to see the wide-reaching effects of such discoveries, even when they have numerous, ambiguous effects.

Which of the following would likely be most interesting to those who believe the underlined sentence?

- A. None of the other answers
- B. Human anatomy
- C. Human culture
- D. The chemical basis for human emotions
- E. Evolution of primates into man

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The group noted in the underlined sentence has an interest in the human person precisely taken as a human person. That is, they are interested in the unique characteristics of human life. All of the incorrect answers consider something that is not necessarily unique to human life (though they do involve human beings). The other subjects are more like applications of chemistry and biology to the human person. However, human culture is unique to the human person. Therefore, it would most likely interest these people quite a bit.

**QUESTION 938** "The Place of Lesion Studies in Neuroscience" by Samantha Winter (2013)

It’s easy to forget that the study of neuroscience originated from non-normalized, non-statistically appraised methods like lesion studies. It’s equally easy, with the advent of sophisticated technology, to render such a method obsolete. A small group of neuroscientists today make a case for the reinstitution of lesion studies – the study of abnormal brains with damaged regions in order to better understand the brain – into the twenty-first-century cognitive neuroscience realm. Their suggestion is bold, but their argument is justified.

Cognitive neuroscientists advocate for the use of convergent methods. Many of them argue that with the limitations of our existing techniques, convergent evidence is imperative for sound research. If this is the case, why ignore a method that has potential for implying causality in a domain dominated by correlational research? Rather than advocating for a single method, neuroscientists should take their own advice and use convergent techniques. Sound research should combine a variety of techniques to examine both causal relationships and overcome the individual shortcomings of each method through the use of many.

Lesion studies are also significantly more beneficial now than they were in earlier times. Neuroimaging methods have enhanced our understanding of what contributes to the brain problems most often encountered, and more refined experiments have been developed to confirm the findings from the more unreliable lesion studies. This transformation allows lesion studies to be included alongside the other systems as a mechanism for understanding the human brain.



The author would most likely agree with which of the following statements?

- A. Neuroscience is the most important branch of science.
- B. It is important to eliminate old methods and techniques to avoid being archaic in all fields.
- C. The best research uses a number of techniques to understand a concept.
- D. Scientific research should receive more financial support.
- E. The study of abnormality should be the primary focus of all research.

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The main argument of this passage is that numerous techniques should serve to compliment each other and produce the best results. Presumably, the author's opinion in neuroscience would likely apply to research overall. The author argues against "it is important to eliminate old methods and techniques to avoid being archaic in all fields hh. Scientific research should receive more financial support." There is no indication that financial support has any contribution to the author's argument, therefore "scientific research should receive more financial support" is incorrect. Finally, "the study of abnormality should be the primary focus of all research" is incorrect because the support of lesion studies in this passage is not derived from a desire to study abnormality, but to understand regular functioning using a method that assesses abnormal functioning.

**QUESTION 939** "The Cell Cycle" by  
Joseph Ritchie (2014)

The process by which cells divide and multiply is known as the cell cycle. This cycle consists of two main phases: interphase and mitosis. Each phase consists of a series of clearly defined and observable steps. At the conclusion of the cycle, each parent cell produces two genetically identical daughter cells that may also replicate by proceeding through the cell cycle.

Roughly ninety percent of the cell cycle is spent in interphase. Interphase is comprised of three main steps: the first gap phase, the synthesis phase (also called "S phase"), and the second gap phase. The initial gap phase is a period of cellular preparation in which the cell increases in size and readies itself for DNA synthesis. In the synthesis phase, or S phase, DNA replication occurs, so that when the cell divides, each daughter cell will have the DNA necessary to function properly. In the second gap phase, the cell grows in size and prepares for cellular division in the mitotic phase. At the end of each gap phase, the cell has to pass a regulatory checkpoint to ensure that nothing is going wrong. If anything has gone wrong, the checkpoints stop the cell from proceeding through the cell cycle any further.

The next part of the cell cycle is mitosis. Mitosis is a form of cell division and is broken down into five distinct phases. During prophase, the genetic material contained in the cell's chromatin condenses into distinct chromosomes.

Prometaphase is marked by the breakdown of the cell's nuclear envelope and the formation of centrosomes at the poles of the cell. During metaphase, the cell's chromosomes are moved to the center of the cell. A checkpoint ensures that the chromosomes are properly aligned on the center and halts the cell cycle if any errors have occurred. In anaphase, chromosomes break apart at their center, or centromere, and sister chromatids move to opposite ends of the cell. Lastly, telophase and cytokinesis occur as nuclear membranes form to physically divide the cell into two new daughter cells. Chromosomes also unwind into loose chromatin during this part of mitosis. Cytokinesis is defined as the division of the each cell's cytoplasm and organelles. At the conclusion of the cell cycle, two genetically identical daughter cells have formed.

The cell cycle operates by a series of checkpoints and external cues. This system of checks enables the cell to enter a state of dormancy known as the gap zero phase when conditions or other factors inhibit the cell cycle. Conversely, unregulated and uncontrolled cellular division can occur under certain circumstances. A cell in a state of uncontrolled division is known to be cancerous. Lastly, cells have the ability to mediate their own death by way of apoptosis if certain genetic or physical abnormalities exist. The cell cycle is a complex process that enables cells to replicate and proliferate under a stringent set of checks and balances that produce healthy and viable daughter cells that are each able to perform the process in the future.

About how much time does a cell spend undergoing mitosis in the cell cycle?

- A. Ten percent
- B. Twenty-five percent
- C. Fifteen percent
- D. Fifty percent

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

At the beginning of the second paragraph, the passage says, "Roughly ninety percent of the cell cycle is spent in interphase." Based on this information, and the fact that we are told that the cell cycle consists of "two main phases: interphase and mitosis," we can thus infer that about ten percent of a cell's time in the cell cycle is spent undergoing mitosis.

**QUESTION 940**

Adapted from Volume Four of The Natural History of Animals: The Animal Life of the World in Its Various Aspects and Relations by James Richard Ainsworth Davis (1903)

The examples of protective resemblance so far quoted are mostly permanent adaptations to one particular sort of surrounding. There are, however, numerous animals which possess the power of adjusting their color more or less rapidly so as to harmonize with a changing environment.

Some of the best known of these cases are found among those mammals and birds that inhabit countries more or less covered with snow during a part of the year. A good instance is afforded by the Irish or variable hare, which is chiefly found in Ireland and Scotland. In summer, this looks very much like an ordinary hare, though rather grayer in tint and smaller in size, but in winter it becomes white with the exception of the black tips to the ears. Investigations that have been made on the closely allied American hare seem to show that the phenomenon is due to the growth of new hairs of white hue.

The common stoat is subject to similar color change in the northern parts of its range. In summer it is of a bright reddish brown color with the exception of the under parts, which are yellowish white, and the end of the tail, which is black. But in winter, the entire coat, save only the tip of the tail, becomes white, and in that condition the animal is known as an ermine. A similar example is afforded by the weasel. The seasonal change in the vegetarian Irish hare is purely of protective character, but in such an actively carnivorous creature as a stoat or weasel, it is aggressive as well, rendering the animal inconspicuous to its prey.

What can we infer preceded this paragraph?

- A. Descriptions of animals that defend themselves by looking like things in a stable environment
- B. Descriptions of animals that hunt other animals efficiently by camouflaging themselves
- C. Descriptions of animals that have not adapted to their environments
- D. Descriptions of animals that defend themselves by looking like things in a changing environment
- E. Descriptions of changing environments

**Correct Answer: A**

**Section: Reading**

**Explanation**

**Explanation/Reference:**

Explanation:

In order to infer what likely “preceded,” or came before, this passage, we should take at what the passage is talking about right when it starts. The passage’s first sentence says, “The examples of protective resemblance so far quoted are mostly permanent adaptations to one particular sort of surrounding.” The “so far quoted” means so far said or provided and tells us that the writer has been talking about “examples of protective resemblance.” This means that the writer most likely discussed “animals that defend themselves by looking like things in a stable environment” in the part of the book that comes right before the passage.

#### **QUESTION 941**

Adapted from Volume Four of The Natural History of Animals: The Animal Life of the World in Its Various Aspects and Relations by James Richard Ainsworth Davis (1903)

The examples of protective resemblance so far quoted are mostly permanent adaptations to one particular sort of surrounding. There are, however, numerous animals which possess the power of adjusting their color more or less rapidly so as to harmonize with a changing environment.

Some of the best known of these cases are found among those mammals and birds that inhabit countries more or less covered with snow during a part of the year. A good instance is afforded by the Irish or variable hare, which is chiefly found in Ireland and Scotland. In summer, this looks very much like an ordinary hare, though rather grayer in tint and smaller in size, but in winter it becomes white with the exception of the black tips to the ears. Investigations that have been made on the closely allied American hare seem to show that the phenomenon is due to the growth of new hairs of white hue.

The common stoat is subject to similar color change in the northern parts of its range. In summer it is of a bright reddish brown color with the exception of the under parts, which are yellowish white, and the end of the tail, which is black. But in winter, the entire coat, save only the tip of the tail, becomes white, and in that condition the animal is known as an ermine. A similar example is afforded by the weasel. The seasonal change in the vegetarian Irish hare is purely of protective character, but in such an actively carnivorous creature as a stoat or weasel, it is aggressive as well, rendering the animal inconspicuous to its prey.

Based on the passage, what can we infer about the weasel?

- A. Like the Irish hare, it has grey fur in the summer.
- B. Like the stoat, it has claws.
- C. Like the stoat, it also changes its coat color.
- D. Like the Irish hare, has been the subject of investigations.
- E. Like the stoat, it also lives in burrows.

**Correct Answer: C**

**Section: Reading**

**Explanation**

**Explanation/Reference:**

Explanation:

The weasel is mentioned in two places in the passage, both in the passage’s last paragraph, both reproduced here:

“But in winter, the entire coat [of the stoat], save only the tip of the tail, becomes white, and in that condition the animal is known as an ermine. A similar example is afforded by the weasel. The seasonal change in the vegetarian Irish hare is purely of protective character, but in such an actively carnivorous creature as a stoat or weasel, it is aggressive as well, rendering the animal inconspicuous to its prey.”

What does the passage tell us about the weasel? Well, we can infer that it is in some way like the stoat, because the passage says “A similar example is afforded by the weasel” right after describing how the stoat’s fur changes color. We are also told that it is carnivorous, but this is not an inference we have to make, and it doesn’t relate to any of the answer choices. The best answer choice is “Like the stoat, it also changes its coat color.” This captures the specific similarity between the stoat and weasel being discussed when the author writes, “A similar example is afforded by the weasel.”

**QUESTION 942**

Adapted from “Feathers of Sea Birds and Wild Fowl for Bedding” from The Utility of Birds by Edward Forbush (ed. 1922)

In the colder countries of the world, the feathers and down of waterfowl have been in great demand for centuries as filling for beds and pillows. Such feathers are perfect non-conductors of heat, and beds, pillows, or coverlets filled with them represent the acme of comfort and durability. The early settlers of New England saved for such purposes the feathers and down from the thousands of wild-fowl which they killed, but as the population increased in numbers, the quantity thus furnished was insufficient, and the people sought a larger supply in the vast colonies of ducks and geese along the Labrador coast.

The manner in which the feathers and down were obtained, unlike the method practiced in Iceland, did not tend to conserve and protect the source of supply. In Iceland, the people have continued to receive for many years a considerable income by collecting eider down, but there they do not “kill the goose that lays the golden eggs.” Ducks line their nests with down plucked from their own breasts and that of the eider is particularly valuable for bedding. In Iceland, these birds are so carefully protected that they have become as tame and unsuspicious as domestic fowls In North America. Where they are constantly hunted they often conceal their nests in the midst of weeds or bushes, but in Iceland, they make their nests and deposit their eggs in holes dug for them in the sod. A supply of the ducks is maintained so that the people derive from them an annual income.

In North America, quite a different policy was pursued. The demand for feathers became so great in the New England colonies about the middle of the eighteenth century that vessels were fitted out there for the coast of Labrador for the express purpose of securing the feathers and down of wild fowl. Eider down having become valuable and these ducks being in the habit of congregating by thousands on barren islands of the Labrador coast, the birds became the victims of the ships’ crews. As the ducks molt all their primary feathers at once in July or August and are then quite incapable of flight and the young birds are unable to fly until well grown, the hunters were able to surround the helpless birds, drive them together, and kill them with clubs. Otis says that millions of wildfowl were thus destroyed and that in a few years their haunts were so broken up by this wholesale slaughter and their numbers were so diminished that feather voyages became unprofitable and were given up.

This practice, followed by the almost continual eggging, clubbing, shooting, etc. by Labrador fishermen, may have been a chief factor in the extinction of the Labrador duck, that species of supposed restricted breeding range. No doubt had the eider duck been restricted in its breeding range to the islands of Labrador, it also would have been exterminated long ago.

Which of the following would you LEAST expect to be discussed elsewhere in the book from which this passage was taken?

- A. The raising of chickens for their eggs
- B. The practice of sending messages by carrier pigeon
- C. The use of tropical birds’ feathers as hat decorations
- D. Falconry
- E. The types of birds encountered by the first Antarctic explorers

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:



The passage describes how humans use the eider down produced by eider ducks as a commodity for its insulating properties. Given this focus, along with the title of the book from which the passage is taken, The Utility of Birds, we can assume that other topics discussed in the books would deal with ways in which birds are useful to humans. “The use of tropical birds’ feathers as hat decorations,” “the raising of chickens for their eggs,” “falconry,” and “the practice of sending messages by carrier pigeon” all deal with ways in which birds are useful to humans, but “The types of birds encountered by the first Antarctic explorers” does not relate to how birds are useful to humans, so it would be least likely to be discussed elsewhere in a book called The Utility of Birds and is the correct answer.

**QUESTION 943**

Adapted from “Feathers of Sea Birds and Wild Fowl for Bedding” from The Utility of Birds by Edward Forbush (ed. 1922)

In the colder countries of the world, the feathers and down of waterfowl have been in great demand for centuries as filling for beds and pillows. Such feathers are perfect non-conductors of heat, and beds, pillows, or coverlets filled with them represent the acme of comfort and durability. The early settlers of New England saved for such purposes the feathers and down from the thousands of wild-fowl which they killed, but as the population increased in numbers, the quantity thus furnished was insufficient, and the people sought a larger supply in the vast colonies of ducks and geese along the Labrador coast.

The manner in which the feathers and down were obtained, unlike the method practiced in Iceland, did not tend to conserve and protect the source of supply. In Iceland, the people have continued to receive for many years a considerable income by collecting eider down, but there they do not “kill the goose that lays the golden eggs.” Ducks line their nests with down plucked from their own breasts and that of the eider is particularly valuable for bedding. In Iceland, these birds are so carefully protected that they have become as tame and unsuspicious as domestic fowls In North America. Where they are constantly hunted they often conceal their nests in the midst of weeds or bushes, but in Iceland, they make their nests and deposit their eggs in holes dug for them in the sod. A supply of the ducks is maintained so that the people derive from them an annual income.

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This practice, followed by the almost continual eggging, clubbing, shooting, etc. by Labrador fishermen, may have been a chief factor in the extinction of the Labrador duck, that species of supposed restricted breeding range. No doubt had the eider duck been restricted in its breeding range to the islands of Labrador, it also would have been exterminated long ago.

Which of the following most likely happened after the Labrador feather voyages were no longer organized?

- A. The price of eider down in North America plummeted.
- B. Eider down began to be used for other purposes in North America.

- C. A population of the Labrador duck was reestablished.
- D. North Americans imported eider down from Iceland.
- E. The quality of bedding in North America became preferable to that found in Iceland.

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The first paragraph tells us that the Labrador feather voyages were organized to keep up with an increased demand for eider down caused by an increased North American population. The passage doesn't mention any alternative sources of eider down being used after the Labrador feather voyages were no longer organized. Therefore, we can eliminate the answer choice "The price of eider down in North America plummeted" since if eider down became more rare, its price would likely have gone up, not down. We can also eliminate the answer choice "Eider down began to be used for other purposes in North America" as this is not suggested in the passage at all and would require more information to be supported. "The quality of bedding in North America became preferable to that found in Iceland" cannot be correct either, as in the first paragraph, the author claims that eider down makes the best bedding, and if eider down becomes rare in North America, it's not likely that the quality of North American bedding will exceed that of bedding made in Iceland, where eider down is assumed to be more available. "A population of the Labrador duck was reestablished." cannot be the correct answer because the passage tells us that the Labrador duck went extinct, and if a species is extinct, there are no living members left from which populations of it could be reestablished. This leaves us with one answer, the correct one: "North American populations had to import eider down from Iceland." This makes sense, as if less eider down were available in North America but there was still a desire for it, it would be likely to be imported from elsewhere in the world.

#### QUESTION 944

Adapted from "Recent Views as to Direct Action of Light on the Colors of Flowers and Fruits" in Tropical Nature, and Other Essays by Alfred Russel Wallace (1878)

The theory that the brilliant colors of flowers and fruits is due to the direct action of light has been supported by a recent writer by examples taken from the arctic instead of from the tropical flora. In the arctic regions, vegetation is excessively rapid during the short summer, and this is held to be due to the continuous action of light throughout the long summer days. "The further we advance towards the north, the more the leaves of plants increase in size as if to absorb a greater proportion of the solar rays. M. Grisebach says that during a journey in Norway he observed that the majority of deciduous trees had already, at the 60th degree of latitude, larger leaves than in Germany, while M. Ch. Martins has made a similar observation as regards the leguminous plants cultivated in Lapland." The same writer goes on to say that all the seeds of cultivated plants acquire a deeper color the further north they are grown, white haricots becoming brown or black, and white wheat becoming brown, while the green color of all vegetation becomes more intense. The flowers also are similarly changed: those which are white or yellow in central Europe becoming red or orange in Norway. This is what occurs in the Alpine flora, and the cause is said to be the same in both – the greater intensity of the sunlight. In the one the light is more persistent, in the other more intense because it traverses a less thickness of atmosphere.

Admitting the facts as above stated to be in themselves correct, they do not by any means establish the theory founded on them; and it is curious that Grisebach, who has been quoted by this writer for the fact of the increased size of the foliage, gives a totally different explanation of the more vivid colors of Arctic flowers. He says, "We see flowers become larger and more richly colored in proportion as, by the increasing length of winter, insects become rarer, and their cooperation in the act of fecundation is exposed to more uncertain chances." (Vegetation du Globe, col. i. p. 61–French translation.) This is the theory here adopted to explain the colors of Alpine plants, and we believe there are many facts that will show it to be the preferable one. The statement that the white and yellow flowers of temperate Europe become red or golden in the Arctic regions must we think be incorrect. By roughly tabulating the colors of the plants given by Sir Joseph Hooker as permanently Arctic, we find among fifty species with more or less conspicuous flowers, twenty-five white, twelve yellow, eight purple or blue, three lilac, and two red or pink; showing a very similar proportion of white and yellow flowers to what obtains further south.

The author of the passage is most likely \_\_\_\_\_.

- A. a meteorologist
- B. a botanist
- C. an archeologist
- D. a geographer
- E. a chemist

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

As the title of the passage is "Recent Views as to Direct Action of Light on the Colors of Flowers and Fruits" and its subject is flower color, leaf size, and other scientific phenomena that have to do with plants, trees, and especially flowers, we can safely infer that of the given answer choices, the author is most likely a botanist. While the author does discuss flowers at different latitudes, which may suggest "geographer," and different atmospheric conditions, which may suggest "meteorologist," he only broaches these topics because of how they intersect with his primary topic of flowers and plants.

#### QUESTION 945

Adapted from "Recent Views as to Direct Action of Light on the Colors of Flowers and Fruits" in Tropical Nature, and Other Essays by Alfred Russel Wallace (1878)

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similar observation as regards the leguminous plants cultivated in Lapland." The same writer goes on to say that all the seeds of cultivated plants acquire a deeper color the further north they are grown, white haricots becoming brown or black, and white wheat becoming brown, while the green color of all vegetation becomes more intense. The flowers also are similarly changed: those which are white or yellow in central Europe becoming red or orange in Norway. This is what occurs in the Alpine flora, and the cause is said to be the same in both – the greater intensity of the sunlight. In the one the light is more persistent, in the other more intense because it traverses a less thickness of atmosphere. Admitting the facts as above stated to be in themselves correct, they do not by any means establish the theory founded on them; and it is curious that Grisebach, who has been quoted by this writer for the fact of the increased size of the foliage, gives a totally different explanation of the more vivid colors of Arctic flowers. He says, "We see flowers become larger and more richly colored in proportion as, by the increasing length of winter, insects become rarer, and their cooperation in the act of fecundation is exposed to more uncertain chances." (Vegetation du Globe, col. i. p. 61–French translation.) This is the theory here adopted to explain the colors of Alpine plants, and we believe there are many facts that will show it to be the preferable one. The statement that the white and yellow flowers of temperate Europe become red or golden in the Arctic regions must we think be incorrect. By roughly tabulating the colors of the plants given by Sir Joseph Hooker as permanently Arctic, we find among fifty species with more or less conspicuous flowers, twenty-five white, twelve yellow, eight purple or blue, three lilac, and two red or pink; showing a very similar proportion of white and yellow flowers to what obtains further south.

This passage is taken from a longer work. Based on what you have read, which of the following would you most expect to find in the paragraphs immediately following those in the passage?

- A. A summary of a paper the author wishes to publish on the topic being discussed
- B. Further consideration of the theory of the writer quoted in the first paragraph
- C. More evidence as to why Grisebach's theory is the correct one
- D. Praise of the useful nature of Hooker's research
- E. A discussion of the historical uses of alpine plants

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

In the concluding sentences of the passage, the author is asserting that Grisebach's interpretation is the correct one, not that of the "recent writer" quoted in the first paragraph. The author is also bringing up evidence (Joseph Hooker's enumerated observations) to prove his point. One could thus reasonably expect to encounter "more evidence as to why Grisebach's theory is the correct one" if one read on further in the larger text of which this passage is a small part.

#### QUESTION 946

Adapted from "Taking a Second Look: An Analysis of Genetic Markers in Species Relatedness" by Joseph Ritchie (2014)

Phylogenetics is the study of genetic composition in various species and is used by evolutionary biologists to investigate similarities in the molecular sequences of proteins in varying organisms. The amino acid sequences that build proteins are used to construct mathematical matrices that aid in determining evolutionary ties through the investigation of percentage similarities. The study of these matrices helps to expose evolutionary relationships between species that may not have the same overt characteristics.

Species adapt and evolve based on the pressures that exist in their environment. Climate, food source, and habitat availability are only a few factors that act on species adaptation. These stressors can alter the physical characteristics of organisms. This divergence in evolution has made it difficult to determine the interrelatedness of organisms by analyzing their physical characteristics alone.

For instance, looking only at physical characteristics, the ghost bat resembles a pigeon more than a spider monkey; however, phylogenetics has found that the amino acid sequences that construct the beta hemoglobin molecules of bats are twenty percent more similar to those of mammalian primates than those of birds. This helps reject the assumption that common physical characteristics between species are all that is needed to determine relatedness.

The differences produced by divergent evolution observed in the forest-dwelling, arboreal spider monkey and the nocturnal, airborne ghost bat can be reconciled through homology. Homologous characteristics are anatomical traits that are similar in two or more different species. For instance, the bone structure of a spider monkey's wrist and fingers greatly resembles that of a bat's wing or even a whale's fin. These similarities are reinforced by phylogenetic evidence that supports the idea that physically dissimilar species can be evolutionarily related through anatomical and genetic similarities.

A scientist studied the relatedness of several reptilian species solely by investigating fossil evidence and has concluded that physical characteristics alone are enough to determine species relatedness. Would this scientist agree with the claims made by phylogenetic research?

- A. Yes, because phylogenetics is second to physical comparisons and thus supports the archaeologist's position.
- B. None of the other choices are correct.
- C. No, because phylogenetics is an unreliable and new technique that has yet to prove itself in major scientific arenas.
- D. No, because phylogenetics assumes that physical traits and characteristics are not the only objective and reliable markers in the study of species relatedness.

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The scientist studied relatedness based on the fossil record of physical traits. Having studied this, he would not agree with the notion that phylogenetics may better explain relatedness via genetic factors. The rest of the choices are incorrect because they are not supported by the passage.

#### QUESTION 947

Adapted from "Taking a Second Look: An Analysis of Genetic Markers in Species Relatedness" by Joseph Ritchie (2014)

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Species adapt and evolve based on the pressures that exist in their environment. Climate, food source, and habitat availability are only a few factors that act on species adaptation. These stressors can alter the physical characteristics of organisms. This divergence in evolution has made it difficult to determine the interrelatedness of organisms by analyzing their physical characteristics alone.

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According to the passage, the hemoglobin structure of a bat is most similar to which of the following animals?

- A. Spider monkey
- B. Eagle
- C. Pigeon
- D. Hummingbird

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The spider monkey is the only mammalian species listed in the choices. The other choices are birds, which the passage states are less similar to bats than mammals. Therefore, also being a mammalian species, spider monkey is the correct answer.

**QUESTION 948** "Darwinism's Effect on Science" by  
Matthew Minerd (2014)



For much of the history of human thought, the sciences have studied subjects that seemed to be eternal and unchanging. Even the basic laws of the Nile's flooding were investigated in the hopes of finding never-altering laws. Similarly, the scientific investigations of the ancient Near East and Greece into the regular laws of the stars ultimately looked for constant patterns. This overall pattern of scientific reasoning has left deep marks on the minds of almost all thinkers and found its apotheosis in modern physics. From the time of the early renaissance to the nineteenth century, physics represented the ultimate expression of scientific investigation for almost all thinkers. Its static laws appeared to be the unchanging principles of all motion and life on earth. By the nineteenth century, it had appeared that only a few details had to be "cleared up" before all science was basically known.

In many ways, this situation changed dramatically with the arrival of Darwinism. It would change even more dramatically in early twentieth-century physics as well. Darwin's theories of evolution challenged many aspects of the "static" worldview. Even those who did not believe that a divine being created an unchanging world were shaken by the new vistas opened up to science by his studies. It had been a long-accepted inheritance of Western culture to believe that the species of living organisms were unchanging in nature. Though there might be many different kinds of creatures, the kinds themselves were not believed to change. The thesis of a universal morphing of types shattered this cosmology, replacing the old world-view with a totally new one. Among the things that had to change in light of Darwin's work was the very view of science held by most people.

Which of the following provides an example of the main idea asserted in the first paragraph?

- A. The Pythagorean theorem is based upon the constant relationship of the sides of a right triangle to its hypotenuse.
- B. None of the other answers
- C. The interest in science only arises once agriculture reaches a certain point of fixity.
- D. The fluctuation of coloration within a species is rather minimal.
- E. Religion constantly wanes with the rise of science.

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The first paragraph discusses the role of necessary connections and unvarying rules in scientific thinking, particularly the type of thinking that has played a prominent role in Western thought for many centuries. The example of the Pythagorean theorem is a good example of this. Even if you do not know this mathematical equation, you can tell that this is the correct answer by the words "constant relationship."

**QUESTION 949**

Adapted from “Humming-Birds: As Illustrating the Luxuriance of Tropical Nature” in Tropical Nature, and Other Essays by Alfred Russel Wallace (1878)

The food of hummingbirds has been a matter of much controversy. All the early writers down to Buffon believed that they lived solely on the nectar of flowers, but since that time, every close observer of their habits maintains that they feed largely, and in some cases wholly, on insects. Azara observed them on the La Plata in winter taking insects out of the webs of spiders at a time and place where there were no flowers. Bullock, in Mexico, declares that he saw them catch small butterflies, and that he found many kinds of insects in their stomachs. Waterton made a similar statement. Hundreds and perhaps thousands of specimens have since been dissected by collecting naturalists, and in almost every instance their stomachs have been found full of insects, sometimes, but not generally, mixed with a proportion of honey. Many of them in fact may be seen catching gnats and other small insects just like fly-catchers, sitting on a dead twig over water, darting off for a time in the air, and then returning to the twig. Others come out just at dusk, and remain on the wing, now stationary, now darting about with the greatest rapidity, imitating in a limited space the evolutions of the goatsuckers, and evidently for the same end and purpose. Mr. Gosse also remarks, “All the hummingbirds have more or less the habit, when in flight, of pausing in the air and throwing the body and tail into rapid and odd contortions. This is most observable in the Polytmus, from the effect that such motions have on the long feathers of the tail. That the object of these quick turns is the capture of insects, I am sure, having watched one thus engaged pretty close to me.” How does the quotation from Mr. Gosse relate to the evidence provided by other scientists earlier in the passage?

- A. It contradicts the previous evidence and supports a different hypothesis.
- B. It has nothing to do with the previous evidence.
- C. It suggests that the earlier evidence applies not only to hummingbirds but to another type of bird as well.
- D. It suggests that some of the previous evidence may be true, but some may be false.
- E. It supports the same conclusions that the previous evidence supports.

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Let’s consider what Mr. Gosse is saying. The passage says, “Mr. Gosse also remarks, ‘All the hummingbirds have more or less the habit, when in flight, of pausing in the air and throwing the body and tail into rapid and odd contortions. This is most observable in the Polytmus, from the effect that such motions have on the long feathers of the tail. That the object of these quick turns is the capture of insects, I am sure, having watched one thus engaged pretty close to me.’”

Paraphrasing that, Mr. Gosse is saying that he has seen hummingbirds contort themselves in the air and he’s pretty sure they’re doing this in order to catch insects. The evidence provided by scientists earlier in the passage supports the idea that hummingbirds eat insects, just like Mr. Gosse’s does. We can’t say that Gosse’s evidence contradicts the earlier evidence, suggests that some of it may be false, or has nothing to do with the previous evidence. It also doesn’t suggest that the previous evidence can be applied to birds other than hummingbirds, because Mr. Gosse says that he is only discussing hummingbirds and we are to infer that the Polytmus is a hummingbird. So, the correct answer is that “it supports the same conclusions that the previous evidence supports.”

**QUESTION 950**

Adapted from “Humming-Birds: As Illustrating the Luxuriance of Tropical Nature” in Tropical Nature, and Other Essays by Alfred Russel Wallace (1878)

The food of hummingbirds has been a matter of much controversy. All the early writers down to Buffon believed that they lived solely on the nectar of flowers, but since that time, every close observer of their habits maintains that they feed largely, and in some cases wholly, on insects. Azara observed them on the La Plata in winter taking insects out of the webs of spiders at a time and place where there were no flowers. Bullock, in Mexico, declares that he saw them catch small butterflies, and that he found many kinds of insects in their stomachs. Waterton made a similar statement. Hundreds and perhaps thousands of specimens have since been dissected by collecting naturalists, and in almost every instance their stomachs have been found full of insects, sometimes, but not generally, mixed with a proportion of honey. Many of them in fact may be seen catching gnats and other small insects just like fly-catchers, sitting on a dead twig over water, darting off for a time in the air, and then returning to the twig. Others come out just at dusk, and remain on the wing, now stationary, now darting about with the greatest rapidity, imitating in a limited space the evolutions of the goatsuckers, and evidently for the same end and purpose. Mr. Gosse also remarks, “All the hummingbirds have more or less the habit, when in flight, of pausing in the air and throwing the body and tail into rapid and odd contortions. This is most observable in the Polytmus, from the effect that such motions have on the long feathers of the tail. That the object of these quick turns is the capture of insects, I am sure, having watched one thus engaged pretty close to me.” Which of the following does the author contrast in this passage?

- A. The beliefs of historical scientists and the beliefs of scientists of the author’s time
- B. Hummingbirds that eat flower nectar and hummingbirds that eat insects
- C. Hummingbirds with long tails and hummingbirds with short tails
- D. The results of feeding hummingbird insects and the results of feeding a hummingbird flower nectar
- E. The author’s opinion about what hummingbirds eat and Mr. Gosse’s opinion about what hummingbirds eat

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Nowhere in the passage is the feeding of hummingbirds by humans mentioned, so “The results of feeding a hummingbird insects and the results of feeding a hummingbird flower nectar” cannot be correct. While a hummingbird with a long tail, the Polytmus, is mentioned, it is not contrasted with any short-tailed hummingbirds. The author appears to agree with Mr. Gosse’s opinion about what hummingbirds eat, so “The author’s opinion about what hummingbirds eat and Mr. Gosse’s opinion about what hummingbirds eat” cannot be correct either. This leaves us with “Hummingbirds that eat flower nectar and hummingbirds that eat insects” and “the beliefs of historical scientists and the beliefs of scientists of the author’s

time.” While the passage is concerned with what hummingbirds eat, it doesn’t suggest that some types of hummingbirds eat only nectar and others eat only insects. Hummingbirds are considered as an entire group; they’re never divided into “hummingbirds that eat insects” and “hummingbirds that eat flower nectar.” This leaves us with one answer choice, the correct one: “The beliefs of historical scientists and the beliefs of scientists of the author’s time.” These beliefs are contrasted in the paragraph’s second sentence: “All the early writers down to Buffon believed that they lived solely on the nectar of flowers, but since that time, every close observer of their habits maintains that they feed largely, and in some cases wholly, on insects.”

**QUESTION 951** "Comparing Technologies: A Difficult Endeavor" by Matthew Miner (2014)

Comparisons of technology are often difficult to make, not only because of the rapid pace of improvements but also because of the many new applications that are available as time progresses. If we were to consider the contemporary graphing calculator and the calculation capacities of computing machines from fifty years ago, there would be astounding improvements between these two devices. However, the improvements are not reduced merely to speed improvements. A graphing calculator also has numerous output capacities that far exceed those available much older computers, none of which had the ability to represent their output in any manner even closely resembling that of contemporary devices. Merely consider the display capacities of such a device. These enable users to input many new kinds of information, enabling design engineers to design new hardware functions to match the new means of collecting user input. The situation is even more obvious when one considers the numerous functions performed by a modern “smartphone.” These devices are equipped with a panoply of features. With all of these new functions come many new types of computational capabilities as well. In order to process images quickly, specialized hardware must be designed and software written for it in order to ensure that there are few issues with the phone’s operation. Indeed, the whole “real time” nature of telecommunications has exerted numerous pressures on the designers of computing devices. Layers of complexity, at all levels of production and development, are required to ensure that the phone can function in a synchronous manner. Gone are the days of asynchronous processing, when the computer user entered data into a mainframe, only to wait for a period of time before the processing results were provided. Today, even the smallest of digital devices must provide seamless service for users. The effects of this requirement are almost beyond number.

Which of the following best describes the contrast between newer and older calculating devices?

- A. They differ both in capabilities as well as overall speed.
- B. Older calculating machines broke down far more frequently than do modern calculators.
- C. Newer calculators are blazingly faster than older calculating machines.
- D. Previous calculators had no output capacities whatsoever.
- E. None of the other answers

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:



In the selection, there are two key sentences: "However, the improvements are not reduced merely to speed improvements. A graphing calculator also has numerous output capacities that far exceed those available much older computers." The passage marks two points regarding the difference between the older and newer devices. They differ both with regard to speed and their ability to output data. The answer that speaks of having differing "capabilities" captures the distinction in output well enough for our answer. The other answers either bring in data not listed in our passage or are too narrow in scope.

**QUESTION 952**

Adapted from “Introduced Species That Have Become Pests” in Our Vanishing Wild Life, Its Extermination and Protection by William Temple Hornaday (1913)

The man who successfully transplants or "introduces" into a new habitat any persistent species of living thing assumes a very grave responsibility. Every introduced species is doubtful gravel until panned out. The enormous losses that have been inflicted upon the world through the perpetuation of follies with wild vertebrates and insects would, if added together, be enough to purchase a principality. The most aggravating feature of these follies in transplantation is that never yet have they been made severely punishable. We are just as careless and easygoing on this point as we were about the government of the Yellowstone Park in the days when Howell and other poachers destroyed our first national bison herd, and when caught red-handed – as Howell was, skinning seven Park bison cows – could not be punished for it, because there was no penalty prescribed by any law. Today, there is a way in which any revengeful person could inflict enormous damage on the entire South, at no cost to himself, involve those states in enormous losses and the expenditure of vast sums of money, yet go absolutely unpunished!

The gypsy moth is a case in point. This winged calamity was imported at Maiden, Massachusetts, near Boston, by a French entomologist, Mr. Leopold Trouvelot, in 1868 or 69. History records the fact that the man of science did not purposely set free the pest. He was endeavoring with live specimens to find a moth that would produce a cocoon of commercial value to America, and a sudden gust of wind blew out of his study, through an open window, his living and breeding specimens of the gypsy moth. The moth itself is not bad to look at, but its larvae is a great, overgrown brute with an appetite like a hog. Immediately Mr. Trouvelot sought to recover his specimens, and when he failed to find them all, like a man of real honor, he notified the State authorities of the accident. Every effort was made to recover all the specimens, but enough escaped to produce progeny that soon became a scourge to the trees of Massachusetts. The method of the big, nasty-looking mottled-brown caterpillar was very simple. It devoured the entire foliage of every tree that grew in its sphere of influence.

The gypsy moth spread with alarming rapidity and persistence. In course of time, the state authorities of Massachusetts were forced to begin a relentless war upon it, by poisonous sprays and by fire. It was awful! Up to this date (1912) the New England states and the United States Government service have expended in fighting this pest about \$7,680,000!

The spread of this pest has been retarded, but the gypsy moth never will be wholly stamped out. Today it exists in Rhode Island, Connecticut, and New Hampshire, and it is due to reach New York at an early date. It is steadily spreading in three directions from Boston, its original point of departure, and when it strikes the State of New York, we, too, will begin to pay dearly for the Trouvelot experiment.

Howell’s story is different from that of Mr. Trouvelot’s in that \_\_\_\_\_.

- A. Howell acted alone while Trouvelot worked with a group
- B. Howell worked for a zoo while Trouvelot was a scientist
- C. Howell could be punished by law, while Trouvelot could not



- D. Howell sought to capture insects while Trouvelot sought to release them  
E. Howell acted purposely while Trouvelot introduced the moths by accident

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

According to the passage, what did Howell do? He was caught skinning bison in Yellowstone National Park and there was no way to punish him, a point about which the author is frustrated. What did Mr. Trouvelot do? He accidentally released gypsy moths into the United States, where they've caused a lot of trouble since. Nothing in the passage says that Mr. Trouvelot worked in a group, so we can eliminate the answer "Howell acted alone while Mr. Trouvelot worked with a group." Similarly, while the passage says that Mr. Trouvelot was a scientist (an entomologist), nothing says that Howell worked for a zoo, so "Howell worked for a zoo while Trouvelot was a scientist" can't be correct. The author brings up Howell's story as an example of someone who couldn't be punished by law for what the author considers an egregiously bad act, so "Howell could be punished by law, while Mr. Trouvelot could not" can't be correct either. Howell's story has nothing to do with insects and Mr. Trouvelot released his gypsy moths on accident, so "Howell sought to capture insects while Trouvelot sought to release them" cannot be the correct answer. This leaves us with one answer choice, the correct one: "Howell acted purposely while Trouvelot introduced the moths by accident."

**QUESTION 953** "Interpreting the Copernican Revolution" by  
Matthew Minerd (2014)

The expressions of one discipline can often alter the way that other subjects understand themselves. Among such cases are numbered the investigations of Nicolaus Copernicus. Copernicus is best known for his views concerning heliocentrism, a view which eventually obliterated many aspects of the ancient/medieval worldview, at least from the standpoint of physical science. It had always been the natural view of mankind that the earth stood at the center of the universe, a fixed point in reference to the rest of the visible bodies. The sun, stars, and planets all rotated around the earth.

With time, this viewpoint became one of the major reference points for modern life. It provided a provocative image that was used – and often abused – by many people for various purposes. For those who wished to weaken the control of religion on mankind, it was said that the heliocentric outlook proved man's insignificance. In contrast with earlier geocentrism, heliocentrism was said to show that man is not the center of the universe. He is merely one small being in the midst of a large cosmos. However, others wished to use the "Copernican Revolution" in a very different manner. These thinkers wanted to show that there was another "recentering" that had to happen. Once upon a time, we talked about the world. Now, however, it was necessary to talk of man as the central reference point. Just as the solar system was "centered" on the sun, so too should the sciences be centered on the human person.

However, both of these approaches are fraught with problems. Those who wished to undermine the religious mindset rather misunderstood the former outlook on the solar system. The earlier geocentric mindset did not believe that the earth was the most important body in the heavens. Instead, many ancient and medieval thinkers believed that the highest "sphere" above the earth was the most important being in the physical universe. Likewise, the so-called "Copernican Revolution" in physics was different from the one applied to the human person. Copernicus' revolution showed that the human point of view was not the center, whereas the later forms of "Copernican revolution" wished to show just the opposite.

Of course, there are many complexities in the history of such important changes in scientific outlook. Nevertheless, it is fascinating to see the wide-reaching effects of such discoveries, even when they have numerous, ambiguous effects.

How are two uses of the image of heliocentrism contrasted in this passage?

- A. One calls for scientific detachment while the other calls for engagement in the world of culture.  
B. One calls for detached peace while the other is likely to breed wars.  
C. One implies the insignificance of the human person while the other implies humanity's greatness.  
D. One is primarily scientific while the other is religious at its core.  
E. None of the other answers

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The general contrast is between "man, the speck on a rock" and "man, the center of all things." The idea for one view is that the human person is insignificant in comparison to the rest of the universe, which dwarfs his little life on Earth. The other view makes the human person so significant that the study of human life is central.

**QUESTION 954**

Adapted from "Feathers of Sea Birds and Wild Fowl for Bedding" from The Utility of Birds by Edward Forbush (ed. 1922)

In the colder countries of the world, the feathers and down of waterfowl have been in great demand for centuries as filling for beds and pillows. Such feathers are perfect non-conductors of heat, and beds, pillows, or coverlets filled with them represent the acme of comfort and durability. The early settlers of New England saved for such purposes the feathers and down from the thousands of wild-fowl which they killed, but as the population increased in numbers, the quantity thus furnished was insufficient, and the people sought a larger supply in the vast colonies of ducks and geese along the Labrador coast.

The manner in which the feathers and down were obtained, unlike the method practiced in Iceland, did not tend to conserve and protect the source of supply. In Iceland, the people have continued to receive for many years a considerable income by collecting eider down, but there they do not "kill the goose that lays the golden eggs." Ducks line their nests with down plucked from their own breasts and that of the eider is particularly valuable for bedding. In Iceland, these birds

are so carefully protected that they have become as tame and unsuspicious as domestic fowls In North America. Where they are constantly hunted they often conceal their nests in the midst of weeds or bushes, but in Iceland, they make their nests and deposit their eggs in holes dug for them in the sod. A supply of the ducks is maintained so that the people derive from them an annual income

In North America, quite a different policy was pursued. The demand for feathers became so great in the New England colonies about the middle of the eighteenth century that vessels were fitted out there for the coast of Labrador for the express purpose of securing the feathers and down of wild fowl. Eider down having become valuable and these ducks being in the habit of congregating by thousands on barren islands of the Labrador coast, the birds became the victims of the ships' crews. As the ducks molt all their primary feathers at once in July or August and are then quite incapable of flight and the young birds are unable to fly until well grown, the hunters were able to surround the helpless birds, drive them together, and kill them with clubs. Otis says that millions of wildfowl were thus destroyed and that in a few years their haunts were so broken up by this wholesale slaughter and their numbers were so diminished that feather voyages became unprofitable and were given up.

This practice, followed by the almost continual eggging, clubbing, shooting, etc. by Labrador fishermen, may have been a chief factor in the extinction of the Labrador duck, that species of supposed restricted breeding range. No doubt had the eider duck been restricted in its breeding range to the islands of Labrador, it also would have been exterminated long ago.

Which of the following does the passage directly compare?

- A. The nesting habits of hunted and protected ducks
- B. The relative warmth of feathers and down as insulating materials
- C. Ducks that nest on the Labrador coast and ducks that nest in Iceland
- D. The price of down in Iceland and North America
- E. The use of eider down in bedding in North America and in Iceland

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Of the given answer choices, the passage only compares “the nesting habits of hunted and protected ducks.” It does this when the author says, “In Iceland, these birds are so carefully protected that they have become as tame and unsuspicious as domestic fowls In North America. Where they are constantly hunted they often conceal their nests in the midst of weeds or bushes, but in Iceland, they make their nests and deposit their eggs in holes dug for them in the sod.” The price of down is never mentioned in the passage, and while feathers and down are both mentioned, they are not compared. Similarly, the use of eider down in bedding is mentioned, but its use in North America and in Iceland isn’t compared. Finally, while ducks that nest on the Labrador coast and ducks that nest in Iceland are each described, they are not directly compared.

#### QUESTION 955

Adapted from "Recent Views as to Direct Action of Light on the Colors of Flowers and Fruits" in Tropical Nature, and Other Essays by Alfred Russel Wallace (1878)

The theory that the brilliant colors of flowers and fruits is due to the direct action of light has been supported by a recent writer by examples taken from the arctic instead of from the tropical flora. In the arctic regions, vegetation is excessively rapid during the short summer, and this is held to be due to the continuous action of light throughout the long summer days. “The further we advance towards the north, the more the leaves of plants increase in size as if to absorb a greater proportion of the solar rays. M. Grisebach says that during a journey in Norway he observed that the majority of deciduous trees had already, at the 60th degree of latitude, larger leaves than in Germany, while M. Ch. Martins has made a similar observation as regards the leguminous plants cultivated in Lapland.” The same writer goes on to say that all the seeds of cultivated plants acquire a deeper color the further north they are grown, white haricots becoming brown or black, and white wheat becoming brown, while the green color of all vegetation becomes more intense. The flowers also are similarly changed: those which are white or yellow in central Europe becoming red or orange in Norway. This is what occurs in the Alpine flora, and the cause is said to be the same in both – the greater intensity of the sunlight. In the one the light is more persistent, in the other more intense because it traverses a less thickness of atmosphere.

Admitting the facts as above stated to be in themselves correct, they do not by any means establish the theory founded on them; and it is curious that Grisebach, who has been quoted by this writer for the fact of the increased size of the foliage, gives a totally different explanation of the more vivid colors of Arctic flowers. He says, “We see flowers become larger and more richly colored in proportion as, by the increasing length of winter, insects become rarer, and their cooperation in the act of fecundation is exposed to more uncertain chances.” (Vegetation du Globe, col. i. p. 61–French translation.) This is the theory here adopted to explain the colors of Alpine plants, and we believe there are many facts that will show it to be the preferable one. The statement that the white and yellow flowers of temperate Europe become red or golden in the Arctic regions must we think be incorrect. By roughly tabulating the colors of the plants given by Sir Joseph Hooker as permanently Arctic, we find among fifty species with more or less conspicuous flowers, twenty-five white, twelve yellow, eight purple or blue, three lilac, and two red or pink; showing a very similar proportion of white and yellow flowers to what obtains further south.

In this passage, the author \_\_\_\_\_.

- A. disagrees with all of the writers and scientists mentioned in the passage
- B. disagrees with Martins but agrees with Grisebach
- C. agrees with all of the writers and scientists mentioned in the passage
- D. disagrees with Hooker but agrees with Martins
- E. disagrees with the "recent writer" quoted in the first paragraph, but agrees with Grisebach

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Answering this question requires you to read closely, as many theories are mentioned throughout the passage and keeping track of them can be quite challenging. In the first paragraph, the writer quotes a "recent writer," who then quotes evidence in the form of observations by M. Grisebach and M. Ch. Martins. In the second paragraph, the writer says that he agrees with the evidence of the "recent writer" (in other words, Grisebach and Martins), but not with the theory the "recent writer" has come up with to explain that evidence. So, the author disagrees with the "recent writer," but agrees with Grisebach, because the author goes on to quote Grisebach's own theory, with which the author agrees.

**QUESTION 956**

Adapted from "Humming-Birds: As Illustrating the Luxuriance of Tropical Nature" in Tropical Nature, and Other Essays by Alfred Russel Wallace (1878)

The food of hummingbirds has been a matter of much controversy. All the early writers down to Buffon believed that they lived solely on the nectar of flowers, but since that time, every close observer of their habits maintains that they feed largely, and in some cases wholly, on insects. Azara observed them on the La Plata in winter taking insects out of the webs of spiders at a time and place where there were no flowers. Bullock, in Mexico, declares that he saw them catch small butterflies, and that he found many kinds of insects in their stomachs. Waterton made a similar statement. Hundreds and perhaps thousands of specimens have since been dissected by collecting naturalists, and in almost every instance their stomachs have been found full of insects, sometimes, but not generally, mixed with a proportion of honey. Many of them in fact may be seen catching gnats and other small insects just like fly-catchers, sitting on a dead twig over water, darting off for a time in the air, and then returning to the twig. Others come out just at dusk, and remain on the wing, now stationary, now darting about with the greatest rapidity, imitating in a limited space the evolutions of the goatsuckers, and evidently for the same end and purpose. Mr. Gosse also remarks, "All the hummingbirds have more or less the habit, when in flight, of pausing in the air and throwing the body and tail into rapid and odd contortions. This is most observable in the Polytmus, from the effect that such motions have on the long feathers of the tail. That the object of these quick turns is the capture of insects, I am sure, having watched one thus engaged pretty close to me."

What do Azara, Bullock, and Waterton have in common?

- A. They are all types of hummingbirds.
- B. They are all critics of the writer and disagree with his theory.
- C. They are all scientists who think hummingbirds eat insects.
- D. They are all types of birds that eat insects.
- E. They are all scientists who think hummingbirds eat flower nectar.

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:



Azara, Bullock, and Waterton are all mentioned near the beginning of the passage. The author writes, "All the early writers down to Buffon believed that they lived solely on the nectar of flowers, but since that time, every close observer of their habits maintains that they feed largely, and in some cases wholly, on insects." He then mentioned the following:

(1) "Azara observed them on the La Plata in winter taking insects out of the webs of spiders at a time and place where there were no flowers."

(2) "Bullock, in Mexico, declares that he saw them catch small butterflies, and that he found many kinds of insects in their stomachs."

(3) "Waterton made a similar statement."

The author is suggesting that Azara, Bullock, and Waterton fall into the group of "every close observer of their habits." The three also make statements about hummingbirds. From this, we can narrow down our answers to three choices: that Azara, Bullock, and Waterton are critics of the author, scientists who think hummingbirds eat insects, or scientists who think hummingbirds eat flower nectar. Nowhere in the passage do the statements made by these writers appear to contradict the author's opinion, so we can discard the idea that Azara, Bullock, and Waterton are critics of the author. So, are they saying that hummingbirds eat flower nectar or insects? The author says that early observers of hummingbirds thought that they eat flower nectar, but that more recent scientists – like the three quoted – think that they eat insects. The statements made by each also relate to hummingbirds eating insects, so the correct answer is "They are all scientists who think hummingbirds eat insects."

**QUESTION 957**

Adapted from "Declaration of Sentiments and Resolutions" by Elizabeth Cady Stanton; Lucretia Mott; and others (1848)

We hold these truths to be self-evident: that all men and women are created equal; that they are endowed by their Creator with certain inalienable rights; that among these are life, liberty, and the pursuit of happiness; that to secure these rights governments are instituted, deriving their just powers from the consent of the governed. Whenever any form of government becomes destructive of these ends, it is the right of those who suffer from it to refuse allegiance to it, and to insist upon the institution of a new government, laying its foundation on such principles, and organizing its powers in such form, as to them shall seem most likely to affect their safety and happiness. Prudence, indeed, will dictate that governments long established should not be changed for light and transient causes; and accordingly all experience hath shown that mankind are more disposed to suffer while evils are sufferable, than to right themselves by abolishing the forms to which they accustomed. But when a long train of abuses and usurpations, pursuing invariably the same object, evinces a design to reduce them under absolute despotism, it is their duty to throw off such government, and to provide new guards for their future security. Such has been the patient sufferance of women under this government, and such is now the necessity which constrains them to demand the equal station to which they are entitled.

The word "duty" is a reference to the need for \_\_\_\_\_.

- A. honor
- B. forcefulness
- C. inaction
- D. responsibility

E. patience

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The word “duty” is used almost as incitement to action. By saying that “it is their [women’s] duty to throw off such government” she is declaring that women must be responsible for their own advancement.

#### QUESTION 958

Adapted from “Declaration of Sentiments and Resolutions” by Elizabeth Cady Stanton; Lucretia Mott; and others (1848)

We hold these truths to be self-evident: that all men and women are created equal; that they are endowed by their Creator with certain inalienable rights; that among these are life, liberty, and the pursuit of happiness; that to secure these rights governments are instituted, deriving their just powers from the consent of the governed. Whenever any form of government becomes destructive of these ends, it is the right of those who suffer from it to refuse allegiance to it, and to insist upon the institution of a new government, laying its foundation on such principles, and organizing its powers in such form, as to them shall seem most likely to affect their safety and happiness. Prudence, indeed, will dictate that governments long established should not be changed for light and transient causes; and accordingly all experience hath shown that mankind are more disposed to suffer while evils are sufferable, than to right themselves by abolishing the forms to which they accustomed. But when a long train of abuses and usurpations, pursuing invariably the same object, evinces a design to reduce them under absolute despotism, it is their duty to throw off such government, and to provide new guards for their future security. Such has been the patient sufferance of women under this government, and such is now the necessity which constrains them to demand the equal station to which they are entitled.

The use of the word “patient” in the passage’s last sentence is intended to highlight which aspect of women’s suffering?

- A. Its solutions
- B. Its depth
- C. Its brevity
- D. Its length
- E. Its causes

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The use of the word “patient” is meant to evoke a feeling in the reader that women have suffered for a long time. In order to be patient one must experience something dissatisfactory for an extensive period of time. For the sake of clarity, brevity means something quick or brief.

#### QUESTION 959

Adapted from “Letting Go,” part of A Southern Woman’s Story by Phoebe

Yates Pember (1879)

Instructing him to find the doctor immediately and hastily getting on some clothing I hurried to the scene, for Fisher was an especial favorite. He was quite a young man, of about twenty years of age, who had been wounded ten months previously, very severely, high up on the leg near the hip and who by dint of hard nursing; good food and plenty of stimulant had been given a fair chance for recovery. The bones of the broken leg had slipped together, then lapped, and nature anxious as she always is to help herself had thrown a ligature across, uniting the severed parts; but after some time the side curved out, and the wounded leg was many inches shorter than its fellow. He had remained through all his trials, stout, fresh and hearty, interesting in appearance, and so gentle-mannered and uncomplaining that we all loved him. Supported on his crutches he had walked up and down his ward for the first time since he was wounded, and seemed almost restored. That same night he turned over and uttered an exclamation of pain.

Following the nurse to his bed, and turning down the covering, a small jet of blood spurted up. The sharp edge of the splintered bone must have severed an artery. I instantly put my finger on the little orifice and awaited the surgeon. He soon came – took a long look and shook his head. The explanation was easy; the artery was imbedded in the fleshy part of the thigh and could not be taken up. No earthly power could save him.

The hardest trial of my duty was laid upon me; the necessity of telling a man in the prime of life, and fullness of strength that there was no hope for him. It was done at last, and the verdict received patiently and courageously, some directions given by which his mother would be informed of his death, and then he turned his questioning eyes upon my face.

"How long can I live?"

"Only as long as I keep my finger upon this artery." A pause ensued. God alone knew what thoughts hurried through that heart and brain, called so unexpectedly from all earthly hopes and ties. He broke the silence at last.

"You can let go—"

But I could not. Not if my own life had trembled in the balance. Hot tears rushed to my eyes, a surging sound to my ears, and a deathly coldness to my lips. The pang of obeying him was spared me, and for the first and last time during the trials that surrounded me for four years, I fainted away. No words can do justice to the uncomplaining nature of the Southern soldier. Whether it arose from resignation or merely passive submission, yet when shown in the aggregate in a hospital, it was sublime. Day after day, whether lying wasted by disease or burning up with fever, torn with wounds or sinking from debility, a groan was seldom heard. The wounded wards would be noisily gay with singing, laughing, fighting battles o’er and o’er again, and playfully chaffing each other by decrying the troops from different States, each man applauding his own.

The description of nature as “anxious” serves to \_\_\_\_\_ nature.



- A. condemn
- B. personify
- C. dramatize
- D. demonize
- E. elevate

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

By affixing a human characteristic to nature the author is personifying nature. To personify means to ascribe human qualities to something abstract. To condemn means to consider someone guilty; demonize means to compare someone to a real or abstract evil; elevate means to raise something or someone up; dramatize is make more dramatic.

#### QUESTION 960

Adapted from An Account of the Remarkable Occurrences in the Life and Travels of Col. James Smith, (Late a Citizen of Bourbon County, Kentucky,) during his Captivity with the Indians, in the Years 1755, '56, '57, '58, & '59 by James Smith (1799; ed. Glugg & Elliott, 1834)

After the departure of these warriors we had hard times; and though we were not altogether out of provisions, we were brought to short allowance. At length Tontileaugo had considerable success, and we had meat brought into camp sufficient to last ten days. Tontileaugo then took me with him in order to encamp some distance from this winter-cabin, to try his luck there. We carried no provisions with us; he said he would leave what was there for the women and children, and that we could shift for ourselves. We steered about a south course up the waters of this creek, and encamped about ten or twelve miles from the winter-cabin. As it was still cold weather, and a crust upon the snow, which made a noise as we walked, and alarmed the deer, we could kill nothing, and consequently went to sleep without supper. The only chance we had, under these circumstances, was to hunt bear-holes; as the bears, about Christmas, search out a winter lodgingplace, where they lie about three or four months without eating or drinking. This may appear to some incredible, but it is well known to be the case by those who live in the remote western parts of North America.

The next morning early we proceeded on, and when we found a tree scratched by the bears climbing up, and the hole in the tree sufficiently large for the reception of the bear, we then felled a sapling or small tree against or near the hole, and it was my business to climb up and drive out the bear, while Tontileaugo stood ready with his gun and bow. We went on in this manner until evening without success. At length we found a large elm scratched, and a hole in it about forty feet up, but no tree nigh suitable to lodge against the hole. Tontileaugo got a long pole and some dry rotten wood, which he tied in bunches with bark; and as there was a tree that grew near the elm, and extended up near the hole, but leaned the wrong way, so that we could not lodge it to advantage, to remedy this inconvenience he climbed up this tree and carried with him his rotten wood, fire, and pole. The rotten wood he tied to his belt, and to one end of the pole he tied a hook and a piece of rotten wood, which he set fire to, as it would retain fire almost like punk, and reached this hook from limb to limb as he went up. When he got up with his pole he put dry wood on fire into the hole; after he put in the fire he heard the bear snuff, and he came speedily down, took his gun in his hand, and waited until the bear would come out; when it did appear he attempted taking sight with his rifle; but it being then too dark to see the sights, he set it down by a tree, and instantly bent his bow, took hold of an arrow, and shot the bear a little behind the shoulder. I was preparing also to shoot an arrow, but he called to me to stop, there was no occasion; and with that the bear fell to the ground. Being very hungry, we kindled a fire, opened the bear, took out the liver, and wrapped some of the caul-fat round, and put it on a wooden spit, which we stuck in the ground by the fire to roast; then we skinned the bear, got on our kettle, and had both roast and boiled, and also sauce to our meat, which appeared to me to be delicate fare. After I was fully satisfied I went to sleep; Tontileaugo awoke me, saying, "Come, eat hearty, we have got meat plenty now."

The next morning we cut down a lynn-tree, peeled bark and made a snug little shelter, facing the southeast, with a large log betwixt us and the northwest; we made a good fire before us, and scaffolded up our meat at one side. When we had finished our camp we went out to hunt; searched two trees for bears, but to no purpose. As the snow thawed a little in the afternoon, Tontileaugo killed a deer, which we carried with us to camp.

Sometime in February the four warriors returned, who had taken two scalps and six horses from the frontiers of Pennsylvania. The hunters could then scatter out a considerable distance from the winter-cabin and encamp, kill meat, and bring it in upon horses; so that we commonly, after this, had plenty of provision.

Which of the following statements about “punk” is supported by the passage’s second paragraph?

- A. It is a piece of wood so decayed that it is good for tinder.
- B. It is fresh green wood that holds a flame well.
- C. It is rotten wood that holds a flame for a short time.
- D. It is an inferior type of tree that makes good firewood.
- E. It is wood which burns quickly when set alight.

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Looking at the passage, it states that “the rotten wood he tied to his belt, and to one end of the pole he tied a hook and a piece of rotten wood, which he set fire to, as it would retain fire almost like punk”; from this, we can tell that “punk” is most likely something which can hold fire for a long time. If we add to this the fact that the wood is rotten or decayed, we can figure out the correct answer, "It is a piece of wood so decayed that it is good for tinder."

#### QUESTION 961

Adapted from An Account of the Remarkable Occurrences in the Life and Travels of Col. James Smith, (Late a Citizen of Bourbon County, Kentucky,) during his Captivity with the Indians, in the Years 1755, '56, '57, '58, & '59 by James

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After the departure of these warriors we had hard times; and though we were not altogether out of provisions, we were brought to short allowance. At length Tontileaugo had considerable success, and we had meat brought into camp sufficient to last ten days. Tontileaugo then took me with him in order to encamp some distance from this winter-cabin, to try his luck there. We carried no provisions with us; he said he would leave what was there for the women and children, and that we could shift for ourselves. We steered about a south course up the waters of this creek, and encamped about ten or twelve miles from the winter-cabin. As it was still cold weather, and a crust upon the snow, which made a noise as we walked, and alarmed the deer, we could kill nothing, and consequently went to sleep without supper. The only chance we had, under these circumstances, was to hunt bear-holes; as the bears, about Christmas, search out a winter lodgingplace, where they lie about three or four months without eating or drinking. This may appear to some incredible, but it is well known to be the case by those who live in the remote western parts of North America.

The next morning early we proceeded on, and when we found a tree scratched by the bears climbing up, and the hole in the tree sufficiently large for the reception of the bear, we then felled a sapling or small tree against or near the hole, and it was my business to climb up and drive out the bear, while Tontileaugo stood ready with his gun and bow. We went on in this manner until evening without success. At length we found a large elm scratched, and a hole in it about forty feet up, but no tree high suitable to lodge against the hole. Tontileaugo got a long pole and some dry rotten wood, which he tied in bunches with bark; and as there was a tree that grew near the elm, and extended up near the hole, but leaned the wrong way, so that we could not lodge it to advantage, to remedy this inconvenience he climbed up this tree and carried with him his rotten wood, fire, and pole. The rotten wood he tied to his belt, and to one end of the pole he tied a hook and a piece of rotten wood, which he set fire to, as it would retain fire almost like punk, and reached this hook from limb to limb as he went up. When he got up with his pole he put dry wood on fire into the hole; after he put in the fire he heard the bear snuff, and he came speedily down, took his gun in his hand, and waited until the bear would come out; when it did appear he attempted taking sight with his rifle; but it being then too dark to see the sights, he set it down by a tree, and instantly bent his bow, took hold of an arrow, and shot the bear a little behind the shoulder. I was preparing also to shoot an arrow, but he called to me to stop, there was no occasion; and with that the bear fell to the ground. Being very hungry, we kindled a fire, opened the bear, took out the liver, and wrapped some of the caul-fat round, and put it on a wooden spit, which we stuck in the ground by the fire to roast; then we skinned the bear, got on our kettle, and had both roast and boiled, and also sauce to our meat, which appeared to me to be delicate fare. After I was fully satisfied I went to sleep; Tontileaugo awoke me, saying, "Come, eat hearty, we have got meat plenty now."

The next morning we cut down a lynn-tree, peeled bark and made a snug little shelter, facing the southeast, with a large log betwixt us and the northwest; we made a good fire before us, and scaffolded up our meat at one side. When we had finished our camp we went out to hunt; searched two trees for bears, but to no purpose. As the snow thawed a little in the afternoon, Tontileaugo killed a deer, which we carried with us to camp.

Sometime in February the four warriors returned, who had taken two scalps and six horses from the frontiers of Pennsylvania. The hunters could then scatter out a considerable distance from the winter-cabin and encamp, kill meat, and bring it in upon horses; so that we commonly, after this, had plenty of provision.

Which of these is the best antonym of the underlined word “snug” as it is used in this passage?

- A. Somnolent
- B. Warm
- C. Comfortless
- D. Despotic
- E. Reeking

**Correct Answer:** C

**Section:** Reading

**Explanation**



**Explanation/Reference:**

Explanation:

The shelter they build in the fourth paragraph is “snug,” meaning comfortable or cozy. The opposite, or antonym, of this is “comfortless.” The shelter appears to be a good one as it is facing in the direction of the rising sun and has ample space for their habitations. None of the other answer choices work as antonyms of “snug”: “reeking” means smelling strongly; “despotic” means autocratic or controlling many people harshly; and “somnolent” means tired or sleepy.

#### QUESTION 962

Adapted from The Condition of the Working-Class in England in 1844 by Friedrich Engels (ed. 1892, trans. Wischnewetzky)

The order of our investigation of the different sections of the proletariat follows naturally from the foregoing history of its rise. The first proletarians were connected with manufacture, were engendered by it, and accordingly, those employed in manufacture, in the working up of raw materials, will first claim our attention. The production of raw materials and of fuel for manufacture attained importance only in consequence of the industrial change, and engendered a new proletariat, the coal and metal miners. Then, in the third place, manufacture influenced agriculture, and in the fourth, the condition of Ireland; and the fractions of the proletariat belonging to each, will find their place accordingly. We shall find, too, that the factory hands are most enlightened as to their own interests, the miners somewhat less so, the agricultural laborers scarcely at all. We shall find the same order again among the industrial workers, and shall see how the factory hands, eldest children of the industrial revolution, have from the beginning to the present day formed the nucleus of the Labour Movement, and how the others have joined this movement just in proportion as their handicraft has been invaded by the progress of machinery. We shall thus learn from the example which England offers, from the equal pace which the Labour Movement has kept with the movement of industrial development, the historical significance of manufacture.

Since, however, at the present moment, pretty much the whole industrial proletariat is involved in the movement, and the condition of the separate sections has much in common, because they all are industrial, we shall have first to examine the condition of the industrial proletariat as a whole, in order later to notice more particularly each separate division with its own peculiarities.

It has been already suggested that manufacture centralizes property in the hands of the few. It requires large capital with which to erect the colossal establishments that ruin the petty trading bourgeoisie and with which to press into its service the forces of Nature, so driving the hand labour of the independent workman out of the market. The division of labour, the application of water and especially steam, and the application of machinery, are the three great levers with which manufacture, since the middle of the last century, has been busy putting the world out of joint. Manufacture, on a small scale, created the middle-class; on a large scale, it created the working-class, and raised the elect of the middle-class to the throne, but only to overthrow them the more surely when the time comes. Meanwhile, it is an undeniable and easily explained fact that the numerous, petty middle-class of the “good old times” has been annihilated by manufacture, and resolved into rich capitalists on the one hand and poor workers on the other.

The centralizing tendency of manufacture does not, however, stop here. Population becomes centralized just as capital does; and, very naturally, since the human being, the worker, is regarded in manufacture simply as a piece of capital for the use of which the manufacturer pays interest under the name of wages. A manufacturing establishment requires many workers employed together in a single building, living near each other and forming a village of themselves in the case of a good-sized factory. They have needs for satisfying which other people are necessary; handicraftsmen, shoemakers, tailors, bakers, carpenters, stonemasons, settle at hand. The inhabitants of the village, especially the younger generation, accustom themselves to factory work, grow skillful in it, and when the first mill can no longer employ them all, wages fall, and the immigration of fresh manufacturers is the consequence. So the village grows into a small town, and the small town into a large one. The greater the town, the greater its advantages. It offers roads, railroads, canals; the choice of skilled labour increases constantly, new establishments can be built more cheaply because of the competition among builders and machinists who are at hand, than in remote country districts, whither timber, machinery, builders, and operatives must be brought; it offers a market to which buyers crowd, and direct communication with the markets supplying raw

material or demanding finished goods. Hence the marvelously rapid growth of the great manufacturing towns. The country, on the other hand, has the advantage that wages are usually lower than in town, and so town and country are in constant competition; and, if the advantage is on the side of the town to-day, wages sink so low in the country to-morrow, that new investments are most profitably made there. But the centralizing tendency of manufacture continues in full force, and every new factory built in the country bears in it the germ of a manufacturing town. If it were possible for this mad rush of manufacture to go on at this rate for another century, every manufacturing district of England would be one great manufacturing town, and Manchester and Liverpool would meet at Warrington or Newton; for in commerce, too, this centralization of the population works in precisely the same way, and hence it is that one or two great harbors, such as Hull and Liverpool, Bristol, and London, monopolize almost the whole maritime commerce of Great Britain.

The best antonym for the underlined word “whither” as it is used in the third paragraph is \_\_\_\_\_.

- A. wherever
- B. whereabouts
- C. grow
- D. diminish
- E. whence

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

In this context, “whither” means to what place. The opposite of this would be “whence,” which means from what place. As an example, one might write, “Steve was not sure whence his good fortune came.” To further help you, to “diminish” means to get smaller.

### QUESTION 963

Adapted from The Condition of the Working-Class in England in 1844 by Friedrich Engels (ed. 1892, trans. Wischnewetzky)

The order of our investigation of the different sections of the proletariat follows naturally from the foregoing history of its rise. The first proletarians were connected with manufacture, were engendered by it, and accordingly, those employed in manufacture, in the working up of raw materials, will first claim our attention. The production of raw materials and of fuel for manufacture attained importance only in consequence of the industrial change, and engendered a new proletariat, the coal and metal miners. Then, in the third place, manufacture influenced agriculture, and in the fourth, the condition of Ireland; and the fractions of the proletariat belonging to each, will find their place accordingly. We shall find, too, that the factory hands are most enlightened as to their own interests, the miners somewhat less so, the agricultural laborers scarcely at all. We shall find the same order again among the industrial workers, and shall see how the factory hands, eldest children of the industrial revolution, have from the beginning to the present day formed the nucleus of the Labour Movement, and how the others have joined this movement just in proportion as their handicraft has been invaded by the progress of machinery. We shall thus learn from the example which England offers, from the equal pace which the Labour Movement has kept with the movement of industrial development, the historical significance of manufacture. Since, however, at the present moment, pretty much the whole industrial proletariat is involved in the movement, and the condition of the separate sections has much in common, because they all are industrial, we shall have first to examine the condition of the industrial proletariat as a whole, in order later to notice more particularly each separate division with its own peculiarities.

It has been already suggested that manufacture centralizes property in the hands of the few. It requires large capital with which to erect the colossal establishments that ruin the petty trading bourgeoisie and with which to press into its service the forces of Nature, so driving the hand labour of the independent workman out of the market. The division of labour, the application of water and especially steam, and the application of machinery, are the three great levers with which manufacture, since the middle of the last century, has been busy putting the world out of joint. Manufacture, on a small scale, created the middle-class; on a large scale, it created the working-class, and raised the elect of the middle-class to the throne, but only to overthrow them the more surely when the time comes. Meanwhile, it is an undeniable and easily explained fact that the numerous, petty middle-class of the “good old times” has been annihilated by manufacture, and resolved into rich capitalists on the one hand and poor workers on the other.

The centralizing tendency of manufacture does not, however, stop here. Population becomes centralized just as capital does; and, very naturally, since the human being, the worker, is regarded in manufacture simply as a piece of capital for the use of which the manufacturer pays interest under the name of wages. A manufacturing establishment requires many workers employed together in a single building, living near each other and forming a village of themselves in the case of a good-sized factory. They have needs for satisfying which other people are necessary; handicraftsmen, shoemakers, tailors, bakers, carpenters, stonemasons, settle at hand. The inhabitants of the village, especially the younger generation, accustom themselves to factory work, grow skillful in it, and when the first mill can no longer employ them all, wages fall, and the immigration of fresh manufacturers is the consequence. So the village grows into a small town, and the small town into a large one. The greater the town, the greater its advantages. It offers roads, railroads, canals; the choice of skilled labour increases constantly, new establishments can be built more cheaply because of the competition among builders and machinists who are at hand, than in remote country districts, whither timber, machinery, builders, and operatives must be brought; it offers a market to which buyers crowd, and direct communication with the markets supplying raw material or demanding finished goods. Hence the marvelously rapid growth of the great manufacturing towns. The country, on the other hand, has the advantage that wages are usually lower than in town, and so town and country are in constant competition; and, if the advantage is on the side of the town to-day, wages sink so low in the country to-morrow, that new investments are most profitably made there. But the centralizing tendency of manufacture continues in full force, and every new factory built in the country bears in it the germ of a manufacturing town. If it were possible for this mad rush of manufacture to go on at this rate for another century, every manufacturing district of England would be one great manufacturing town, and Manchester and Liverpool would meet at Warrington or Newton; for in commerce, too, this centralization of the population works in precisely the same way, and hence it is that one or two great harbors, such as Hull and Liverpool, Bristol, and London, monopolize almost the whole maritime commerce of Great Britain.

As it is used in the passage, the underlined word “germ” in the fourth paragraph most nearly means \_\_\_\_\_.

- A. idea
- B. power
- C. source
- D. disease
- E. microbe

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

In the sentence the author is suggesting that every factory has within it the seed or inspiration of a manufacturing town. The best synonym, or the word which most nearly replicates the meaning of the word as it is used, is “source.” In this context, the word “germ” is more accurately related to the word “germinate” which means grow or sprout, than it is to a “germ” which is a microbe that spreads disease.

**QUESTION 964** Adapted from A Vindication of the Rights of Woman by Mary Wollstonecraft (1792)

In the middle rank of life, to continue the comparison, men, in their youth, are prepared for professions, and marriage is not considered as the grand feature in their lives; whilst women, on the contrary, have no other scheme to sharpen their faculties. It is not business, extensive plans, or any of the excursive flights of ambition, that engross their attention; no, their thoughts are not employed in rearing such noble structures. To rise in the world, and have the liberty of running from pleasure to pleasure, they must marry advantageously, and to this object their time is sacrificed, and their persons often legally prostituted. A man when he enters any profession has his eye steadily fixed on some future advantage (and the mind gains great strength by having all its efforts directed to one point) and, full of his business, pleasure is considered as mere relaxation; whilst women seek for pleasure as the main purpose of existence. In fact, from the education, which they receive from society, the love of pleasure may be said to govern them all; but does this prove that there is a sex in souls? It would be just as rational to declare that the courtiers in France, when a destructive system of despotism had formed their character, were not men, because liberty, virtue, and humanity, were sacrificed to pleasure and vanity. Fatal passions, which have ever domineered over the whole race!

The same love of pleasure, fostered by the whole tendency of their education, gives a trifling turn to the conduct of women in most circumstances: for instance, they are ever anxious about secondary things; and on the watch for adventures, instead of being occupied by duties.

A man, when he undertakes a journey, has, in general, the end in view; a woman thinks more of the incidental occurrences, the strange things that may possibly occur on the road; the impression that she may make on her fellow-travellers; and, above all, she is anxiously intent on the care of the finery that she carries with her, which is more than ever a part of herself, when going to figure on a new scene; when, to use an apt French turn of expression, she is going to produce a sensation. Can dignity of mind exist with such trivial cares? This observation should not be confined to the fair sex; however, at present, I only mean to apply it to them.

As it is used in the first paragraph, the underlined word “faculties” most nearly means \_\_\_\_\_.

- A. abilities
- B. installations
- C. considerations
- D. staff
- E. dreams



**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The author is comparing women and their pursuits to men and their pursuits. Men have careers whilst, other than marriage, women “have no other scheme to sharpen their faculties.” In this context, “abilities” is the closest listed synonym of “faculties.” If “staff” was chosen, then the association was with faculties of staff in schools whereas the passage is implying something more akin to mental faculties, which can be inferred from close reading.

**QUESTION 965**

Adapted from "Federalist No. 46. The Influence of the State and Federal Governments Compared" by James Madison in The Federalist Papers by Alexander Hamilton, James Madison, and John Jay (1788)

I proceed to inquire whether the federal government or the state governments will have the advantage with regard to the predilection and support of the people. Notwithstanding the different modes in which they are appointed, we must consider both of them as substantially dependent on the great body of the citizens of the United States. I assume this position here as it respects the first, reserving the proofs for another place. The federal and state governments are in fact but different agents and trustees of the people, constituted with different powers, and designed for different purposes. The adversaries of the Constitution seem to have lost sight of the people altogether in their reasonings on this subject, and to have viewed these different establishments not only as mutual rivals and enemies, but as uncontrolled by any common superior in their efforts to usurp the authorities of each other. These gentlemen must here be reminded of their error. They must be told that the ultimate authority, wherever the derivative may be found, resides in the people alone, and that it will not depend merely on the comparative ambition or address of the different governments, whether either, or which of them, will be able to enlarge its sphere of jurisdiction at the expense of the other. Truth, no less than decency, requires that the event in every case should be supposed to depend on the sentiments and sanction of their common constituents.

What is the meaning of the underlined word “predilection” in its context?

- A. Election
- B. Ignorance
- C. Preference
- D. Opposition
- E. Assistance



**Correct Answer:** C  
**Section:** Reading  
**Explanation**

**Explanation/Reference:**  
Explanation:

"Propensity" is used in the first sentence of the passage, in which the author states, "I proceed to inquire whether the federal government or the state governments will have the advantage with regard to the predilection and support of the people." Now, we can tell from the structure of the sentence that "predilection" must mean something like "support"; knowing this, we can eliminate a few answer choices: "opposition," which wouldn't make sense because it's the opposite of "support," while the word we're looking for must be somewhat similar in meaning; "ignorance," which is not close in meaning to "support" and wouldn't make sense in the sentence's context; and "election," which while it sounds similar to "predilection," again doesn't make sense in context. This leaves us with "preference" and "assistance." While "assistance" is very close in meaning to "support," it wouldn't make sense for the writer to use the two exact synonyms alongside each other like in the sentence; it would be redundant, like saying "The homework assignment was simple and easy." So, by narrowing down our answer choices carefully, we can conclude that "predilection" is most similar in meaning to "preference." This is absolutely true; "predilection" means bias toward or propensity for. If I have a predilection for breakfast foods and you offer me breakfast, lunch, or dinner, I'll choose breakfast.

#### QUESTION 966

Adapted from "Federalist No. 46. The Influence of the State and Federal Governments Compared" by James Madison in The Federalist Papers by Alexander Hamilton, James Madison, and John Jay (1788)

Many considerations, besides those suggested on a former occasion, seem to place it beyond doubt that the first and most natural attachment of the people will be to the governments of their respective states. Into the administration of these a greater number of individuals will expect to rise. From the gift of these a greater number of offices and emoluments will flow. By the superintending care of these, all the more domestic and personal interests of the people will be regulated and provided for. With the affairs of these, the people will be more familiarly and minutely conversant. And with the members of these, will a greater proportion of the people have the ties of personal acquaintance and friendship, and of family and party attachments; on the side of these, therefore, the popular bias may well be expected most strongly to incline. Experience speaks the same language in this case. The federal administration, though hitherto very defective in comparison with what may be hoped under a better system, had, during the war, and particularly whilst the independent fund of paper emissions was in credit, an activity and importance as great as it can well have in any future circumstances whatever. It was engaged, too, in a course of measures which had for their object the protection of everything that was dear and the acquisition of everything that could be desirable to the people at large. It was, nevertheless, invariably found, after the transient enthusiasm for the early Congresses was over, that the attention and attachment of the people were turned anew to their own particular governments; that the federal council was at no time the idol of popular favor; and that opposition to proposed enlargements of its powers and importance was the side usually taken by the men who wished to build their political consequence on the prepossessions of their fellow-citizens.

Based on the context in which it is used, what is the meaning of the underlined word "hitherto"?

- A. favorably
- B. unsurprisingly
- C. potentially
- D. so far
- E. quickly



**Correct Answer:** D  
**Section:** Reading  
**Explanation**

**Explanation/Reference:**  
Explanation:

"Hitherto" appears in the second sentence of the second paragraph, "The federal administration, though hitherto very defective in comparison with what may be hoped under a better system, had, during the war, and particularly whilst the independent fund of paper emissions was in credit, an activity and importance as great as it can well have in any future circumstances whatever." In order to figure out what "hitherto" means, we need only concern ourselves with the beginning of this sentence, ""The federal administration, though hitherto very defective in comparison with what may be hoped under a better system, had . . ." A comparison is being made using "hitherto" in the interrupting phrase, and the thing that "hitherto very defective" is being compared to is "what may be hoped under a better system." So, the potentially better future system is being compared with a system that has been "hitherto" very defective. This suggests that "hitherto" has to do with time, narrowing our answer choices to "so far," "potentially," and "quickly," and more specifically, that the past in comparison with future possibilities. Thus, "so far" is the best answer.

**QUESTION 967** Adapted from Harvard University Address by Booker T. Washington (1896)

Why you have called me from the Black Belt of the South, from among my humble people, to share in the honors of this occasion, is not for me to explain; and yet it may not be inappropriate for me to suggest that it seems to me that one of the most vital questions that touch our American life, is how to bring the strong, wealthy and learned into helpful touch with the poorest, most ignorant, and humble and at the same time, make the one appreciate the vitalizing, strengthening influence of the other.

How shall we make the mansions on Beacon street feel and see the need of the spirits in the lowliest cabin in the Alabama cotton fields or the Louisiana sugar bottoms? This problem Harvard University is solving, not by bringing itself down, but by bringing the masses up.

If through me, an humble representative, seven millions of my people in the South might be permitted to send a message to Harvard – Harvard that offered up on death's altar, young Shaw, and Russell, and Lowell and scores of others, that we might have a free and united country, that message would be: Tell them that the sacrifice was not in vain. Tell them that by the way of the shop, the field, the skilled hand, habits of thrift and economy, by way of industrial school and college, we are coming.

We are crawling up, working up, yea, bursting up. Often through oppression, unjust discrimination and prejudice, but through them all we are coming up, and with proper habits, intelligence and property, there is no power on earth that can permanently stay our progress.

As it is used in the passage's last sentence, the underlined word “stay” most nearly means \_\_\_\_\_.

- A. continue
- B. wait
- C. halt
- D. reside
- E. live

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

From the context of the sentence you know that the author of this passage is describing how the poor are being elevated through their own hard work and that the author feels that their progress is somewhat inevitable. This should indicate that by “stay” the author means nothing can “halt” their progress.

#### QUESTION 968

Adapted from The Man with the Muck-Rake by Theodore Roosevelt (1906)

There are in the body politic, economic and social, many and grave evils, and there is urgent necessity for the sternest war upon them. There should be relentless exposure of and attack upon every evil man, whether politician or business man, every evil practice, whether in politics, business, or social life. I hail as a benefactor every writer or speaker, every man who, on the platform or in a book, magazine, or newspaper, with merciless severity makes such attack, provided always that he in his turn remembers that the attack is of use only if it is absolutely truthful.

The liar is no whit better than the thief, and if his mendacity takes the form of slander he may be worse than most thieves. It puts a premium upon knavery untruthfully to attack an honest man, or even with hysterical exaggeration to assail a bad man with untruth. An epidemic of indiscriminate assault upon character does no good, but very great harm. The soul of every scoundrel is gladdened whenever an honest man is assailed, or even when a scoundrel is untruthfully assailed.

The word “mendacity” most nearly means \_\_\_\_\_.

- A. consternation
- B. encouragement
- C. dishonesty
- D. vilification
- E. truthfulness

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The word “mendacity” refers to telling lies or deliberate untruthfulness. The correct answer is therefore “dishonesty.” If you were unsure of the definition of “mendacity” it would become necessary to read-in-context to determine the meaning of the word. The author states that “The liar is no whit better than the thief, and if his mendacity takes the form of slander he may be worse than most thieves.” You can therefore observe that “his mendacity” belongs to “the liar.” This means that mendacity must refer to a characteristic of a liar, such as dishonesty. Vilification refers to harsh criticism; consternation means dismay.

#### QUESTION 969

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There are in the body politic, economic and social, many and grave evils, and there is urgent necessity for the sternest war upon them. There should be relentless exposure of and attack upon every evil man, whether politician or business man, every evil practice, whether in politics, business, or social life. I hail as a benefactor every writer or speaker, every man who, on the platform or in a book, magazine, or newspaper, with merciless severity makes such attack, provided always that he in his turn remembers that the attack is of use only if it is absolutely truthful.

The liar is no whit better than the thief, and if his mendacity takes the form of slander he may be worse than most thieves. It puts a premium upon knavery untruthfully to attack an honest man, or even with hysterical exaggeration to assail a bad man with untruth. An epidemic of indiscriminate assault upon character does no good, but very great harm. The soul of every scoundrel is gladdened whenever an honest man is assailed, or even when a scoundrel is untruthfully assailed.

The word “assail” most nearly means \_\_\_\_\_.

- A. protect

- B. indoctrinate
- C. encourage
- D. praise
- E. accuse

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The word “assail” generally refers to an attack on someone’s character. The correct answer is therefore “accuse.” If you did not know this definition it would become necessary to read-in-context to determine the correct answer. The paragraph that contains the word “assail” discusses attacks and assaults on character and very little else. So when you read the sentence “The soul of every scoundrel is gladdened whenever an honest man is assailed . . .” it should clue you in that in this context “assail” means “to accuse.”

**QUESTION 970** "The Sociology of Deviance" by Joseph Ritchie (2014)

Sociologically, deviance is defined as behaviors or actions that violate informal or formal social sanctions. A formal social sanction is one set by a proper authority, such as a state or federal legislature. Formal laws and sanctions are often enforced and propagated by an official body or organization, such as police departments and court houses. Informal sanctions are known as "folkways" and "mores." Informal sanctions are not proposed as law and are enforced by informal means such as exclusion, avoidance, or negative sentiments. Deviance and the enforcement of social norms, both formal and informal, play important roles in the construction of society and its values.

Sociologist Emile Durkheim hypothesized that deviance is an important and necessary part of the organization of society. He stated that deviance performs the following functions: it affirms cultural norms, defines moral boundaries, strengthens society’s bonds through its enforcement, and advances social revolution. This is considered to be a structural-functionalist theory because it outlines deviance’s function in the structure and construction of society.

Robert Merton outlined deviance as the product of the interactions between an individual’s cultural goals and the means to obtain these goals as produced by society or institutions. Cultural goals can be described as financial success, acquisition of academic degrees, or the pursuit of "the American Dream." Institutionalized means are best described as society’s proposed paths to achieve cultural goals. Merton hypothesized that the acceptance or rejection of cultural goals and institutionalized means of achievement defined an individual's level of deviance. Conformists accept cultural norms and institutionalized means while retreatists reject both norms and means. An innovator will accept cultural goals but reject the institutionalized means to obtain them. A ritualist will embrace the rules set forth by society but will lose sight of and reject cultural norms. Lastly, rebellious individuals will create a counter-culture that not only rejects a society's goals and means, but also creates new cultural norms and means to achieve these goals.

Deviance plays a role in society that has been studied by various sociologists. Some feel that it is a necessary element utilized in the structure and function of society, while others feel that it defines an individual's outlook on societal norms and means of achievement. Deviance can be described as behavior that goes against the grain of conduct deemed acceptable by society. The phenomena that exist in its composition and purpose will continue to be studied by researchers in an effort to better understand society and culture.

"Folkways" and "mores" are best described as which of the following terms?

- A. Formal social sanctions
- B. Laws
- C. Theories
- D. Felonies
- E. Informal social sanctions

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

In its first paragraph, the passage describes "folkways" and "mores" as informal social sanctions. These informal sanctions are enforced by informal means. They are not proposed laws set forth by government legislature.

**QUESTION 971** "The Sociology of Deviance" by Joseph Ritchie (2014)

Sociologically, deviance is defined as behaviors or actions that violate informal or formal social sanctions. A formal social sanction is one set by a proper authority, such as a state or federal legislature. Formal laws and sanctions are often enforced and propagated by an official body or organization, such as police departments and court houses. Informal sanctions are known as "folkways" and "mores." Informal sanctions are not proposed as law and are enforced by informal means such as exclusion, avoidance, or negative sentiments. Deviance and the enforcement of social norms, both formal and informal, play important roles in the construction of society and its values.

Sociologist Emile Durkheim hypothesized that deviance is an important and necessary part of the organization of society. He stated that deviance performs the following functions: it affirms cultural norms, defines moral boundaries, strengthens society’s bonds through its enforcement, and advances social revolution. This is considered to be a structural-functionalist theory because it outlines deviance’s function in the structure and construction of society.

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and institutionalized means of achievement defined an individual's level of deviance. Conformists accept cultural norms and institutionalized means while retreatists reject both norms and means. An innovator will accept cultural goals but reject the institutionalized means to obtain them. A ritualist will embrace the rules set forth by society but will lose sight of and reject cultural norms. Lastly, rebellious individuals will create a counter-culture that not only rejects a society's goals and means, but also creates new cultural norms and means to achieve these goals.

Deviance plays a role in society that has been studied by various sociologists. Some feel that it is a necessary element utilized in the structure and function of society, while others feel that it defines an individual's outlook on societal norms and means of achievement. Deviance can be described as behavior that goes against the grain of conduct deemed acceptable by society. The phenomena that exist in its composition and purpose will continue to be studied by researchers in an effort to better understand society and culture.

Which of the following represents behaviors or actions that violate informal and formal social sanctions?

- A. Folkways
- B. Deviance
- C. Mores
- D. Goals
- E. Sociology

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Deviance is defined in the first paragraph of the passage. The passage states that deviance is best described as behaviors that violate social sanctions. This answer is supported by the passage.

**QUESTION 972** Adapted from “Letting Go,” part of A Southern Woman’s Story by Phoebe

Yates Pember (1879)

Instructing him to find the doctor immediately and hastily getting on some clothing I hurried to the scene, for Fisher was an especial favorite. He was quite a young man, of about twenty years of age, who had been wounded ten months previously, very severely, high up on the leg near the hip and who by dint of hard nursing; good food and plenty of stimulant had been given a fair chance for recovery. The bones of the broken leg had slipped together, then lapped, and nature anxious as she always is to help herself had thrown a ligature across, uniting the severed parts; but after some time the side curved out, and the wounded leg was many inches shorter than its fellow. He had remained through all his trials, stout, fresh and hearty, interesting in appearance, and so gentle-mannered and uncomplaining that we all loved him. Supported on his crutches he had walked up and down his ward for the first time since he was wounded, and seemed almost restored. That same night he turned over and uttered an exclamation of pain.

Following the nurse to his bed, and turning down the covering, a small jet of blood spurted up. The sharp edge of the splintered bone must have severed an artery. I instantly put my finger on the little orifice and awaited the surgeon. He soon came- – took a long look and shook his head. The explanation was easy; the artery was imbedded in the fleshy part of the thigh and could not be taken up. No earthly power could save him.

The hardest trial of my duty was laid upon me; the necessity of telling a man in the prime of life, and fullness of strength that there was no hope for him. It was done at last, and the verdict received patiently and courageously, some directions given by which his mother would be informed of his death, and then he turned his questioning eyes upon my face.

"How long can I live?"

"Only as long as I keep my finger upon this artery." A pause ensued. God alone knew what thoughts hurried through that heart and brain, called so unexpectedly from all earthly hopes and ties. He broke the silence at last.

"You can let go—"

But I could not. Not if my own life had trembled in the balance. Hot tears rushed to my eyes, a surging sound to my ears, and a deathly coldness to my lips. The pang of obeying him was spared me, and for the first and last time during the trials that surrounded me for four years, I fainted away. No words can do justice to the uncomplaining nature of the Southern soldier. Whether it arose from resignation or merely passive submission, yet when shown in the aggregate in a hospital, it was sublime. Day after day, whether lying wasted by disease or burning up with fever, torn with wounds or sinking from debility, a groan was seldom heard. The wounded wards would be noisily gay with singing, laughing, fighting battles o'er and o'er again, and playfully chaffing each other by decrying the troops from different States, each man applauding his own.

The word “sublime” most nearly means \_\_\_\_\_.

- A. divine
- B. ridiculous
- C. complete
- D. influential
- E. beautiful

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:



The author uses the word “sublime” to describe the uncomplaining nature of the Southern soldier. From the context of the whole passage you can infer that the author could only be attributing a positive attribute to the Southern soldier so a few answer choices can be ruled out – namely complete, ridiculous, and influential. That leaves divine and beautiful. If you know the meaning of the word “sublime” you know it is much closer to beautiful; however, if you did not know it would be necessary to guess. Seeing as the author makes little reference to divinity or God, it should seem more likely that the correct answer is beautiful.

**QUESTION 973** "Goffman's Theory of Institutions" by Joseph Ritchie (2014)

Sociological inquiry often investigates members of society considered to be on its outer edges. These individuals often live in precarious and vulnerable situations. Traditionally, sociologists have studied these groups to gain insight into the lives of people who are forgotten victims of the blind eye of society. In 1961, Erving Goffman published the book *Asylums: Essays on the Social Situation of Mental Patients and Other Inmates*. This book outlined the theory of a total institution as seen in prisons and asylums. Goffman's interests and theory helped to reveal the inner mechanics of asylums and the process of institutionalization that takes place within a total institution. According to Goffman's observations and subsequent theories, a total institution seeks to erode the relationships of an individual with the outside world and consume their personal identities and daily activities. The end goal of a total institution is to break down and deconstruct the barriers that separate the spheres of sleep, play, and work in an individual's life by conducting all of these aspects of life in the same location under the same authority. In these institutions, Goffman stated that there is an intentional divide between a large, managed group and a supervisor, which often results in feelings of submissiveness and reluctance to leave the institutionalized setting on the part of the “inmates.” This suggests that these restrictive environments lead to the institutionalization of an individual into the group and away from his or her previous, independent life. In these structures, an individual's admission procedures shape and engineer the new member in what may be described as a process of programming. This programming of an individual is characterized by a “leaving off” of one's identity and a “taking on” of one supplied by the establishment. Members of these establishments are alienated from their previous lives and encircled by the ideals and principals of the new institution. A prolonged exposure to similar institutions results in a phenomenon known as "disculturation," which is an un-training that renders an individual temporarily incapable of managing certain features of daily life outside the structures of the institutions. Sociologists often study groups forgotten or ignored by society. Goffman's work illuminated issues with vulnerable populations at asylums and other institutions. Ethnographic field studies have continued this tradition and in doing so have theorized the causes of many of society's ills. Goffman's work is just one example of sociology's ability to delve into an understudied region of society, propose explanations of issues, and theorize possible avenues of reform.

"Disculturation" most nearly means \_\_\_\_\_.

- A. incapacitation
- B. guilt
- C. exoneration
- D. anxiety
- E. institutionalization

**Correct Answer:** E  
**Section:** Reading  
**Explanation**



**Explanation/Reference:**  
Explanation:

The passage defines "disculturation" as "an un-training that renders an individual temporarily incapable of managing certain features of daily life outside the structures of the institutions." This phenomenon is commonly referred to as "institutionalization." This is a process that leaves a person unable to properly manage his or her life outside of the walls of the institution.

**QUESTION 974** "Goffman's Theory of Institutions" by Joseph Ritchie (2014)

Sociological inquiry often investigates members of society considered to be on its outer edges. These individuals often live in precarious and vulnerable situations. Traditionally, sociologists have studied these groups to gain insight into the lives of people who are forgotten victims of the blind eye of society. In 1961, Erving Goffman published the book *Asylums: Essays on the Social Situation of Mental Patients and Other Inmates*. This book outlined the theory of a total institution as seen in prisons and asylums. Goffman's interests and theory helped to reveal the inner mechanics of asylums and the process of institutionalization that takes place within a total institution. According to Goffman's observations and subsequent theories, a total institution seeks to erode the relationships of an individual with the outside world and consume their personal identities and daily activities. The end goal of a total institution is to break down and deconstruct the barriers that separate the spheres of sleep, play, and work in an individual's life by conducting all of these aspects of life in the same location under the same authority. In these institutions, Goffman stated that there is an intentional divide between a large, managed group and a supervisor, which often results in feelings of submissiveness and reluctance to leave the institutionalized setting on the part of the “inmates.” This suggests that these restrictive environments lead to the institutionalization of an individual into the group and away from his or her previous, independent life. In these structures, an individual's admission procedures shape and engineer the new member in what may be described as a process of programming. This programming of an individual is characterized by a “leaving off” of one's identity and a “taking on” of one supplied by the establishment. Members of these establishments are alienated from their previous lives and encircled by the ideals and principals of the new institution. A prolonged exposure to similar institutions results in a phenomenon known as "disculturation," which is an un-training that renders an individual temporarily incapable of managing certain features of daily life outside the structures of the institutions. Sociologists often study groups forgotten or ignored by society. Goffman's work illuminated issues with vulnerable populations at asylums and other institutions. Ethnographic field studies have continued this tradition and in doing so have theorized the causes of many of society's ills. Goffman's work is just one example of sociology's ability to delve into an understudied region of society, propose explanations of issues, and theorize possible avenues of reform.

"Programming" is best described as which of the following choices?

- A. Brainwashing an inmate to believe the institution is his or her identity
- B. Constructing one's personal identity without notable influence from others
- C. Leaving off one's personal identity and taking on the identity of the institution
- D. None of the choices describe "programming."

E. The deconstruction of an inmate's personal life

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

"Programming" was defined in the second paragraph of the passage. It is best described as being characterized by "a 'leaving off' of one's identity and a 'taking on' of one supplied by the establishment." This is the only choice supported by the passage and the correct answer.

#### QUESTION 975

Adapted from "Introductory Remarks" in The Interpretation of Dreams by Sigmund Freud (trans. 1913)

In attempting to discuss the interpretation of dreams, I do not believe that I have overstepped the bounds of neuropathological interest. For, when investigated psychologically, the dream proves to be the first link in a chain of abnormal psychic structures whose other links – the hysterical phobia, the obsession, and the delusion – must interest the physician for practical reasons. The dream can lay no claim to a corresponding practical significance; however, its theoretical value is very great, and one who cannot explain the origin of the content of dreams will strive in vain to understand phobias, obsessive and delusional ideas, and likewise their therapeutic importance.

While this relationship makes our subject important, it is responsible also for the deficiencies in this work. The surfaces of fracture, which will be frequently discussed, correspond to many points of contact where the problem of dream formation informs more comprehensive problems of psychopathology which cannot be discussed here. These larger issues will be elaborated upon in the future.

Peculiarities in the material I have used to elucidate the interpretation of dreams have rendered this publication difficult. The work itself will demonstrate why all dreams related in scientific literature or collected by others had to remain useless for my purpose. In choosing my examples, I had to limit myself to considering my own dreams and those of my patients who were under psychoanalytic treatment. I was restrained from utilizing material derived from my patients' dreams by the fact that during their treatment, the dream processes were subjected to an undesirable complication – the intermixture of neurotic characters. On the other hand, in discussing my own dreams, I was obliged to expose more of the intimacies of my psychic life than I should like, more so than generally falls to the task of an author who is not a poet but an investigator of nature. This was painful, but unavoidable; I had to put up with the inevitable in order to demonstrate the truth of my psychological results at all. To be sure, I disguised some of my indiscretions through omissions and substitutions, though I feel that these detract from the value of the examples in which they appear. I can only express the hope that the reader of this work, putting himself in my difficult position, will show patience, and also that anyone inclined to take offense at any of the reported dreams will concede freedom of thought at least to the dream life.

Based on the way in which the underlined word "informs" is used in the passage, the author is using it to mean \_\_\_\_\_.

- A. tells
- B. requires
- C. influences
- D. solves
- E. ignores



**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The author uses the word "informs" in the following sentence, found in the second paragraph: "The surfaces of fracture, which will be frequently discussed, correspond to many points of contact where the problem of dream formation informs more comprehensive problems of psychopathology which cannot be discussed here." Paraphrasing, the author is stating that the problem of dream formation does something to bigger problems that the author can't talk about here. What might one problem do to bigger problems? "Requires," "ignores," and "tells" don't make sense and so cannot be correct, despite the fact that "informs" can mean "tells" in other contexts. The author is not suggesting that the problem of dream formation "solves" the bigger problems he refers. This leaves us with "influences," the correct answer.

**QUESTION 976** Adapted from "Margaret Fuller and Mary Wollstonecraft" by George Eliot (1855)

There is a notion commonly entertained among men that an instructed woman, capable of having opinions, is likely to prove an unpractical yoke-fellow, always pulling one way when her husband wants to go the other, oracular in tone, and prone to give lectures. But surely, so far as obstinacy is concerned, your unreasoning animal is the most difficult of your creatures. For our own parts, we see no reason why women should be better kept under control rather than educated to be mans rational equal.

If you ask me what offices women may fill, I reply – any. I do not care what case you put; let them be sea-captains, if you will. I do not doubt there are women well fitted for such an office, and, if so, I should be glad to welcome the Maid of Saragossa. I think women need, especially at this juncture, a much greater range of occupation than they have, to rouse their latent powers. In families that I know, some little girls like to saw wood, and others to use carpenters' tools. Where these tastes are indulged, cheerfulness and good-humor are promoted. Where they are forbidden, because "such things are not proper for girls," they grow sullen and mischievous.

Men pay a heavy price for their reluctance to encourage self-help and independent resources in women. The precious meridian years of many a man of genius have to be spent in the toil of routine, that an "establishment" may be kept up for a woman who can understand none of his secret yearnings, who is fit for nothing but to sit in her drawing-room like a doll-Madonna in her shrine. No matter. Anything is more endurable than to change our established formulae about women, or to run the risk of looking up to our wives instead of looking down on them. So men say of women, let them be idols, useless absorbents of previous things, provided we are not obliged to admit them to be strictly fellow-beings, to be treated, one and all, with justice and sober reverence.

The word “entertained” most nearly means \_\_\_\_\_.

- A. diverting
- B. amused
- C. considered
- D. disturbing
- E. revered

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The primary meaning of the word “entertain” is amuse or engage, but from the context of the sentence, you know that a secondary meaning of the word must be being used here. The sentence begins by stating that there is a common male notion of why women should not be educated. If you replace “entertained” with either "amused" or "disturbing," neither word comfortably fits. "Diverting" means distracting, and "revered" means respected; neither of these words could fit within the context. "Considered," which means gave something thought, is an easy fit and is a secondary meaning of the word “entertained.”

#### QUESTION 977

Adapted from A Vindication of the Rights of Women (1792) by Mary Wollstonecraft; Woman in the Nineteenth Century (1843) by Margaret Fuller; Mary Wollstonecraft and Margaret Fuller by George Elliot (1855)

There is a notion commonly entertained among men that an instructed woman, capable of having opinions, is likely to prove an unpractical yoke-fellow, always pulling one way when her husband wants to go the other, oracular in tone, and prone to give lectures. But surely, so far as obstinacy is concerned, your unreasoning animal is the most difficult of your creatures. For our own parts, we see no reason why women should be better kept under control rather than educated to be mans rational equal.

If you ask me what offices they [women] may fill, I reply – any. I do not care what case you put; let them be sea-captains, if you will. I do not doubt there are women well fitted for such an office, and, if so, I should be glad to welcome the Maid of Saragossa. I think women need, especially at this juncture, a much greater range of occupation than they have, to rouse their latent powers. In families that I know, some little girls like to saw wood, others to use carpenters' tools. Where these tastes are indulged, cheerfulness and good-humor are promoted. Where they are forbidden, because "such things are not proper for girls," they grow sullen and mischievous.

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The word “obstinacy” (line 3) most nearly means \_\_\_\_\_.

- A. foolishness
- B. derision
- C. mystery
- D. bravery
- E. stubbornness

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The word obstinacy directly means stubbornness so if you know that this question is very simple; however, if you were not aware of the meaning of the word it is necessary to read-in-context to identify which of the answer choices could be plugged in and create the same meaning. The author makes reference to the fact that whatever is being described as obstinate is also unreasonable. It makes sense then to look among the answer choices for a word with similar meaning to unreasonable. Only stubbornness fits and is therefore the correct answer.

**QUESTION 978** Adapted from "Margaret Fuller and Mary Wollstonecraft" by George Eliot (1855)

There is a notion commonly entertained among men that an instructed woman, capable of having opinions, is likely to prove an unpractical yoke-fellow, always pulling one way when her husband wants to go the other, oracular in tone, and prone to give lectures. But surely, so far as obstinacy is concerned, your unreasoning animal is the most difficult of your creatures. For our own parts, we see no reason why women should be better kept under control rather than educated to be mans rational equal.

If you ask me what offices they [women] may fill, I reply – any. I do not care what case you put; let them be sea-captains, if you will. I do not doubt there are women well fitted for such an office, and, if so, I should be glad to welcome the Maid of Saragossa. I think women need, especially at this juncture, a much greater range of occupation than they have, to rouse their latent powers. In families that I know, some little girls like to saw wood, others to use carpenters' tools. Where these tastes are indulged, cheerfulness and good-humor are promoted. Where they are forbidden, because "such things are not proper for girls," they grow sullen and mischievous. Men pay a heavy price for their reluctance to encourage self-help and independent resources in women. The precious meridian years of many a man of genius have to be spent in the toil of routine, that an "establishment" may be kept up for a woman who can understand none of his secret yearnings, who is fit for nothing but to sit in her drawing-room like a doll-Madonna in her shrine. No matter. Anything is more endurable than to change our established formulae about women, or to run the risk of looking up to our wives instead of looking down on them. So men say of women, let them be idols, useless absorbents of previous things, provided we are not obliged to admit them to be strictly fellow-beings, to be treated, one and all, with justice and sober reverence.

The word “occupation” most nearly means \_\_\_\_\_.

- A. activity
- B. enumeration
- C. distraction
- D. invasion
- E. mollification

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Occupation could be used to mean invasion or it could be used to mean profession. In this instance the word occupation is used to mean activity. The context of the sentence will help reveal this answer. The author states that women “need a greater range” of occupation. A greater range of invasion would not make any sense. Mollification means to calm someone; distraction means to divert someone’s focus; enumeration means to list items.

#### QUESTION 979

Adapted from Women’s Political Future by Frances E. W. Harper (1893)

The world has need of all the spiritual aid that woman can give for the social advancement and moral development of the human race. The tendency of the present age, with its restlessness, religious upheavals, failures, blunders, and crimes, is toward broader freedom, an increase of knowledge, the emancipation of thought, and recognition of the brotherhood of man; in this movement woman, as the companion of man, must be an equal. So close is the bond between man and woman that you cannot raise one without lifting the other. The world cannot move without woman's sharing in the movement, and to help give a right impetus to that movement is woman's highest privilege.

If the fifteenth century discovered America to the Old World, the nineteenth is discovering woman to herself. Not the opportunity of discovering new worlds, but that of filling this old world with fairer and higher aims than the greed of gold and the lust of power, is hers. Through weary, wasting years men have destroyed, dashed in pieces, and overthrown, but today we stand on the threshold of woman's era, and woman's work is grandly constructive. In her hand are possibilities whose use or abuse must tell upon the political life of the nation, and send their influence for good or evil across the track of unborn ages.

The word “emancipation” most nearly means \_\_\_\_\_.

- A. timidity
- B. regression
- C. freedom
- D. bravery
- E. imprisonment

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The word emancipation generally refers to the act of freeing or being freed and so most nearly means freedom. Alternatively if you are not aware of this definition it becomes necessary to read-in-context to try to ascertain the most likely definition. The author surrounds the phrase “emancipation of thought” with references to the tendency towards “broader freedom” for women. As there are no modifying words like “however” or “although” you can infer that the correct answer must have a similar (or in this instance the exact same) meaning. Imprisonment has the opposite meaning. Timidity means shyness, and bravery means loosely the opposite; neither fits cleanly in the sentence. Regression means to take a step backwards and is opposite to the meaning of the phrase.

**QUESTION 980** Adapted from The Destructive Male (1868) by Elizabeth Cady Stanton and

Susan B. Anthony

The male element is a destructive force, stern, selfish, aggrandizing, loving war, violence, conquest, acquisition, breeding in the material and moral world alike discord, disorder, disease, and death. See what a record of blood and cruelty the pages of history reveal! Through what slavery, slaughter, and sacrifice, through what inquisitions and imprisonments, pains and persecutions, black codes and gloomy creeds, the soul of humanity has struggled for the centuries, while mercy has veiled her face and all hearts have been dead alike to love and hope!

The male element has held high carnival thus far; it has fairly run riot from the beginning, overpowering the feminine element everywhere, crushing out all the diviner qualities in human nature, until we know but little of true manhood and womanhood, of the latter comparatively nothing, for it has scarce been recognized as a power until within the last century. Society is but the reflection of man himself, not tempered by woman's thought; the hard iron rule we feel alike in the church, the state, and the home. No one need wonder at the disorganization, at the fragmentary condition of everything, when we remember that man, who represents but half a complete being, with but half an idea on every subject, has undertaken the absolute control of all sublunary matters.

People object to the demands of those whom they choose to call the strong-minded, because they say "the right of suffrage will make the women masculine." That is just the difficulty in which we are involved today. Though disfranchised, we have few women in the best sense; we have simply so many reflections, varieties, and dilutions of the masculine gender. The strong, natural characteristics of womanhood are repressed and ignored in dependence, for so long as man feeds woman she will try to please the giver and adapt herself to his condition.

The word "tempered" most nearly means \_\_\_\_\_.

- A. None of these
- B. exaggerated
- C. moderated
- D. angered
- E. mistaken

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

"Tempered" is a synonym for the word moderated. If you were not aware of this relationship it would become necessary to read-in-context. The author claims that "Society is but the reflection of man himself, not tempered by woman's thought." Here the author is expressing how society is built in the image of man and is not moderated by women.

#### QUESTION 981

Adapted from The Destructive Male (1868) by Elizabeth Cady Stanton and Susan B. Anthony

The male element is a destructive force, stern, selfish, aggrandizing, loving war, violence, conquest, acquisition, breeding in the material and moral world alike discord, disorder, disease, and death. See what a record of blood and cruelty the pages of history reveal! Through what slavery, slaughter, and sacrifice, through what inquisitions and imprisonments, pains and persecutions, black codes and gloomy creeds, the soul of humanity has struggled for the centuries, while mercy has veiled her face and all hearts have been dead alike to love and hope!

The male element has held high carnival thus far; it has fairly run riot from the beginning, overpowering the feminine element everywhere, crushing out all the diviner qualities in human nature, until we know but little of true manhood and womanhood, of the latter comparatively nothing, for it has scarce been recognized as a power until within the last century. Society is but the reflection of man himself, not tempered by woman's thought; the hard iron rule we feel alike in the church, the state, and the home. No one need wonder at the disorganization, at the fragmentary condition of everything, when we remember that man, who represents but half a complete being, with but half an idea on every subject, has undertaken the absolute control of all sublunary matters.

People object to the demands of those whom they choose to call the strong-minded, because they say "the right of suffrage will make the women masculine." That is just the difficulty in which we are involved today. Though disfranchised, we have few women in the best sense; we have simply so many reflections, varieties, and dilutions of the masculine gender. The strong, natural characteristics of womanhood are repressed and ignored in dependence, for so long as man feeds woman she will try to please the giver and adapt herself to his condition.

The word "sublunary" most nearly means \_\_\_\_\_.

- A. worldly
- B. foolish
- C. prosaic
- D. spiritual
- E. intellectual

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

"Sublunary" refers to everything beneath (sub-) the moon (lunar). In practice this means worldly or of the world.



**QUESTION 982** Adapted from The Destructive Male (1868) by Elizabeth Cady Stanton and Susan B. Anthony

The male element is a destructive force, stern, selfish, aggrandizing, loving war, violence, conquest, acquisition, breeding in the material and moral world alike discord, disorder, disease, and death. See what a record of blood and cruelty the pages of history reveal! Through what slavery, slaughter, and sacrifice, through what inquisitions and imprisonments, pains and persecutions, black codes and gloomy creeds, the soul of humanity has struggled for the centuries, while mercy has veiled her face and all hearts have been dead alike to love and hope!

The male element has held high carnival thus far; it has fairly run riot from the beginning, overpowering the feminine element everywhere, crushing out all the diviner qualities in human nature, until we know but little of true manhood and womanhood, of the latter comparatively nothing, for it has scarce been recognized as a power until within the last century. Society is but the reflection of man himself, not tempered by woman's thought; the hard iron rule we feel alike in the church, the state, and the home. No one need wonder at the disorganization, at the fragmentary condition of everything, when we remember that man, who represents but half a complete being, with but half an idea on every subject, has undertaken the absolute control of all sublunary matters.

People object to the demands of those whom they choose to call the strong-minded, because they say "the right of suffrage will make the women masculine." That is just the difficulty in which we are involved today. Though disfranchised, we have few women in the best sense; we have simply so many reflections, varieties, and dilutions of the masculine gender. The strong, natural characteristics of womanhood are repressed and ignored in dependence, for so long as man feeds woman she will try to please the giver and adapt herself to his condition.

The word "scarce" most nearly means \_\_\_\_\_.

- A. appropriately
- B. always
- C. rarely
- D. frequently
- E. never

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The word "scarce" means rare or rarely. Reading-in-context shows how female power is rarely recognized because it has "scarce" been used. Something would be more likely to be unrecognizable if it is rarely used, than if it is always used.

**QUESTION 983**

While the Gutenberg press was perhaps one of the greatest inventions of all time, we should not let its importance blind us to other very important events in the history of linguistic development. Granted, the efficiency of printing allowed for the dissemination of much learning in Europe. Still, such printing was not unique to Europe, and even in the scope of world history, there are several events that are equally as miraculous regarding the transmission of knowledge. For instance, most people overlook the amazing nature of the first time that human beings communicated with spoken language. Perhaps there were simple signs by which these early humans could indicate their needs to each other. However, when the first event of person-to-person speech occurred, it was far more marvelous than simple practical communication. Such speech was like a sharing of ideas. When true speech happened, people were able to communicate knowledge to each other, freeing it from its isolation in one lonely person. By means of such speech, knowledge could be orally transmitted from generation to generation, thus preserving wisdom in a way that is completely impossible without speech.

Of course, such spoken tradition is very fragile, relying on memories and stories that are passed down from generation to generation. For this reason, the invention of writing is extremely important. In contrast to the spoken word, the written word can continue to exist and be useful so long as it can be read intelligently. Likewise, much more can be recorded than ever could be remembered by someone with the best of memories. Indeed, once these records are written, copies can be sent to anyone who is able to read the language in question. Likewise, it can be translated into written copies to be read by others. For these (as well as many other reasons) the invention of writing was a very significant event in history, greatly expanding the possibilities for the exchange of knowledge.

Thus, the printing press is quite important, but it is part of a larger story. Like both spoken and written communication, it allows human beings to communicate knowledge not only to each other but also across multiple generations. Often, we think of the press merely in its ability to provide a great number of books in a short period of time. However, when considered as a chapter in this longer tale, it likewise appears as the means by which humanity is able to conquer time by allowing the knowledge of today to live for multiple generations.

What does the boldfaced word "dissemination" mean in its context?

- A. Circulation
- B. Recounting
- C. Informing
- D. Teaching
- E. Procuring

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The word "disseminate" comes from the Latin for "seed." When ideas are "disseminated," they are "spread abroad" like seeds being sown in a field. Clearly, this paragraph wishes to say that the Gutenberg press did allow for a great spreading or circulating of knowledge. While the remainder of the paragraph explains that there is a larger history to consider, in the immediate context, this is the unquestionable meaning of the word "dissemination."

**QUESTION 984**

While the Gutenberg press was perhaps one of the greatest inventions of all time, we should not let its importance blind us to other very important events in the history of linguistic development. Granted, the efficiency of printing allowed for the dissemination of much learning in Europe. Still, such printing was not unique to Europe, and even in the scope of world history, there are several events that are equally as miraculous regarding the transmission of knowledge. For instance, most people overlook the amazing nature of the first time that human beings communicated with spoken language. Perhaps there were simple signs by which these early humans could indicate their needs to each other. However, when the first event of person-to-person speech occurred, it was far more marvelous than simple practical communication. Such speech was like a sharing of ideas. When true speech happened, people were able to communicate knowledge to each other, freeing it from its isolation in one lonely person. By means of such speech, knowledge could be orally transmitted from generation to generation, thus preserving wisdom in a way that is completely impossible without speech.

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What does the boldfaced word "across" mean in its context?

- A. Upon completion of
- B. Contradicting
- C. Sitting opposite to
- D. Opposed to
- E. Spanning

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The word "across" has a very general meaning of "from one side to another side." This applies not only the case of (e.g.) two people sitting across from each other, but it can also be used in many other contexts – like "travelling across the country" and "hiking across the mountain range." In this passage, the word is being used in the sense of "spanning across" multiple generations. When something "spans" a space or group of things, it fully covers it from end to end. This is the sense here. The knowledge preserved by writing and printing is able to remain for many generations.

**QUESTION 985** Adapted from Emancipation of the Working Class by Eugene Debs (1918)

Our plutocracy, our Junkers, would have us believe that all the Junkers are confined to Germany. It is precisely because we refuse to believe this that they brand us as disloyal. They want our eyes focused on the Junkers in Berlin so that we will not see those within our own borders. I hate, I loathe, I despise Junkers and junkerdom. I have no earthly use for the Junkers of Germany, and not one particle more use for the Junkers in the United States. They tell us that we live in a great free republic; that our institutions are democratic; that we are a free and self-governing people. This is too much, even for a joke. But it is not a subject for levity; it is an exceedingly serious matter.

To whom do the Wall Street Junkers in our country marry their daughters? After they have wrung their countless millions from your sweat, your agony and your life's blood, in a time of war as in a time of peace, they invest these untold millions in the purchase of titles of broken-down aristocrats, such as princes, dukes, counts and other parasites and no-accounts. Would they be satisfied to wed their daughters to honest workingmen? To real democrats? Oh, no! They scour the markets of Europe for vampires who are titled and nothing else. And they swap their millions for the titles, so that matrimony with them becomes literally a matter of money.

These are the gentry who are today wrapped up in the American flag, who shout their claim from the housetops that they are the only patriots, and who have their magnifying glasses in hand, scanning the country for evidence of disloyalty, eager to apply the brand of treason to the men who dare to even whisper their opposition to Junker rule in the United States. No wonder Sam Johnson declared that "patriotism is the last refuge of the scoundrel." He must have had this Wall Street gentry in mind, or at least their prototypes, for in every age it has been the tyrant, the oppressor and the exploiter who has wrapped himself in the cloak of patriotism, or religion, or both to deceive and overawe the people.

From the context of the whole passage, the word "Junker" most likely describes \_\_\_\_\_.

- A. the very wealthy
- B. European immigrants
- C. members of the armed forces
- D. the working classes
- E. members of the American government

**Correct Answer:** A

**Section:** Reading

**Explanation**



**Explanation/Reference:**

Explanation:

The word “Junker” is actually an outdated term for the Prussian (German) aristocracy. In this passage however it is employed to refer to the very wealthy of all nations, particularly the United States. If you did not know what a Junker was, and it is likely you did not know, you would need to read-in-context to determine the correct answer. The characterization of some Junkers as “Wall Street Junkers” provides your first clue. And in the succeeding sentence the author makes it more obvious when he describes the “countless millions” that Junkers have wrung from the sweat of the common man.

**QUESTION 986** Adapted from Emancipation of the Working Class by Eugene Debs (1918)

Our plutocracy, our Junkers, would have us believe that all the Junkers are confined to Germany. It is precisely because we refuse to believe this that they brand us as disloyal. They want our eyes focused on the Junkers in Berlin so that we will not see those within our own borders. I hate, I loathe, I despise Junkers and junkerdom. I have no earthly use for the Junkers of Germany, and not one particle more use for the Junkers in the United States. They tell us that we live in a great free republic; that our institutions are democratic; that we are a free and self-governing people. This is too much, even for a joke. But it is not a subject for levity; it is an exceedingly serious matter.

To whom do the Wall Street Junkers in our country marry their daughters? After they have wrung their countless millions from your sweat, your agony and your life's blood, in a time of war as in a time of peace, they invest these untold millions in the purchase of titles of broken-down aristocrats, such as princes, dukes, counts and other parasites and no-accounts. Would they be satisfied to wed their daughters to honest workingmen? To real democrats? Oh, no! They scour the markets of Europe for vampires who are titled and nothing else. And they swap their millions for the titles, so that matrimony with them becomes literally a matter of money.

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The underlined word “levity” most nearly means \_\_\_\_\_.

- A. notoriety
- B. flippancy
- C. ill-humor
- D. formal company
- E. seriousness

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The word “levity” describes a flippant attitude or not taking something as seriously as it ought to be taken. If you did not know this it would become necessary to read the preceding and succeeding sentences in order to understand the context in which the word is used. The author states: “This is too much, even for a joke. But it is not a subject for levity; it is an exceedingly serious matter.” The author is stating that the subject is extremely serious and the sentence structure indicates that “levity” must be opposite in meaning to “exceedingly serious.”

**QUESTION 987** Adapted from Citizenship in a Republic (1910) by Theodore Roosevelt

It is not the critic who counts; not the man who points out how the strong man stumbles, or where the doer of deeds could have done them better. The credit belongs to the man who is actually in the arena, whose face is marred by dust and sweat and blood; who strives valiantly; who errs, who comes short again and again, because there is no effort without error and shortcoming; but who does actually strive to do the deeds; who knows great enthusiasms, the great devotions; who spends himself in a worthy cause; who at the best knows in the end the triumph of high achievement, and who at the worst, if he fails, at least fails while daring greatly, so that his place shall never be with those cold and timid souls who neither know victory nor defeat.

The word “spends” most nearly means \_\_\_\_\_.

- A. considers
- B. buys
- C. fails
- D. neglects
- E. exhausts

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The author favorably describes how some people “spend” themselves in a difficult cause. In this context the word “spends” means to exhaust. You might be more familiar with hearing the phrase “I’m spent” used by someone who has put a great deal of effort into something and no longer has the energy to continue.

**QUESTION 988** Adapted from Citizenship in a Republic (1910) by Theodore Roosevelt

It is not the critic who counts; not the man who points out how the strong man stumbles, or where the doer of deeds could have done them better. The credit belongs to the man who is actually in the arena, whose face is marred by dust and sweat and blood; who strives valiantly; who errs, who comes short again and again, because there is no effort without error and shortcoming; but who does actually strive to do the deeds; who knows great enthusiasms, the great devotions; who spends himself in a worthy cause; who at the best knows in the end the triumph of high achievement, and who at the worst, if he fails, at least fails while daring greatly, so that his place shall never be with those cold and timid souls who neither know victory nor defeat.

The word “errs” is a reference to the importance of \_\_\_\_\_.

- A. mistakes
- B. challenges
- C. historical context
- D. celebration
- E. government

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

To err means to make a mistake. The author describes how it is important to take chances, to make mistakes and errors, and to learn from those errors. According to the author striving and failing is much better than not striving at all. Indeed, the author implies that making mistakes is a necessary part of the process.

**QUESTION 989**

Adapted from The Gettysburg Address by Abraham Lincoln (1863)



Four score and seven years ago our fathers brought forth, upon this continent, a new nation, conceived in liberty, and dedicated to the proposition that all men are created equal.

Now we are engaged in a great civil war, testing whether that nation or any nation so conceived and so dedicated, can long endure. We are met on a great battlefield of that war. We have come to dedicate a portion of that field, as a final resting place for those who here gave their lives that that nation might live. It is altogether fitting and proper that we should do this.

But, in a larger sense, we cannot dedicate, we cannot consecrate, we cannot hallow, this ground. The brave men, living and dead, who struggled here, have consecrated it, far above our poor power to add or detract. The world will little note, nor long remember what we say here, but it can never forget what they did here. It is for us the living, rather, to be dedicated here to the unfinished work which they who fought here have thus far so nobly advanced. It is rather for us to be here dedicated to the great task remaining before us – that from these honored dead we take increased devotion to that cause for which they here gave the last full measure of devotion – that we here highly resolve that these dead shall not have died in vain, that this nation, under God, shall have a new birth of freedom, and that government of the people, by the people, for the people, shall not perish from the earth.

The word “proposition” most nearly means \_\_\_\_\_.

- A. notion
- B. fallacy
- C. estimation
- D. challenge
- E. legend

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The word “proposition” can mean a proposal; a statement; an idea; an obstacle to be met. In this context the word is being used to describe an idea, or a notion, specifically the “notion” that all men are created equal. Estimation would imply guesswork and is therefore incorrect. Fallacy refers to a misleading notion or an erroneous belief, and is also incorrect.

**QUESTION 990** Adapted from A Vindication of the Rights of Woman by Mary Wollstonecraft (1792)

In the middle rank of life, to continue the comparison, men, in their youth, are prepared for professions, and marriage is not considered as the grand feature in their lives; whilst women, on the contrary, have no other scheme to sharpen their faculties. It is not business, extensive plans, or any of the excursive flights of ambition, that engross their attention; no, their thoughts are not employed in rearing such noble structures. To rise in the world, and have the liberty of running from pleasure to pleasure, they must marry advantageously, and to this object their time is sacrificed, and their persons often legally prostituted. A man when he enters any profession has his eye steadily fixed on some future advantage (and the mind gains great strength by having all its efforts directed to one point) and, full of his business, pleasure is considered as mere relaxation; whilst women seek for pleasure as the main purpose of existence. In fact, from the education, which they receive from society, the love of pleasure may be said to govern them all; but does this prove that there is a sex in souls? It would be just as rational to declare that the courtiers in France, when a destructive system of despotism had formed their character, were not men, because liberty, virtue, and humanity, were sacrificed to pleasure and vanity. Fatal passions, which have ever domineered over the whole race!

The same love of pleasure, fostered by the whole tendency of their education, gives a trifling turn to the conduct of women in most circumstances: for instance, they are ever anxious about secondary things; and on the watch for adventures, instead of being occupied by duties.

A man, when he undertakes a journey, has, in general, the end in view; a woman thinks more of the incidental occurrences, the strange things that may possibly occur on the road; the impression that she may make on her fellow travelers; and, above all, she is anxiously intent on the care of the finery that she carries with her, which is more than ever a part of herself, when going to figure on a new scene; when, to use an apt French turn of expression, she is going to produce a sensation. –Can dignity of mind exist with such trivial cares? This observation should not be confined to the fair sex; however, at present, I only mean to apply it to them.

As it is used in the passage, the underlined word “domineered” most nearly means \_\_\_\_\_.

- A. caused pain
- B. sat jeeringly
- C. incited violence
- D. held court
- E. exercised control

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

“Domineer” can mean tyrannize or exert control or arbitrary power over something. Here, it is best seen as an exercise of control where the passions of “pleasure and vanity” have “exercised control” over mankind. To help you, “incited” means caused to begin, and “jeeringly” means mockingly.

**QUESTION 991** Adapted from The Wealth of Nations by Adam Smith (1776)



The greatest improvements in the productive powers of labor, and the greater part of the skill, dexterity, and judgment with which it is anywhere directed or applied, seem to have been the effects of the division of labor. The effects of the division of labor, in the general business of society, will be more easily understood by considering in what manner it operates in some particular manufactures. It is commonly supposed to be carried furthest in some very trifling ones; not perhaps that it really is carried further in them than in others of more importance, but in those trifling manufactures that are destined to supply the small wants of but a small number of people, the whole number of workmen must necessarily be small; and those employed in every different branch of the work can often be collected into the same workhouse, and placed at once under the view of the spectator.

In those great manufactures, on the contrary, which are destined to supply the great wants of the great body of the people, every different branch of the work employs so great a number of workmen that it is impossible to collect them all into the same workhouse. We can seldom see more, at one time, than those employed in one single branch. Though in such manufactures, therefore, the work may really be divided into a much greater number of parts, than in those of a more trifling nature, the division is not near so obvious, and has accordingly been much less observed.

To take an example, therefore, from a very trifling manufacture, but one in which the division of labor has been very often taken notice of: the trade of a pin-maker. A workman not educated to this business (which the division of labor has rendered a distinct trade), nor acquainted with the use of the machinery employed in it (to the invention of which the same division of labor has probably given occasion), could scarce, perhaps, with his utmost industry, make one pin in a day, and certainly could not make twenty. But in the way in which this business is now carried on, not only the whole work is a peculiar trade, but it is divided into a number of branches, of which the greater part are likewise peculiar trades. One man draws out the wire; another straightens it; a third cuts it; a fourth points it; a fifth grinds it at the top for receiving the head; to make the head requires two or three distinct operations; to put it on is a peculiar business; to whiten the pins is another; it is even a trade by itself to put them into the paper; and the important business of making a pin is, in this manner, divided into about eighteen distinct operations, which, in some manufactories, are all performed by distinct hands, though in others the same man will sometimes perform two or three of them.

In every other art and manufacture, the effects of the division of labour are similar to what they are in this very trifling one; though, in many of them, the labour can neither be so much subdivided, nor reduced to so great a simplicity of operation. The division of labour, however, so far as it can be introduced, occasions, in every art, a proportionable increase of the productive powers of labour. The separation of different trades and employments from one another, seems to have taken place, in consequence of this advantage.

Which of the following terms could replace the word “scarce” in the underlined sentence without changing its meaning?

- A. Hardly
- B. Never
- C. Infrequently
- D. Always

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The word “scarce” is used in the following sentence: “A workman not educated to this business [of pin making] . . . nor acquainted with the use of the machinery employed in it . . . could scarce, perhaps, with his utmost industry, make one pin in a day, and certainly could not make twenty.”

It is helpful to pause a moment and consider what kind of word “scarce” is in the sentence. “Scarce,” along with “perhaps” and “with his utmost industry,” describes the verb “make.” So, “scarce” is functioning as an adverb. “Always” and “never” don’t make sense in the sentence; each word is contradicted by the “perhaps” that follows “scarce.” This leaves us with “infrequently” and “hardly.” The combination of “infrequently, perhaps . . . make one pin in a day, and certainly could not make twenty” doesn’t make as much sense as does “hardly,” which works better with the comparison being made. Furthermore, “scarce” cannot mean infrequently, so “hardly” is the best answer choice. This is how the author is using the term in the passage: to state that one person could hardly make a pin in a day, much less twenty.

**QUESTION 992**

Adapted from "Co. Aytch," Maury Grays, First Tennessee Regiment; or, A Side Show of the Big Show by Samuel Rush Watkins (1900 ed.)

In giving a description of this most memorable battle, I do not pretend to give you figures, and describe how this general looked and how that one spoke, and the other one charged with drawn saber, etc. I know nothing of these things – see the history for that. I was simply a soldier of the line, and I only write of the things I saw. I was in every battle, skirmish and march that was made by the First Tennessee Regiment during the war, and I do not remember of a harder contest and more evenly fought battle than that of Perryville. If it had been two men wrestling, it would have been called a "dog fall." Both sides claim the victory – both whipped.

I stood picket in Perryville the night before the battle – a Yankee on one side of the street, and I on the other. We got very friendly during the night, and made a raid upon a citizen's pantry, where we captured a bucket of honey, a pitcher of sweet milk, and three or four biscuits. The old citizen was not at home – he and his whole household had gone visiting, I believe. In fact, I think all of the citizens of Perryville were taken with a sudden notion of promiscuous visiting about this time; at least they were not at home to all callers.

At length the morning dawned. Our line was drawn up on one side of Perryville, the Yankee army on the other. The two enemies that were soon to meet in deadly embrace seemed to be eyeing each other. The blue coats lined the hillside in plain view. You could count the number of their regiments by the number of their flags. We could see the huge war dogs frowning at us, ready at any moment to belch forth their fire and smoke, and hurl their thunderbolts of iron and death in our very midst.

I wondered why the fighting did not begin. Never on earth were our troops more eager for the engagement to open. The Yankees commenced to march toward their left, and we marched almost parallel to our right – both sides watching each other's maneuvers and movements. It was but the lull that precedes the storm. Colonel Field was commanding our brigade, and Lieutenant-Colonel Patterson our regiment. About 12 o'clock, while we were marching through a corn field, in which the corn had been shocked, they opened their war dogs upon us. The beginning of the end had come. Here is where Captain John F. Wheless was wounded, and three others, whose names I have forgotten. The battle now opened in earnest, and from one end of the line to the other seemed to be a solid sheet of blazing smoke and fire. Our regiment crossed a stream, being preceded by Wharton's Texas Rangers, and we were ordered to attack at once with vigor. Here General Maney's horse was shot. From this moment the battle was a mortal struggle. Two lines of battle confronted us. We killed almost everyone in the first line, and were soon charging over the second, when right in our immediate front was their third and main line of battle from which four Napoleon guns poured their deadly fire.

We did not recoil, but our line was fairly hurled back by the leaden hail that was poured into our very faces. Eight color-bearers were killed at one discharge of their cannon. We were right up among the very wheels of their Napoleon guns. It was death to retreat now to either side. Our Lieutenant-Colonel Patterson halloed to charge and take their guns, and we were soon in a hand-to-hand fight – every man for himself – using the butts of our guns and bayonets. One side would waver and fall back a few yards, and would rally, when the other side would fall back, leaving the four Napoleon guns; and yet the battle raged. Such obstinate fighting I never had seen before or since. The guns were discharged so rapidly that it seemed the earth itself was in a volcanic uproar. The iron storm passed through our ranks, mangling and tearing men to pieces. The very air seemed full of stifling smoke and fire which seemed the very pit of hell, peopled by contending demons.

Our men were dead and dying right in the very midst of this grand havoc of battle. It was a life to life and death to death grapple. The sun was poised above us, a great red ball sinking slowly in the west, yet the scene of battle and carnage continued. I cannot describe it. The mantle of night fell upon the scene. I do not know which side whipped, but I know that I helped bring off those four Napoleon guns that night though we were mighty easy about it.

Based on how the phrase is used in the third paragraph, what are "war dogs"?

- A. Cavalrymen
- B. Skirmishers
- C. Combat dogs
- D. Infantrymen
- E. Cannons

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

We can infer from the passage that the various references to “war dogs” are references to the enemies' cannons, as they are said to be ready to “belch forth their fire and smoke, and hurl their thunderbolts of iron and death in [the narrator's army's] very midst.”

**QUESTION 993** Adapted from The Extermination of the American Bison by William T. Hornaday (1889)

We come now to a history which I would gladly leave unwritten. Its record is a disgrace to the American people in general, and the Territorial, State, and General Government in particular. It will cause succeeding generations to regard us as being possessed of the leading characteristics of the beast of prey – cruelty and greed. We will be likened to the blood-thirsty tiger of the Indian jungle, who slaughters a dozen bullocks at once when he knows he can eat only one.

The men who killed buffaloes for their tongues and those who shot them from the railway trains for sport were murderers. In no way does civilized man so quickly revert to his former state as when he is alone with the beasts of the field. Give him a gun and something which he may kill without getting himself in trouble, and, presto! He is instantly a killer again, finding exquisite delight in bloodshed, slaughter, and death, if not for gain, then solely for the joy and happiness of it. There is no kind of warfare against game animals too unfair, too disreputable, or too mean for white men to engage in if they can only do so with safety to their own precious carcasses. They will shoot buffalo and antelope from running railway trains, drive deer into water with hounds and cut their throats in cold blood, kill does with fawns a week old, kill fawns by the score for their spotted skins, slaughter deer, moose, and caribou in the snow at a pitiful disadvantage, just as the wolves do; exterminate the wild ducks on the whole Atlantic seaboard with punt guns for the metropolitan markets; kill off the Rocky Mountain goats for hides worth only 50 cents apiece, destroy wagon loads of trout with dynamite, and so on to the end of the chapter.

Perhaps the most gigantic task ever undertaken on this continent in the line of game-slaughter was the extermination of the bison in the great pasture region by the hide-hunters. Probably the brilliant rapidity and success with which that lofty undertaking was accomplished was a matter of surprise even to those who participated in it. The story of the slaughter is by no means a long one.

The period of systematic slaughter of the bison naturally begins with the first organized efforts in that direction, in a business-like, wholesale way. Although the species had been steadily driven westward for a hundred years by the advancing settlements, and had during all that time been hunted for the meat and robes it yielded, its extermination did not begin in earnest until 1820, or thereabouts. As before stated, various persons had previous to that time made buffalo killing a business in order to sell their skins, but such instances were very exceptional. By that time the bison was totally extinct in all the region lying east of the Mississippi River except a portion of Wisconsin, where it survived until about 1830. In 1820 the first organized buffalo hunting expedition on a grand scale was made from the Red River settlement, Manitoba, in which five hundred and forty carts proceeded to the range. Previous to that time the buffaloes were found near enough to the settlements around Fort Garry that every settler could hunt independently; but as the herds were driven farther and farther away, it required an organized effort and a long journey to reach them.

The American Fur Company established trading posts along the Missouri River, one at the mouth of the Teton River and another at the mouth of the Yellowstone. In 1826 a post was established at the eastern base of the Rocky Mountains, at the head of the Arkansas River, and in 1832 another was located in a corresponding situation at the head of the South Fork of the Platte, close to where Denver now stands. Both the latter were on what was then the western border of the buffalo range. Elsewhere throughout the buffalo country there were numerous other posts, always situated as near as possible to the best hunting ground, and at the same time where they would be most accessible to the hunters, both white and Native American.

Which of these most accurately restates the meaning of “In no way does civilized man so quickly revert to his former state as when he is alone with the beasts of the field”?

- A. Humans are quicker to show uncivilized bloodlust when left unaccompanied with wild creatures.
- B. We are more eager to hunt animals when outside the confines of cities.
- C. With the ability to hunt many more animals than he needs to survive, man is much more uncivilized now than he ever was in the past.
- D. We are not like our ancestors at all when we hunt.
- E. Men of agriculture are no more civilized than hunters.

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The author compares the wasteful hunting of buffaloes for their tongues to the hunting methods of wild animals and says that we become much like those wild animals when we are given the chance to hunt wild creatures. There is no allusion to cities or agriculture.

**QUESTION 994** Adapted from The Extermination of the American Bison by William T. Hornaday (1889)

We come now to a history which I would gladly leave unwritten. Its record is a disgrace to the American people in general, and the Territorial, State, and General Government in particular. It will cause succeeding generations to regard us as being possessed of the leading characteristics of the beast of prey – cruelty and greed. We will be likened to the blood-thirsty tiger of the Indian jungle, who slaughters a dozen bullocks at once when he knows he can eat only one.

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Which of these is the best antonym of the phrase “in earnest” underlined in the fourth paragraph?



- A. Casually
- B. With sobriety
- C. Solemnly
- D. In a state of joviality
- E. Repeatedly

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

As it is used in the text, “in earnest” means earnestly or seriously. A good antonym for this is “casually.”

#### QUESTION 995

Adapted from "Federalist No. 46. The Influence of the State and Federal Governments Compared" by James Madison in The Federalist Papers by Alexander Hamilton, James Madison, and John Jay (1788)

I proceed to inquire whether the federal government or the state governments will have the advantage with regard to the predilection and support of the people. Notwithstanding the different modes in which they are appointed, we must consider both of them as substantially dependent on the great body of the citizens of the United States. I assume this position here as it respects the first, reserving the proofs for another place. The federal and state governments are in fact but different agents and trustees of the people, constituted with different powers, and designed for different purposes. The adversaries of the Constitution seem to have lost sight of the people altogether in their reasonings on this subject, and to have viewed these different establishments not only as mutual rivals and enemies, but as uncontrolled by any common superior in their efforts to usurp the authorities of each other. These gentlemen must here be reminded of their error. They must be told that the ultimate authority, wherever the derivative may be found, resides in the people alone, and that it will not depend merely on the comparative ambition or address of the different governments, whether either, or which of them, will be able to enlarge its sphere of jurisdiction at the expense of the other. Truth, no less than decency, requires that the event in every case should be supposed to depend on the sentiments and sanction of their common constituents.

To which group of people does the underlined phrase "these gentlemen" refer?

- A. "common constituents"
- B. "The adversaries of the Constitution"
- C. "the people"
- D. "mutual rivals and enemies"
- E. "trustees of the people"

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

It's not possible to tell what is meant by "These gentlemen" based solely on a consideration of the sentence in which the phrase appears. Considering the context surrounding the phrase is necessary: "The adversaries of the Constitution seem to have lost sight of the people altogether in their reasonings on this subject, and to have viewed these different establishments not only as mutual rivals and enemies, but as uncontrolled by any common superior in their efforts to usurp the authorities of each other. These gentlemen must here be reminded of their error." When we consider the sentence that precedes the one with the specified phrase in it, we can see that "These gentlemen" refers to "The adversaries of the Constitution." It's important to consider the meaning of the whole sentence, and not just pick out the last noun that could potentially be the antecedent.

#### QUESTION 996

Adapted from "Federalist No. 46. The Influence of the State and Federal Governments Compared" by James Madison in The Federalist Papers by Alexander Hamilton, James Madison, and John Jay (1788)

Many considerations, besides those suggested on a former occasion, seem to place it beyond doubt that the first and most natural attachment of the people will be to the governments of their respective states. Into the administration of these a greater number of individuals will expect to rise. From the gift of these a greater number of offices and emoluments will flow. By the superintending care of these, all the more domestic and personal interests of the people will be regulated and provided for. With the affairs of these, the people will be more familiarly and minutely conversant. And with the members of these, will a greater proportion of the people have the ties of personal acquaintance and friendship, and of family and party attachments; on the side of these, therefore, the popular bias may well be expected most strongly to incline.

Experience speaks the same language in this case. The federal administration, though hitherto very defective in comparison with what may be hoped under a better system, had, during the war, and particularly whilst the independent fund of paper emissions was in credit, an activity and importance as great as it can well have in any future circumstances whatever. It was engaged, too, in a course of measures which had for their object the protection of everything that was dear and the acquisition of everything that could be desirable to the people at large. It was, nevertheless, invariably found, after the transient enthusiasm for the early Congresses was over, that the attention and attachment of the people were turned anew to their own particular governments; that the federal council was at no time the idol of popular favor; and that opposition to proposed enlargements of its powers and importance was the side usually taken by the men who wished to build their political consequence on the prepossessions of their fellow-citizens.

What does the author mean when he states in the underlined sentence, “Experience speaks the same language in this case”?

- A. The author has heard people talking about these issues and coming to the same conclusions as he has.
- B. While the author's predictions may seem sound, experience will be likely to disprove them.
- C. The author thinks that experience will prove his ideas correct.
- D. People that the author has asked about his argument have all supported it.
- E. Experiential evidence supports the author's theoretical predictions.

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

This sentence is an important one because it functions as the transition between the passage's first and second paragraphs. While both "The author thinks that experience will prove his ideas correct" and "Experiential evidence supports the author's theoretical predictions" may look correct, the latter is the better answer because it references the author's "theoretical predictions," the subject of the first paragraph. It's important to recognize this subtle difference, as referring back to the ideas discussed in the previous paragraph is a large part of what makes the sentence a good transition.

#### QUESTION 997

Adapted from "Federalist No. 46. The Influence of the State and Federal Governments Compared" by James Madison in The Federalist Papers by Alexander Hamilton, James Madison, and John Jay (1788)

Many considerations, besides those suggested on a former occasion, seem to place it beyond doubt that the first and most natural attachment of the people will be to the governments of their respective states. Into the administration of these a greater number of individuals will expect to rise. From the gift of these a greater number of offices and emoluments will flow. By the superintending care of these, all the more domestic and personal interests of the people will be regulated and provided for. With the affairs of these, the people will be more familiarly and minutely conversant. And with the members of these, will a greater proportion of the people have the ties of personal acquaintance and friendship, and of family and party attachments; on the side of these, therefore, the popular bias may well be expected most strongly to incline.

Experience speaks the same language in this case. The federal administration, though hitherto very defective in comparison with what may be hoped under a better system, had, during the war, and particularly whilst the independent fund of paper emissions was in credit, an activity and importance as great as it can well have in any future circumstances whatever. It was engaged, too, in a course of measures which had for their object the protection of everything that was dear and the acquisition of everything that could be desirable to the people at large. It was, nevertheless, invariably found, after the transient enthusiasm for the early Congresses was over, that the attention and attachment of the people were turned anew to their own particular governments; that the federal council was at no time the idol of popular favor; and that opposition to proposed enlargements of its powers and importance was the side usually taken by the men who wished to build their political consequence on the prepossessions of their fellow-citizens.

Which of the following best paraphrases the underlined clause, "opposition to proposed enlargements of its powers and importance was the side usually taken by the men who wished to build their political consequence on the prepossessions of their fellow-citizens"?

- A. Men seeking political power based on the preferences of their constituents tended to oppose expansion of the federal government.
- B. Anyone wanting political power had to support the federal government's growth, or they would not be popular with their constituents.
- C. Citizens did not favor the growth of the federal government.
- D. Politicians favored increasing the power and importance of the federal government, but their constituents did not.
- E. The federal government was increasing in scale and power despite what being opposed by most politicians and their constituents.

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The clause in question is "opposition to proposed enlargements of its powers and importance was the side usually taken by the men who wished to build their political consequence on the prepossessions of their fellow-citizens." This is a long and complex clause with confusing syntax, so let's break it down a bit: "oppositions to proposed enlargements of its powers" – what does the "its" stand for? In context, we can tell that "its" means "the federal government's." So this first part of the clause means "proposed enlargements of the federal government." The clause continues with "was the side usually taken by the men." This is confusing syntax; let's straighten it out. So, these men, which will be described by the rest of the clause, took the side of opposing the growth of the federal government. What else do we learn about these men? They "wished to build their political consequence" – or gain political importance – "on the prepossessions of their fellowcitizens," or on the biases of their constituents. So let's put all that together in an order that makes more sense. "Men seeking political power based on the preferences of their constituents tended to oppose expansion of the federal government" – that's the correct answer.

**QUESTION 998** Adapted from Harvard University Address by Booker T.

Washington (1896)

Why you have called me from the Black Belt of the South, from among my humble people, to share in the honors of this occasion, is not for me to explain; and yet it may not be inappropriate for me to suggest that it seems to me that one of the most vital questions that touch our American life, is how to bring the strong, wealthy and learned into helpful touch with the poorest, most ignorant, and humble and at the same time, make the one appreciate the vitalizing, strengthening influence of the other.



How shall we make the mansions on Beacon street feel and see the need of the spirits in the lowliest cabin in the Alabama cotton fields or the Louisiana sugar bottoms? This problem Harvard University is solving, not by bringing itself down, but by bringing the masses up.

If through me, an humble representative, seven millions of my people in the South might be permitted to send a message to Harvard – Harvard that offered up on death's altar, young Shaw, and Russell, and Lowell and scores of others, that we might have a free and united country, that message would be: Tell them that the sacrifice was not in vain. Tell them that by the way of the shop, the field, the skilled hand, habits of thrift and economy, by way of industrial school and college, we are coming.

We are crawling up, working up, yea, bursting up. Often through oppression, unjust discrimination and prejudice, but through them all we are coming up, and with proper habits, intelligence and property, there is no power on earth that can permanently stay our progress.

Which of these statements most nearly reflects the author's belief in the "the vitalizing, strengthening influence of the other?"

- A. The wealthy are distinct from the poor for a good reason.
- B. The perspective of the poor is necessary for the continued advancement of American society.
- C. It is impossible to understand the relationship between poverty and intelligence.
- D. The knowledge of the rich can benefit the poor greatly.
- E. The wealthy and poor can learn from one another.

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Three of these answer choices reflect the opinion of the author. However, only one summarizes the statements made by the author at the close of the introduction. The author states that both the wealthy and the poor can benefit greatly from increased contact and that they would both be "vitalized" and "strengthened" by the experience. The answer choices "the knowledge of the rich can benefit the poor greatly" and "the perspective of the poor is necessary for the continued advancement of American society" are both correct, but only in part. The best answer is that "the wealthy and poor can learn from one another."

**QUESTION 999** Adapted from A Vindication of the Rights of Woman by Mary Wollstonecraft (1792)

In the middle rank of life, to continue the comparison, men, in their youth, are prepared for professions, and marriage is not considered as the grand feature in their lives; whilst women, on the contrary, have no other scheme to sharpen their faculties. It is not business, extensive plans, or any of the excursive flights of ambition, that engross their attention; no, their thoughts are not employed in rearing such noble structures. To rise in the world, and have the liberty of running from pleasure to pleasure, they must marry advantageously, and to this object their time is sacrificed, and their persons often legally prostituted. A man when he enters any profession has his eye steadily fixed on some future advantage (and the mind gains great strength by having all its efforts directed to one point) and, full of his business, pleasure is considered as mere relaxation; whilst women seek for pleasure as the main purpose of existence. In fact, from the education, which they receive from society, the love of pleasure may be said to govern them all; but does this prove that there is a sex in souls? It would be just as rational to declare that the courtiers in France, when a destructive system of despotism had formed their character, were not men, because liberty, virtue, and humanity, were sacrificed to pleasure and vanity. Fatal passions, which have ever domineered over the whole race!

The same love of pleasure, fostered by the whole tendency of their education, gives a trifling turn to the conduct of women in most circumstances: for instance, they are ever anxious about secondary things; and on the watch for adventures, instead of being occupied by duties.

A man, when he undertakes a journey, has, in general, the end in view; a woman thinks more of the incidental occurrences, the strange things that may possibly occur on the road; the impression that she may make on her fellow travelers; and, above all, she is anxiously intent on the care of the finery that she carries with her, which is more than ever a part of herself, when going to figure on a new scene; when, to use an apt French turn of expression, she is going to produce a sensation. Can dignity of mind exist with such trivial cares? This observation should not be confined to the fair sex; however, at present, I only mean to apply it to them. What is the main idea of the underlined question, "Can dignity of mind exist with such trivial cares?"

- A. The author is asking if women will be thought of as less intelligent than men by society.
- B. The author is asking if women can retain their mental capabilities under the pressure of daily life.
- C. The author is asking if seriousness, self-control, and respect can be gained if women are taken up with niggling details.
- D. The author is asking if men think women's opinions are valid, with reference to their habits.
- E. All of these answers are correct.

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

We can interpret "dignity of mind" to be a seriousness or self-control of the mind which gains respect. Then if we look at the end of the question "with such trivial cares" we can see that "niggling details" is synonymous with "trivial cares" The author is not concerned, when asking the question, about society's view of women. The use of the rhetorical question is an imploring for women to attempt to retain their "dignity of mind."

**QUESTION 1000** Adapted from “Introductory Remarks” in The Interpretation of Dreams by Sigmund Freud (trans. 1913)

In attempting to discuss the interpretation of dreams, I do not believe that I have overstepped the bounds of neuropathological interest. For, when investigated psychologically, the dream proves to be the first link in a chain of abnormal psychic structures whose other links – the hysterical phobia, the obsession, and the delusion – must interest the physician for practical reasons. The dream can lay no claim to a corresponding practical significance; however, its theoretical value is very great, and one who cannot explain the origin of the content of dreams will strive in vain to understand phobias, obsessive and delusional ideas, and likewise their therapeutic importance.

While this relationship makes our subject important, it is responsible also for the deficiencies in this work. The surfaces of fracture, which will be frequently discussed, correspond to many points of contact where the problem of dream formation informs more comprehensive problems of psychopathology which cannot be discussed here. These larger issues will be elaborated upon in the future.

Peculiarities in the material I have used to elucidate the interpretation of dreams have rendered this publication difficult. The work itself will demonstrate why all dreams related in scientific literature or collected by others had to remain useless for my purpose. In choosing my examples, I had to limit myself to considering my own dreams and those of my patients who were under psychoanalytic treatment. I was restrained from utilizing material derived from my patients' dreams by the fact that during their treatment, the dream processes were subjected to an undesirable complication – the intermixture of neurotic characters. On the other hand, in discussing my own dreams, I was obliged to expose more of the intimacies of my psychic life than I should like, more so than generally falls to the task of an author who is not a poet but an investigator of nature. This was painful, but unavoidable; I had to put up with the inevitable in order to demonstrate the truth of my psychological results at all. To be sure, I disguised some of my indiscretions through omissions and substitutions, though I feel that these detract from the value of the examples in which they appear. I can only express the hope that the reader of this work, putting himself in my difficult position, will show patience, and also that anyone inclined to take offense at any of the reported dreams will concede freedom of thought at least to the dream life.

When he uses the underlined phrase “the inevitable,” the author is referring to \_\_\_\_\_.

- A. the gradual loss of detail in what one can remember about a dream
- B. the discomfort that everyone feels when discussing dreams with other people
- C. the scorn of many important psychologists upon his publication of his work on dreams
- D. the fact that he had to publish some of his own dreams, which made him uncomfortable
- E. the idea that all dreams contain significant meaning

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The author uses the phrase “the inevitable” in the third paragraph when he states, “This was painful, but unavoidable; I had to put up with the inevitable in order to demonstrate the truth of my psychological results at all.” But what is he actually discussing at this point? To figure this out, we need to consider the preceding sentence: “On the other hand, in discussing my own dreams, I was obliged to expose more of the intimacies of my psychic life than I should like, more so than generally falls to the task of an author who is not a poet but an investigator of nature.” From this, we can correctly say that in this context, “the inevitable” refers to “the fact that [the author] had to relate some of his own dreams in his work, which made him uncomfortable.”

**QUESTION 1001**

Adapted from “Margaret Fuller and Mary Wollstonecraft” by George Eliot (1855)

There is a notion commonly entertained among men that an instructed woman, capable of having opinions, is likely to prove an unpractical yoke-fellow, always pulling one way when her husband wants to go the other, oracular in tone, and prone to give lectures. But surely, so far as obstinacy is concerned, your unreasoning animal is the most difficult of your creatures. For our own parts, we see no reason why women should be better kept under control rather than educated to be mans rational equal.

If you ask me what offices women may fill, I reply – any. I do not care what case you put; let them be sea-captains, if you will. I do not doubt there are women well fitted for such an office, and, if so, I should be glad to welcome the Maid of Saragossa. I think women need, especially at this juncture, a much greater range of occupation than they have, to rouse their latent powers. In families that I know, some little girls like to saw wood, and others to use carpenters' tools. Where these tastes are indulged, cheerfulness and good-humor are promoted. Where they are forbidden, because “such things are not proper for girls,” they grow sullen and mischievous.

Men pay a heavy price for their reluctance to encourage self-help and independent resources in women. The precious meridian years of many a man of genius have to be spent in the toil of routine, that an “establishment” may be kept up for a woman who can understand none of his secret yearnings, who is fit for nothing but to sit in her drawing-room like a doll-Madonna in her shrine. No matter. Anything is more endurable than to change our established formulae about women, or to run the risk of looking up to our wives instead of looking down on them. So men say of women, let them be idols, useless absorbents of previous things, provided we are not obliged to admit them to be strictly fellow-beings, to be treated, one and all, with justice and sober reverence.

When the author discusses women’s “latent powers,” she most nearly means \_\_\_\_\_.

- A. the capabilities women have to overcome male dominance
- B. the present but unexpressed faculties of women
- C. that women can never achieve true equality
- D. the ability to resist patriarchal humiliation with pride and dignity
- E. that male subservience to women is the natural and inevitable result of female empowerment

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The easiest way to answer this question is to know the meaning of the word latent, which is hidden. This should help you identify that the correct answer is “the present but unexpressed faculty of women.” For clarification in this instance faculty means capabilities. If you did not know the meaning of latent it is necessary to read-in-context and then make an assumption based on what you know of the author’s overall intention throughout the passage. The sentence in which “latent powers” is contained reveals that the author believes those “powers” need to be “roused.” To rouse means to elevate. This should provide a clue as to the meaning behind “latent powers.” The other four answer choices can generally be eliminated on the grounds that they represent the opposite arguments to the primary point made by the author.

**QUESTION 1002** Adapted from "Margaret Fuller and Mary Wollstonecraft" by George Eliot (1855)

There is a notion commonly entertained among men that an instructed woman, capable of having opinions, is likely to prove an unpractical yoke-fellow, always pulling one way when her husband wants to go the other, oracular in tone, and prone to give lectures. But surely, so far as obstinacy is concerned, your unreasoning animal is the most difficult of your creatures. For our own parts, we see no reason why women should be better kept under control rather than educated to be mans rational equal.

If you ask me what offices women may fill, I reply – any. I do not care what case you put; let them be sea-captains, if you will. I do not doubt there are women well fitted for such an office, and, if so, I should be glad to welcome the Maid of Saragossa. I think women need, especially at this juncture, a much greater range of occupation than they have, to rouse their latent powers. In families that I know, some little girls like to saw wood, and others to use carpenters' tools. Where these tastes are indulged, cheerfulness and good-humor are promoted. Where they are forbidden, because "such things are not proper for girls," they grow sullen and mischievous.

Men pay a heavy price for their reluctance to encourage self-help and independent resources in women. The precious meridian years of many a man of genius have to be spent in the toil of routine, that an "establishment" may be kept up for a woman who can understand none of his secret yearnings, who is fit for nothing but to sit in her drawing-room like a doll-Madonna in her shrine. No matter. Anything is more endurable than to change our established formulae about women, or to run the risk of looking up to our wives instead of looking down on them. So men say of women, let them be idols, useless absorbents of previous things, provided we are not obliged to admit them to be strictly fellow-beings, to be treated, one and all, with justice and sober reverence.

What is the "notion commonly entertained among men"?

- A. Women are inherently less intelligent than men.
- B. Educated women will prove too defiant.
- C. Educating women would require a complete social rethink of gendered identity.
- D. Women are better suited to motherhood than they are to intellectual pursuit.
- E. Women are meant to serve the interests of men.

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The notion commonly entertained by men is revealed in the succeeding sentences where the author states that men believe educated women will “always pull one way when her husband wants to go the other”, and be “prone to give lectures.” The author is not stating that men believe women are meant to serve male interests, nor is she stating that men believe women to be less intelligent or better suited to motherhood. The author might believe men perceive women in this manner, but she focuses her argument on convincing men that they need not fear that educated women will be defiant and difficult. The notion commonly entertained by men is that education women will cause them to defy their husbands and therefore keeping women dependent requires keeping them ill-educated.

**QUESTION 1003** Adapted from Women’s Political Future by Frances E. W. Harper (1893)

The world has need of all the spiritual aid that woman can give for the social advancement and moral development of the human race. The tendency of the present age, with its restlessness, religious upheavals, failures, blunders, and crimes, is toward broader freedom, an increase of knowledge, the emancipation of thought, and recognition of the brotherhood of man; in this movement woman, as the companion of man, must be an equal. So close is the bond between man and woman that you cannot raise one without lifting the other. The world cannot move without woman's sharing in the movement, and to help give a right impetus to that movement is woman's highest privilege.

If the fifteenth century discovered America to the Old World, the nineteenth is discovering woman to herself. Not the opportunity of discovering new worlds, but that of filling this old world with fairer and higher aims than the greed of gold and the lust of power, is hers. Through weary, wasting years men have destroyed, dashed in pieces, and overthrown, but today we stand on the threshold of woman's era, and woman's work is grandly constructive. In her hand are possibilities whose use or abuse must tell upon the political life of the nation, and send their influence for good or evil across the track of unborn ages.

In the context of the first paragraph, what does the author believe is the “tendency of the present age”?

- A. Religious accord
- B. Female empowerment
- C. Recognition of universal equality
- D. Male subservience
- E. Political stability

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The author states that the tendency of the present age is “toward broader freedom” and “recognition of the brotherhood of man.” The idea of the importance of female empowerment is mentioned often throughout the passage and is a central point; however, the author expressly states that the tendency of the present age is towards a universal acceptance, not simply an acceptance of women.

#### QUESTION 1004

While the Gutenberg press was perhaps one of the greatest inventions of all time, we should not let its importance blind us to other very important events in the history of linguistic development. Granted, the efficiency of printing allowed for the dissemination of much learning in Europe. Still, such printing was not unique to Europe, and even in the scope of world history, there are several events that are equally as miraculous regarding the transmission of knowledge. For instance, most people overlook the amazing nature of the first time that human beings communicated with spoken language. Perhaps there were simple signs by which these early humans could indicate their needs to each other. However, when the first event of person-to-person speech occurred, it was far more marvelous than simple practical communication. Such speech was like a sharing of ideas. When true speech happened, people were able to communicate knowledge to each other, freeing it from its isolation in one lonely person. By means of such speech, knowledge could be orally transmitted from generation to generation, thus preserving wisdom in a way that is completely impossible without speech. Of course, such spoken tradition is very fragile, relying on memories and stories that are passed down from generation to generation. For this reason, the invention of writing is extremely important. In contrast to the spoken word, the written word can continue to exist and be useful so long as it can be read intelligently. Likewise, much more can be recorded than ever could be remembered by someone with the best of memories. Indeed, once these records are written, copies can be sent to anyone who is able to read the language in question. Likewise, it can be translated into written copies to be read by others. For these (as well as many other reasons) the invention of writing was a very significant event in history, greatly expanding the possibilities for the exchange of knowledge.

Thus, the printing press is quite important, but it is part of a larger story. Like both spoken and written communication, it allows human beings to communicate knowledge not only to each other but also across multiple generations. Often, we think of the press merely in its ability to provide a great number of books in a short period of time. However, when considered as a chapter in this longer tale, it likewise appears as the means by which humanity is able to conquer time by allowing the knowledge of today to live for multiple generations.

What is meant by the boldfaced clause, “Of course, such spoken tradition is very fragile”?

- A. The spoken word is fracturable like glass.
- B. The spoken word is a very weak thing, flimsy at best.
- C. The spoken word is a pitiful thing, not very impressive to modern man.
- D. Such a spoken tradition is easily interrupted or destroyed.
- E. The spoken word can convey meanings only in a weak manner.



**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Although this metaphor can likely be discerned by its immediate context, the next several sentences should help you to understand its meaning more clearly. The paragraph goes on to discuss how the written word can continue to exist, implying that when it is merely spoken it is less likely to have such continuance. Because it relies on memories and stories, the spoken word is much more easily interrupted in its passing on. If a local “story teller” dies, it is possible that the spoken history – important though it might be – will suddenly be gone forever. This makes it very “fragile,” that is, very vulnerable and easily destroyed.

#### QUESTION 1005

While the Gutenberg press was perhaps one of the greatest inventions of all time, we should not let its importance blind us to other very important events in the history of linguistic development. Granted, the efficiency of printing allowed for the dissemination of much learning in Europe. Still, such printing was not unique to Europe, and even in the scope of world history, there are several events that are equally as miraculous regarding the transmission of knowledge. For instance, most people overlook the amazing nature of the first time that human beings communicated with spoken language. Perhaps there were simple signs by which these early humans could indicate their needs to each other. However, when the first event of person-to-person speech occurred, it was far more marvelous than simple practical communication. Such speech was like a sharing of ideas. When true speech happened, people were able to communicate knowledge to each other, freeing it from its isolation in one lonely person. By means of such speech, knowledge could be orally transmitted from generation to generation, thus preserving wisdom in a way that is completely impossible without speech. Of course, such spoken tradition is very fragile, relying on memories and stories that are passed down from generation to generation. For this reason, the invention of writing is extremely important. In contrast to the spoken word, the written word can continue to exist and be useful so long as it can be read intelligently. Likewise, much more can be recorded than ever could be remembered by someone with the best of memories. Indeed, once these records are written, copies can be sent to anyone who is able to read the language in question. Likewise, it can be translated into written copies to be read by others. For these (as well as many other reasons) the invention of writing was a very significant event in history, greatly expanding the possibilities for the exchange of knowledge.

Thus, the printing press is quite important, but it is part of a larger story. Like both spoken and written communication, it allows human beings to communicate knowledge not only to each other but also across multiple generations. Often, we think of the press merely in its ability to provide a great number of books in a short period of time. However, when considered as a chapter in this longer tale, it likewise appears as the means by which humanity is able to conquer time by allowing the knowledge of today to live for multiple generations.

What is meant by the boldfaced expression “a chapter in this longer tale”?

- A. A printed version of a former handwritten book
- B. A selection from a history book



- C. A leaf of paper within a large tome
- D. An interesting subspecies of history
- E. A part of a larger context

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

This paragraph opens by stating that the printing press is "part of a larger story." This metaphor is then explained when the passage states that the printing press is like spoken and written communication in that it permits information to be shared from generation to generation. This is contrasted with the common idea of the importance of the printing press, namely that it allows for the printing of many books in a short period of time. Then, in the sentence in question, it is reconsidered "in the broader context" of speech and writing.

#### QUESTION 1006

Adapted from The Wealth of Nations by Adam Smith (1776)

The greatest improvements in the productive powers of labor, and the greater part of the skill, dexterity, and judgment with which it is anywhere directed or applied, seem to have been the effects of the division of labor. The effects of the division of labor, in the general business of society, will be more easily understood by considering in what manner it operates in some particular manufactures. It is commonly supposed to be carried furthest in some very trifling ones; not perhaps that it really is carried further in them than in others of more importance, but in those trifling manufactures that are destined to supply the small wants of but a small number of people, the whole number of workmen must necessarily be small; and those employed in every different branch of the work can often be collected into the same workhouse, and placed at once under the view of the spectator.

In those great manufactures, on the contrary, which are destined to supply the great wants of the great body of the people, every different branch of the work employs so great a number of workmen that it is impossible to collect them all into the same workhouse. We can seldom see more, at one time, than those employed in one single branch. Though in such manufactures, therefore, the work may really be divided into a much greater number of parts, than in those of a more trifling nature, the division is not near so obvious, and has accordingly been much less observed.

To take an example, therefore, from a very trifling manufacture, but one in which the division of labor has been very often taken notice of: the trade of a pin-maker. A workman not educated to this business (which the division of labor has rendered a distinct trade), nor acquainted with the use of the machinery employed in it (to the invention of which the same division of labor has probably given occasion), could scarce, perhaps, with his utmost industry, make one pin in a day, and certainly could not make twenty. But in the way in which this business is now carried on, not only the whole work is a peculiar trade, but it is divided into a number of branches, of which the greater part are likewise peculiar trades. One man draws out the wire; another straightens it; a third cuts it; a fourth points it; a fifth grinds it at the top for receiving the head; to make the head requires two or three distinct operations; to put it on is a peculiar business; to whiten the pins is another; it is even a trade by itself to put them into the paper; and the important business of making a pin is, in this manner, divided into about eighteen distinct operations, which, in some manufactories, are all performed by distinct hands, though in others the same man will sometimes perform two or three of them.

In every other art and manufacture, the effects of the division of labour are similar to what they are in this very trifling one; though, in many of them, the labour can neither be so much subdivided, nor reduced to so great a simplicity of operation. The division of labour, however, so far as it can be introduced, occasions, in every art, a proportionable increase of the productive powers of labour. The separation of different trades and employments from one another, seems to have taken place, in consequence of this advantage.

By "peculiar trades" in the underlined sentence, the author means \_\_\_\_\_.

- A. Unique tasks
- B. Singular deals
- C. Weird jobs
- D. Necessary professions
- E. Strange exchanges

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation: The author uses the phrase "peculiar trades" in the third paragraph, stating, "But in the way in which this business [of pin-making] is now carried on, not only the whole work is a peculiar trade, but it is divided into a number of branches, of which the greater part are likewise peculiar trades." This may not appear to narrow down your answer choices much at all, as "peculiar" can mean strange, weird, singular, or unique. It cannot mean "necessary," so we can ignore that answer choice. At this point, you need to consider the context around the sentence in which the phrase is used. Before the sentence quoted earlier, the author writes, "One man draws out the wire; another straightens it; a third cuts it; a fourth points it; a fifth grinds it at the top for receiving the head . . ." In doing so, he is listing out the specific, unique tasks involved in making pins on a large scale. Based on this context, we can tell that "peculiar trades" must mean "unique tasks" in the context of the passage.

#### QUESTION 1007

Adapted from "Co. Aytch," Maury Grays, First Tennessee Regiment; or, A Side Show of the Big Show by Samuel Rush Watkins (1900 ed.)

In giving a description of this most memorable battle, I do not pretend to give you figures, and describe how this general looked and how that one spoke, and the other one charged with drawn saber, etc. I know nothing of these things – see the history for that. I was simply a soldier of the line, and I only write of the things I saw. I was in every battle, skirmish and march that was made by the First Tennessee Regiment during the war, and I do not remember of a harder contest and more evenly fought battle than that of Perryville. If it had been two men wrestling, it would have been called a "dog fall." Both sides claim the victory – both whipped.

I stood picket in Perryville the night before the battle – a Yankee on one side of the street, and I on the other. We got very friendly during the night, and made a raid upon a citizen's pantry, where we captured a bucket of honey, a pitcher of sweet milk, and three or four biscuits. The old citizen was not at home – he and his whole household had gone visiting, I believe. In fact, I think all of the citizens of Perryville were taken with a sudden notion of promiscuous visiting about this time; at least they were not at home to all callers.

At length the morning dawned. Our line was drawn up on one side of Perryville, the Yankee army on the other. The two enemies that were soon to meet in deadly embrace seemed to be eyeing each other. The blue coats lined the hillside in plain view. You could count the number of their regiments by the number of their flags. We could see the huge war dogs frowning at us, ready at any moment to belch forth their fire and smoke, and hurl their thunderbolts of iron and death in our very midst.

I wondered why the fighting did not begin. Never on earth were our troops more eager for the engagement to open. The Yankees commenced to march toward their left, and we marched almost parallel to our right – both sides watching each other's maneuvers and movements. It was but the lull that precedes the storm. Colonel Field was commanding our brigade, and Lieutenant-Colonel Patterson our regiment. About 12 o'clock, while we were marching through a corn field, in which the corn had been shocked, they opened their war dogs upon us. The beginning of the end had come. Here is where Captain John F. Wheless was wounded, and three others, whose names I have forgotten. The battle now opened in earnest, and from one end of the line to the other seemed to be a solid sheet of blazing smoke and fire. Our regiment crossed a stream, being preceded by Wharton's Texas Rangers, and we were ordered to attack at once with vigor. Here General Maney's horse was shot. From this moment the battle was a mortal struggle. Two lines of battle confronted us. We killed almost everyone in the first line, and were soon charging over the second, when right in our immediate front was their third and main line of battle from which four Napoleon guns poured their deadly fire.

We did not recoil, but our line was fairly hurled back by the leaden hail that was poured into our very faces. Eight color-bearers were killed at one discharge of their cannon. We were right up among the very wheels of their Napoleon guns. It was death to retreat now to either side. Our Lieutenant-Colonel Patterson halloed to charge and take their guns, and we were soon in a hand-to-hand fight – every man for himself – using the butts of our guns and bayonets. One side would waver and fall back a few yards, and would rally, when the other side would fall back, leaving the four Napoleon guns; and yet the battle raged. Such obstinate fighting I never had seen before or since. The guns were discharged so rapidly that it seemed the earth itself was in a volcanic uproar. The iron storm passed through our ranks, mangling and tearing men to pieces. The very air seemed full of stifling smoke and fire which seemed the very pit of hell, peopled by contending demons.

Our men were dead and dying right in the very midst of this grand havoc of battle. It was a life to life and death to death grapple. The sun was poised above us, a great red ball sinking slowly in the west, yet the scene of battle and carnage continued. I cannot describe it. The mantle of night fell upon the scene. I do not know which side whipped, but I know that I helped bring off those four Napoleon guns that night though we were mighty easy about it.

In the third paragraph, the information given serves to \_\_\_\_\_.

- A. compare the armies
- B. set the scene
- C. exaggerate the details
- D. distinguish one side from the other
- E. criticize the leadership of the two sides

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The third paragraph is used to set the scene of the battle, as it describes the layout of the enemy forces in relation to the forces on the side for which the narrator is fighting. What we are told by the narrator is specifically used to create a sense of the battlefield.

**QUESTION 1008** Adapted from The Extermination of the American Bison by William T. Hornaday (1889)

We come now to a history which I would gladly leave unwritten. Its record is a disgrace to the American people in general, and the Territorial, State, and General Government in particular. It will cause succeeding generations to regard us as being possessed of the leading characteristics of the beast of prey – cruelty and greed. We will be likened to the blood-thirsty tiger of the Indian jungle, who slaughters a dozen bullocks at once when he knows he can eat only one.

The men who killed buffaloes for their tongues and those who shot them from the railway trains for sport were murderers. In no way does civilized man so quickly revert to his former state as when he is alone with the beasts of the field. Give him a gun and something which he may kill without getting himself in trouble, and, presto! He is instantly a killer again, finding exquisite delight in bloodshed, slaughter, and death, if not for gain, then solely for the joy and happiness of it. There is no kind of warfare against game animals too unfair, too disreputable, or too mean for white men to engage in if they can only do so with safety to their own precious carcasses. They will shoot buffalo and antelope from running railway trains, drive deer into water with hounds and cut their throats in cold blood, kill does with fawns a week old, kill fawns by the score for their spotted skins, slaughter deer, moose, and caribou in the snow at a pitiful disadvantage, just as the wolves do; exterminate the wild ducks on the whole Atlantic seaboard with punt guns for the metropolitan markets; kill off the Rocky Mountain goats for hides worth only 50 cents apiece, destroy wagon loads of trout with dynamite, and so on to the end of the chapter.

Perhaps the most gigantic task ever undertaken on this continent in the line of game-slaughter was the extermination of the bison in the great pasture region by the hide-hunters. Probably the brilliant rapidity and success with which that lofty undertaking was accomplished was a matter of surprise even to those who participated in it. The story of the slaughter is by no means a long one.

The period of systematic slaughter of the bison naturally begins with the first organized efforts in that direction, in a business-like, wholesale way. Although the species had been steadily driven westward for a hundred years by the advancing settlements, and had during all that time been hunted for the meat and robes it yielded, its extermination did not begin in earnest until 1820, or thereabouts. As before stated, various persons had previous to that time made buffalo killing a business in order to sell their skins, but such instances were very exceptional. By that time the bison was totally extinct in all the region lying east of the Mississippi River except a portion of Wisconsin, where it survived until about 1830. In 1820 the first organized buffalo hunting expedition on a grand scale was made from the Red River settlement, Manitoba, in which five hundred and forty carts proceeded to the range. Previous to that time the buffaloes were found near enough to the settlements around Fort Garry that every settler could hunt independently; but as the herds were driven farther and farther away, it required an organized effort and a long journey to reach them.

The American Fur Company established trading posts along the Missouri River, one at the mouth of the Teton River and another at the mouth of the Yellowstone. In 1826 a post was established at the eastern base of the Rocky Mountains, at the head of the Arkansas River, and in 1832 another was located in a corresponding situation at the head of the South Fork of the Platte, close to where Denver now stands. Both the latter were on what was then the western border of the buffalo range. Elsewhere throughout the buffalo country there were numerous other posts, always situated as near as possible to the best hunting ground, and at the same time where they would be most accessible to the hunters, both white and Native American.

The reference to the “metropolitan markets” near the end of the passage's second paragraph serves to \_\_\_\_\_.

- A. define the condemnation townsfolk hold against duck hunting
- B. highlight the distance between cities and the frontier where buffalo are killed
- C. subtly implicate those living in cities in the slaughter of animals
- D. draw a comparison between civilization and nature
- E. suggest that hunting has a few positive aspects

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The author uses the paragraph to condemn the hunting of wild creatures, whose numbers are dwindling due to overhunting. The mention of “metropolitan markets” implicates those living in cities who complacently allow or support the hunting by purchasing the products resulting from it. This implication is very subtle, as the majority of the paragraph criticizes those who actively hunt rather than those who permit such hunting to continue.

**QUESTION 1009** Adapted from The Extermination of the American Bison by William T. Hornaday (1889)

We come now to a history which I would gladly leave unwritten. Its record is a disgrace to the American people in general, and the Territorial, State, and General Government in particular. It will cause succeeding generations to regard us as being possessed of the leading characteristics of the beast of prey – cruelty and greed. We will be likened to the blood-thirsty tiger of the Indian jungle, who slaughters a dozen bullocks at once when he knows he can eat only one. The men who killed buffaloes for their tongues and those who shot them from the railway trains for sport were murderers. In no way does civilized man so quickly revert to his former state as when he is alone with the beasts of the field. Give him a gun and something which he may kill without getting himself in trouble, and, presto! He is instantly a killer again, finding exquisite delight in bloodshed, slaughter, and death, if not for gain, then solely for the joy and happiness of it. There is no kind of warfare against game animals too unfair, too disreputable, or too mean for white men to engage in if they can only do so with safety to their own precious carcasses. They will shoot buffalo and antelope from running railway trains, drive deer into water with hounds and cut their throats in cold blood, kill does with fawns a week old, kill fawns by the score for their spotted skins, slaughter deer, moose, and caribou in the snow at a pitiful disadvantage, just as the wolves do; exterminate the wild ducks on the whole Atlantic seaboard with punt guns for the metropolitan markets; kill off the Rocky Mountain goats for hides worth only 50 cents apiece, destroy wagon loads of trout with dynamite, and so on to the end of the chapter. Perhaps the most gigantic task ever undertaken on this continent in the line of game-slaughter was the extermination of the bison in the great pasture region by the hide-hunters. Probably the brilliant rapidity and success with which that lofty undertaking was accomplished was a matter of surprise even to those who participated in it. The story of the slaughter is by no means a long one. The period of systematic slaughter of the bison naturally begins with the first organized efforts in that direction, in a business-like, wholesale way. Although the species had been steadily driven westward for a hundred years by the advancing settlements, and had during all that time been hunted for the meat and robes it yielded, its extermination did not begin in earnest until 1820, or thereabouts. As before stated, various persons had previous to that time made buffalo killing a business in order to sell their skins, but such instances were very exceptional. By that time the bison was totally extinct in all the region lying east of the Mississippi River except a portion of Wisconsin, where it survived until about 1830. In 1820 the first organized buffalo hunting expedition on a grand scale was made from the Red River settlement, Manitoba, in which five hundred and forty carts proceeded to the range. Previous to that time the buffaloes were found near enough to the settlements around Fort Garry that every settler could hunt independently; but as the herds were driven farther and farther away, it required an organized effort and a long journey to reach them. The American Fur Company established trading posts along the Missouri River, one at the mouth of the Teton River and another at the mouth of the Yellowstone. In 1826 a post was established at the eastern base of the Rocky Mountains, at the head of the Arkansas River, and in 1832 another was located in a corresponding situation at the head of the South Fork of the Platte, close to where Denver now stands. Both the latter were on what was then the western border of the buffalo range. Elsewhere throughout the buffalo country there were numerous other posts, always situated as near as possible to the best hunting ground, and at the same time where they would be most accessible to the hunters, both white and Native American.

For what purpose does the author reference a tiger in the first paragraph and wolves in the second paragraph?

- A. To urge a regression of hunting methods
- B. To predict how hunting will develop in the future
- C. To compare the acts of man to majestic creatures
- D. To analyze the hunting methods of animals in opposition to those of man
- E. To portray man as a barbarous beast

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The references to the tiger and to wolves are both used to highlight negative similarities between the way man has hunted the buffalo and the way the author believes these animals hunt. The tiger indiscriminately kills more prey than it needs, whilst wolves hunt at a disadvantage; the author draws parallels between these actions and those of man to argue that those responsible for the slaughter of the buffalo were no better than these animals.



**QUESTION 1010** Adapted from A Vindication of the Rights of Woman by Mary Wollstonecraft (1792)

In the middle rank of life, to continue the comparison, men, in their youth, are prepared for professions, and marriage is not considered as the grand feature in their lives; whilst women, on the contrary, have no other scheme to sharpen their faculties. It is not business, extensive plans, or any of the excursive flights of ambition, that engross their attention; no, their thoughts are not employed in rearing such noble structures. To rise in the world, and have the liberty of running from pleasure to pleasure, they must marry advantageously, and to this object their time is sacrificed, and their persons often legally prostituted. A man when he enters any profession has his eye steadily fixed on some future advantage (and the mind gains great strength by having all its efforts directed to one point) and, full of his business, pleasure is considered as mere relaxation; whilst women seek for pleasure as the main purpose of existence. In fact, from the education, which they receive from society, the love of pleasure may be said to govern them all; but does this prove that there is a sex in souls? It would be just as rational to declare that the courtiers in France, when a destructive system of despotism had formed their character, were not men, because liberty, virtue, and humanity, were sacrificed to pleasure and vanity. Fatal passions, which have ever domineered over the whole race!

The same love of pleasure, fostered by the whole tendency of their education, gives a trifling turn to the conduct of women in most circumstances: for instance, they are ever anxious about secondary things; and on the watch for adventures, instead of being occupied by duties.

A man, when he undertakes a journey, has, in general, the end in view; a woman thinks more of the incidental occurrences, the strange things that may possibly occur on the road; the impression that she may make on her fellow travelers; and, above all, she is anxiously intent on the care of the finery that she carries with her, which is more than ever a part of herself, when going to figure on a new scene; when, to use an apt French turn of expression, she is going to produce a sensation. Can dignity of mind exist with such trivial cares? This observation should not be confined to the fair sex; however, at present, I only mean to apply it to them.

In the second paragraph the information about love of pleasure serves to \_\_\_\_\_.

- A. contrast with the information about marriage to render it further from the idea of it being a pleasurable thing
- B. act as a transition into a discussion about the way women behave in certain circumstances
- C. reassert what has been said in the previous paragraph
- D. negate what has been said in the previous paragraph
- E. bring up a new idea that is in no way related to the ideas discussed in the first paragraph

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The second paragraph begins, "The same love of pleasure, fostered by the whole tendency of their education, gives a trifling turn to the conduct of women in most circumstances." This sentence illustrates that the author is taking the information about pleasure from the first paragraph and suggesting it is the reason for the way women act in certain circumstances, thus it is a transition rather than a continuation.

**QUESTION 1011** Adapted from Harvard University Address by Booker T. Washington (1896)

Why you have called me from the Black Belt of the South, from among my humble people, to share in the honors of this occasion, is not for me to explain; and yet it may not be inappropriate for me to suggest that it seems to me that one of the most vital questions that touch our American life, is how to bring the strong, wealthy and learned into helpful touch with the poorest, most ignorant, and humble and at the same time, make the one appreciate the vitalizing, strengthening influence of the other.

How shall we make the mansions on Beacon street feel and see the need of the spirits in the lowliest cabin in the Alabama cotton fields or the Louisiana sugar bottoms? This problem Harvard University is solving, not by bringing itself down, but by bringing the masses up.

If through me, an humble representative, seven millions of my people in the South might be permitted to send a message to Harvard – Harvard that offered up on death's altar, young Shaw, and Russell, and Lowell and scores of others, that we might have a free and united country, that message would be: Tell them that the sacrifice was not in vain. Tell them that by the way of the shop, the field, the skilled hand, habits of thrift and economy, by way of industrial school and college, we are coming.

We are crawling up, working up, yea, bursting up. Often through oppression, unjust discrimination and prejudice, but through them all we are coming up, and with proper habits, intelligence and property, there is no power on earth that can permanently stay our progress.

The reference to "young Shaw, and Russell, and Lowell, and scores of others," is meant to highlight \_\_\_\_\_.

- A. the elitist nature of Harvard University
- B. the many famous names who have passed through Harvard since Harvard opened its doors to impoverished individuals
- C. the racial nature of the recent movement at Harvard University
- D. the great intellectual gifts that Harvard representatives have given to the world
- E. the free-thinking nature of Harvard intellectuals

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The author references Shaw, Russell, and Lowell to highlight the many famous intellectuals who have been associated with Harvard and who have given so much to the world. The tone is one part flattery and one part respect. The author clearly wishes to convince the members of Harvard University of something and feels that a respectful, flattering comment will aid this purpose.

**QUESTION 1012** Adapted from Harvard University Address by Booker T. Washington (1896)

Why you have called me from the Black Belt of the South, from among my humble people, to share in the honors of this occasion, is not for me to explain; and yet it may not be inappropriate for me to suggest that it seems to me that one of the most vital questions that touch our American life, is how to bring the strong, wealthy and learned into helpful touch with the poorest, most ignorant, and humble and at the same time, make the one appreciate the vitalizing, strengthening influence of the other.

How shall we make the mansions on Beacon street feel and see the need of the spirits in the lowliest cabin in the Alabama cotton fields or the Louisiana sugar bottoms? This problem Harvard University is solving, not by bringing itself down, but by bringing the masses up.

If through me, an humble representative, seven millions of my people in the South might be permitted to send a message to Harvard – Harvard that offered up on death's altar, young Shaw, and Russell, and Lowell and scores of others, that we might have a free and united country, that message would be: Tell them that the sacrifice was not in vain. Tell them that by the way of the shop, the field, the skilled hand, habits of thrift and economy, by way of industrial school and college, we are coming.

We are crawling up, working up, yea, bursting up. Often through oppression, unjust discrimination and prejudice, but through them all we are coming up, and with proper habits, intelligence and property, there is no power on earth that can permanently stay our progress.

The description of poor people “bursting up” conveys a sense of \_\_\_\_\_.

- A. comedy and futility
- B. irrelevance and apathy
- C. immediacy and urgency
- D. eloquence and smugness
- E. temerity and slowness

**Correct Answer: C**

**Section: Reading**

**Explanation**

**Explanation/Reference:**

Explanation:



The author describes how poor people are “bursting up” primarily to convey a sense of the immediacy and swiftness by which the elevation of poor people is taking place. “Bursting” should suggest an urgent and immediate movement. Futility means pointlessness; irrelevance means not relevant; apathy means not caring; temerity means shyness; eloquence refers to intelligent and controlled speech; smugness means arrogance.

**QUESTION 1013** Adapted from “Letting Go,” part of A Southern Woman’s Story by Phoebe Yates Pember (1879)

Instructing him to find the doctor immediately and hastily getting on some clothing I hurried to the scene, for Fisher was an especial favorite. He was quite a young man, of about twenty years of age, who had been wounded ten months previously, very severely, high up on the leg near the hip and who by dint of hard nursing; good food and plenty of stimulant had been given a fair chance for recovery. The bones of the broken leg had slipped together, then lapped, and nature anxious as she always is to help herself had thrown a ligature across, uniting the severed parts; but after some time the side curved out, and the wounded leg was many inches shorter than its fellow. He had remained through all his trials, stout, fresh and hearty, interesting in appearance, and so gentle-mannered and uncomplaining that we all loved him. Supported on his crutches he had walked up and down his ward for the first time since he was wounded, and seemed almost restored. That same night he turned over and uttered an exclamation of pain.

Following the nurse to his bed, and turning down the covering, a small jet of blood spurted up. The sharp edge of the splintered bone must have severed an artery. I instantly put my finger on the little orifice and awaited the surgeon. He soon came – took a long look and shook his head. The explanation was easy; the artery was imbedded in the fleshy part of the thigh and could not be taken up. No earthly power could save him.

The hardest trial of my duty was laid upon me; the necessity of telling a man in the prime of life, and fullness of strength that there was no hope for him. It was done at last, and the verdict received patiently and courageously, some directions given by which his mother would be informed of his death, and then he turned his questioning eyes upon my face.

"How long can I live?"

"Only as long as I keep my finger upon this artery." A pause ensued. God alone knew what thoughts hurried through that heart and brain, called so unexpectedly from all earthly hopes and ties. He broke the silence at last.

"You can let go –"

But I could not. Not if my own life had trembled in the balance. Hot tears rushed to my eyes, a surging sound to my ears, and a deathly coldness to my lips. The pang of obeying him was spared me, and for the first and last time during the trials that surrounded me for four years, I fainted away. No words can do justice to the uncomplaining nature of the Southern soldier. Whether it arose from resignation or merely passive submission, yet when shown in the aggregate in a hospital, it was sublime. Day after day, whether lying wasted by disease or burning up with fever, torn with wounds or sinking from debility, a groan was seldom heard. The wounded wards would be noisily gay with singing, laughing, fighting battles o'er and o'er again, and playfully chaffing each other by decrying the troops from different States, each man applauding his own.

The revelation that this incident was the only time the author fainted during the war serves to \_\_\_\_\_.

- A. demonstrate the weakness of the author
- B. show how war is usually more manageable than is usually perceived
- C. highlight the impact of the experience on the author

- D. dramatize the strength of the Southern soldier
- E. minimize the effect of the story on the reader

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

By revealing that the experience with the young Southern soldier was the only instance during the war in which the author fainted the author is trying to highlight the impact that the experience had on her. The author states: “Hot tears rushed to my eyes, a surging sound to my ears, and a deathly coldness to my lips. The pang of obeying him was spared me, and for the first and last time during the trials that surrounded me for four years, I fainted away.” It also has the additional effect of intensifying the emotional response of the reader.

**QUESTION 1014** Adapted from “Introductory Remarks” in The Interpretation of Dreams by Sigmund Freud (trans. 1913)

In attempting to discuss the interpretation of dreams, I do not believe that I have overstepped the bounds of neuropathological interest. For, when investigated psychologically, the dream proves to be the first link in a chain of abnormal psychic structures whose other links – the hysterical phobia, the obsession, and the delusion – must interest the physician for practical reasons. The dream can lay no claim to a corresponding practical significance; however, its theoretical value is very great, and one who cannot explain the origin of the content of dreams will strive in vain to understand phobias, obsessive and delusional ideas, and likewise their therapeutic importance.

While this relationship makes our subject important, it is responsible also for the deficiencies in this work. The surfaces of fracture, which will be frequently discussed, correspond to many points of contact where the problem of dream formation informs more comprehensive problems of psychopathology which cannot be discussed here. These larger issues will be elaborated upon in the future.

Peculiarities in the material I have used to elucidate the interpretation of dreams have rendered this publication difficult. The work itself will demonstrate why all dreams related in scientific literature or collected by others had to remain useless for my purpose. In choosing my examples, I had to limit myself to considering my own dreams and those of my patients who were under psychoanalytic treatment. I was restrained from utilizing material derived from my patients' dreams by the fact that during their treatment, the dream processes were subjected to an undesirable complication – the intermixture of neurotic characters. On the other hand, in discussing my own dreams, I was obliged to expose more of the intimacies of my psychic life than I should like, more so than generally falls to the task of an author who is not a poet but an investigator of nature. This was painful, but unavoidable; I had to put up with the inevitable in order to demonstrate the truth of my psychological results at all. To be sure, I disguised some of my indiscretions through omissions and substitutions, though I feel that these detract from the value of the examples in which they appear. I can only express the hope that the reader of this work, putting himself in my difficult position, will show patience, and also that anyone inclined to take offense at any of the reported dreams will concede freedom of thought at least to the dream life.

In the last sentence of the passage, the author attempts to \_\_\_\_\_.

- A. get the reader to empathize with him
- B. explain why he made certain redactions to the dreams he later discusses
- C. inspire the reader to conduct his or her own scientific experiments
- D. encourage the reader to read the work of a variety of psychologists
- E. emphasize why his work is valuable, despite its flaws

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The last sentence of the passage states, “I can only express the hope that the reader of this work, putting himself in my difficult position, will show patience, and also that anyone inclined to take offense at any of the reported dreams will concede freedom of thought at least to the dream life.” Here, the author relates how he hopes the reader will receive his work, suggesting that the reader is mentioned in the correct answer. We can ignore “explain why he made certain redactions to the dreams he later discusses,” as the sentence doesn’t mention this at all – it’s a point made earlier in the last paragraph. The author is not attempting to get the reader to read the work of a variety of psychologists or to conduct his or her own scientific experiments, as neither of these points are mentioned or suggested at all. In choosing between the remaining two answer choices, “emphasize why his work is valuable, despite its flaws” and “get the reader to empathize with him,” the latter is the best answer. The author is not so much arguing for his work’s value in spite of flaws as he is attempting to get the reader to consider his situation, “putting [him- or herself] in [the author’s] difficult position.”

**QUESTION 1015** Adapted from Citizenship in a Republic (1910) by Theodore Roosevelt

It is not the critic who counts; not the man who points out how the strong man stumbles, or where the doer of deeds could have done them better. The credit belongs to the man who is actually in the arena, whose face is marred by dust and sweat and blood; who strives valiantly; who errs, who comes short again and again, because there is no effort without error and shortcoming; but who does actually strive to do the deeds; who knows great enthusiasms, the great devotions; who spends himself in a worthy cause; who at the best knows in the end the triumph of high achievement, and who at the worst, if he fails, at least fails while daring greatly, so that his place shall never be with those cold and timid souls who neither know victory nor defeat.

The author’s description of those “who neither know victory nor defeat” is \_\_\_\_\_.

- A. respectful

- B. incomprehensible
- C. derisive
- D. ambivalent
- E. friendly

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The author contrasts those who do not even try to compete (those that do not know victory or defeat) with those “worthy” men who are not afraid to throw themselves into any challenge or competition. It is clear from the author’s tone in this passage that he believes in the greatness of men who boldly meet competition and therefore that he would feel the opposite about those who shrink away. The author even describes those “who neither know victory nor defeat” as “cold and timid.”

#### QUESTION 1016

Adapted from The Gettysburg Address by Abraham Lincoln (1863)

Four score and seven years ago our fathers brought forth, upon this continent, a new nation, conceived in liberty, and dedicated to the proposition that all men are created equal.

Now we are engaged in a great civil war, testing whether that nation or any nation so conceived and so dedicated, can long endure. We are met on a great battlefield of that war. We have come to dedicate a portion of that field, as a final resting place for those who here gave their lives that that nation might live. It is altogether fitting and proper that we should do this.

But, in a larger sense, we cannot dedicate, we cannot consecrate, we cannot hallow, this ground. The brave men, living and dead, who struggled here, have consecrated it, far above our poor power to add or detract. The world will little note, nor long remember what we say here, but it can never forget what they did here. It is for us the living, rather, to be dedicated here to the unfinished work which they who fought here have thus far so nobly advanced. It is rather for us to be here dedicated to the great task remaining before us – that from these honored dead we take increased devotion to that cause for which they here gave the last full measure of devotion – that we here highly resolve that these dead shall not have died in vain, that this nation, under God, shall have a new birth of freedom, and that government of the people, by the people, for the people, shall not perish from the earth.

“It is altogether fitting and proper that we should do this” most nearly reflects the author's \_\_\_\_\_.

- A. point of view
- B. ambivalence
- C. frustration
- D. confidence
- E. counterpoint



**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The author of this passage states that “We have come to dedicate a portion of that field, as a final resting place for those who here gave their lives that that nation might live. It is altogether fitting and proper that we should do this.” These two sentences most neatly summarize the author’s point of view. There is no frustration, confidence or ambivalence (uncertainty) introduced. Indeed these two sentences are almost without tone. The use of the words “fitting” (appropriate) and “should” help to clue you in that the author is describing related to his opinion or point of view.

#### QUESTION 1017

Adapted from “Queen of the Sea's Awful Fate on Her First Trip Out” from The Times Dispatch (Richmond, Virginia), April 28, 1912.

The giant Titanic of the White Star Line, the biggest ship afloat when she sailed from Southampton, England, on April 10, on her maiden voyage to the Port of New York, lies to-day a broken wreck, 2,760 fathoms beneath the ocean's surface, some 800 miles from shore off the great Newfoundland Banks. The ship that was unsinkable, in the minds of her makers and the men that ran her, has been sunk. The Queen of the Seas is less to-day than one of her lifeboats which bobs up and down on the broken surface of the Hudson River, safe between the piers of the White Star Line.

And in her sinking the Titanic exacted greater toll than humanity ever before had been made to pay for its efforts to conquer the sea. Of the 2,340 persons composing passengers and crew of the big liner, only 705 ever reached this port. More than two-thirds of those who embarked on the Titanic for her maiden Journey – 1,635 persons exactly – went down with her when she snubbed her nose beneath the waves, hung, quivering an instant, half above and half below the surface, and then started her downward plunge to the bottom, nearly two miles below.

Since then the cable ships Mackay-Bennett and Minia have been at the scene of the wreck searching for bodies. Some have been identified by articles in the clothing and are now on their way to Halifax aboard the Mackay-Bennett. Altogether 205 had been picked up last Thursday. The steamship is due there this morning. Others were recommitted to the sea after it had been found that they were unrecognizable. The Minia will remain at the scene of the disaster for some days to come, and it will not be until there is a fair certainty that everybody recoverable has been found that the search will be abandoned.

It was collision with an iceberg which caused the destruction of the Titanic, and those who would moralize over the great ship's loss can see in such a meeting the hand of Fate, which required the greatest example of man's handiwork afloat on the sea to point its protest against his ambition. For it seems certain that nothing less than an iceberg could have withstood collision with the enormous Titanic. Than her no ship which sails the seas was better prepared to meet unexpected

encounters with others. Even a war vessel, the heaviest Dreadnought, probably must have succumbed to the rushing impetus of the monster Titanic had they jostled each other in the narrow lanes of the ocean. It had to be something greater than any ship afloat to sink the Titanic, and that something was supplied in the tremendous berg, eight-ninths of whose bulk skulked beneath the waves while it presented a paltry lump of ice, some 120 feet in height to do combat with the steamship.

Which of the following sentences is the best example of the author's belief that the Titanic disaster is proof that mankind has become too advanced?

- A. "It was collision with an iceberg which caused the destruction of the Titanic, and those who would moralize over the great ship's loss can see in such a meeting the hand of Fate, which required the greatest example of man's handiwork afloat on the sea to point its protest against his ambition." (Paragraph 4)
- B. "The giant Titanic of the White Star Line, the biggest ship afloat when she sailed from Southampton, England, on April 10, on her maiden voyage to the Port of New York, lies to-day a broken wreck, 2,760 fathoms beneath the ocean's surface, some 800 miles from shore off the great Newfoundland Banks." (Paragraph 1)
- C. "The Queen of the Seas is less to-day than one of her lifeboats which bobs up and down on the broken surface of the Hudson River, safe between the piers of the White Star Line." (Paragraph 1)
- D. "Even a war vessel, the heaviest Dreadnought, probably must have succumbed to the rushing impetus of the monster Titanic had they jostled each other in the narrow lanes of the ocean." (Paragraph 4)

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

In this passage the author states that "only Fate could have destroyed a vessel as well-built as the Titanic. In this case, Fate is a higher power, or God." In the second paragraph, the author claims that, "...in her sinking the Titanic exacted greater toll than humanity ever before had been made to pay for its efforts to conquer the sea." The implication from these sentences is that mankind was trying to conquer nature, Fate intervened to prove its superiority.

**QUESTION 1018** Passage adapted from Joshua Lawrence Chamberlain's "The Passing of the Armies" (1915)

The attack was impetuous; the musketry hot. Major Glenn with his six companies in skirmishing order dashed through the stream and struck the enemy's breastworks front and flank. In a moment everything started loose. The entire brigade forded the stream and rolled forward, closing upon Glenn right and left, and the whole command swept onward like a wave, carrying all before it a mile or more up the road, to the buildings of the Lewis Farm. The enemy now re-enforced made a decided stand, and the fight became sharp. But our enveloping line pressed them so severely that they fell back after each struggle to the edge of a thick wood, where a large body had gathered behind a substantial breastwork of logs and earth.

A withering volley breaks our line into groups. Courage and resolution are great, but some other sentiment mightier for the moment controls our men; a backward movement begins, but the men retire slowly, bearing their wounded with them, and even some of their dead. The enemy, seeing this recoil, pour out of their shelter and make a dash upon our broken groups, but only to be dashed back in turn hand to hand in eddying whirls. And seized by our desperate fellows, so many are dragged along as prisoners in the receding tide that it is not easy to tell which side is the winning one. Much of the enemy's aim is unsteady, for the flame and murk of their thickening fire in the heavy moist air are blown back into their eyes by the freshening south wind. But reinforcements are coming in, deepening and broadening their line beyond both our flanks. Now roar and tumult of motion for a fierce pulse of time, then again a quivering halt. At length one vigorous dash drives the assailants into the woods again with heavy loss. We had cleared the field, and thought it best to be content with that for the present. We reform our lines each side the buildings of the Lewis Farm, and take account of the situation.

In the second paragraph, what "other sentiment" is the author describing when he says, "Courage and resolution are great, but some other sentiment mightier for the moment controls our men...?"

- A. Self-preservation
- B. Greed
- C. Insanity
- D. Courage

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Self-preservation is the only sentiment that makes sense in this sentence. The troops are suddenly, viciously attacked by severe musket fire. The sentence in question describes their courage, but states "some other sentiment" takes over, so courage cannot be the correct answer. The paragraph further describes how the troops retreat, but in good order. They stop to help their wounded and retreat slowly. These are not the actions of insane men. Finally, greed is not described in any way. The troops are merely trying to save their own lives.

**QUESTION 1019** Passage adapted from Joshua Lawrence Chamberlain's "The Passing of the Armies" (1915)

The attack was impetuous; the musketry hot. Major Glenn with his six companies in skirmishing order dashed through the stream and struck the enemy's breastworks front and flank. In a moment everything started loose. The entire brigade forded the stream and rolled forward, closing upon Glenn right and left, and the whole command swept onward like a wave, carrying all before it a mile or more up the road, to the buildings of the Lewis Farm. The enemy now re-enforced made



a decided stand, and the fight became sharp. But our enveloping line pressed them so severely that they fell back after each struggle to the edge of a thick wood, where a large body had gathered behind a substantial breastwork of logs and earth.

A withering volley breaks our line into groups. Courage and resolution are great, but some other sentiment mightier for the moment controls our men; a backward movement begins, but the men retire slowly, bearing their wounded with them, and even some of their dead. The enemy, seeing this recoil, pour out of their shelter and make a dash upon our broken groups, but only to be dashed back in turn hand to hand in eddying whirls. And seized by our desperate fellows, so many are dragged along as prisoners in the receding tide that it is not easy to tell which side is the winning one. Much of the enemy's aim is unsteady, for the flame and murk of their thickening fire in the heavy moist air are blown back into their eyes by the freshening south wind. But reinforcements are coming in, deepening and broadening their line beyond both our flanks. Now roar and tumult of motion for a fierce pulse of time, then again a quivering halt. At length one vigorous dash drives the assailants into the woods again with heavy loss. We had cleared the field, and thought it best to be content with that for the present. We reform our lines each side the buildings of the Lewis Farm, and take account of the situation.

The term "eddying whirls" in the second paragraph serves to \_\_\_\_\_.

- A. describe the terrain of the battle
- B. add poetic imagery to the author's description of the waves
- C. increase the sense of disorganization and confusion
- D. convey a sense of despair among the troops

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

In the first paragraph, the troops "roll forward" and "the whole command swept forward like a wave." This sets the tone for the second paragraph where the imagery is continued. The battle moves forward and then backward, just like waves. The enemy then dashes forward, trying to cut off the US troops that have been broken up into small groups just like "eddying whirls." As the US troops retreat, "many (men) are dragged along as prisoners in the receding tide."

#### QUESTION 1020

Adapted from The Wealth of Nations by Adam Smith (1776)

The greatest improvements in the productive powers of labor, and the greater part of the skill, dexterity, and judgment with which it is anywhere directed or applied, seem to have been the effects of the division of labor. The effects of the division of labor, in the general business of society, will be more easily understood by considering in what manner it operates in some particular manufactures. It is commonly supposed to be carried furthest in some very trifling ones; not perhaps that it really is carried further in them than in others of more importance, but in those trifling manufactures that are destined to supply the small wants of but a small number of people, the whole number of workmen must necessarily be small; and those employed in every different branch of the work can often be collected into the same workhouse, and placed at once under the view of the spectator.

In those great manufactures, on the contrary, which are destined to supply the great wants of the great body of the people, every different branch of the work employs so great a number of workmen that it is impossible to collect them all into the same workhouse. We can seldom see more, at one time, than those employed in one single branch. Though in such manufactures, therefore, the work may really be divided into a much greater number of parts, than in those of a more trifling nature, the division is not near so obvious, and has accordingly been much less observed.

To take an example, therefore, from a very trifling manufacture, but one in which the division of labor has been very often taken notice of: the trade of a pin-maker. A workman not educated to this business (which the division of labor has rendered a distinct trade), nor acquainted with the use of the machinery employed in it (to the invention of which the same division of labor has probably given occasion), could scarce, perhaps, with his utmost industry, make one pin in a day, and certainly could not make twenty. But in the way in which this business is now carried on, not only the whole work is a peculiar trade, but it is divided into a number of branches, of which the greater part are likewise peculiar trades. One man draws out the wire; another straightens it; a third cuts it; a fourth points it; a fifth grinds it at the top for receiving the head; to make the head requires two or three distinct operations; to put it on is a peculiar business; to whiten the pins is another; it is even a trade by itself to put them into the paper; and the important business of making a pin is, in this manner, divided into about eighteen distinct operations, which, in some manufactories, are all performed by distinct hands, though in others the same man will sometimes perform two or three of them.

In every other art and manufacture, the effects of the division of labour are similar to what they are in this very trifling one; though, in many of them, the labour can neither be so much subdivided, nor reduced to so great a simplicity of operation. The division of labour, however, so far as it can be introduced, occasions, in every art, a proportionable increase of the productive powers of labour. The separation of different trades and employments from one another, seems to have taken place, in consequence of this advantage.

In which of the following sentences does the author directly state why he discusses pin-making as an example of the division of labor in the third paragraph?

- A. "It is commonly supposed to be carried furthest in some very trifling ones; not perhaps that it really is carried further in them than in others of more importance, but in those trifling manufactures . . . those employed in every different branch of the work can often be collected into the same workhouse, and placed at once under the view of the spectator."
- B. "The effects of the division of labor, in the general business of society, will be more easily understood by considering in what manner it operates in some particular manufactures."
- C. "The greatest improvements in the productive powers of labor, and the greater part of the skill, dexterity, and judgment with which it is anywhere directed or applied, seem to have been the effects of the division of labor."
- D. "In those great manufactures, on the contrary . . . every different branch of the work employs so great a number of workmen that it is impossible to collect them all into the same workhouse."

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

This question is asking you to pick out a quotation in which the author is justifying part of his method: the presentation of a specific example in paragraph three. While many of the answer choices may be read as setting up the pin-making example, only in one of the answer choices does the author state why he will be bringing up an example: “The effects of the division of labor, in the general business of society, will be more easily understood by considering in what manner it operates in some particular manufactures.” Loosely paraphrased, the author is here saying that it is easier to understand the division of labor when considering how it works in some specific example industries. He then goes on to present pinmaking as just such an example industry in paragraph three.

**QUESTION 1021**

Adapted from “Declaration of Sentiments and Resolutions” by Elizabeth Cady Stanton; Lucretia Mott; and others (1848)

We hold these truths to be self-evident: that all men and women are created equal; that they are endowed by their Creator with certain inalienable rights; that among these are life, liberty, and the pursuit of happiness; that to secure these rights governments are instituted, deriving their just powers from the consent of the governed. Whenever any form of government becomes destructive of these ends, it is the right of those who suffer from it to refuse allegiance to it, and to insist upon the institution of a new government, laying its foundation on such principles, and organizing its powers in such form, as to them shall seem most likely to affect their safety and happiness. Prudence, indeed, will dictate that governments long established should not be changed for light and transient causes; and accordingly all experience hath shown that mankind are more disposed to suffer while evils are sufferable, than to right themselves by abolishing the forms to which they accustomed. But when a long train of abuses and usurpations, pursuing invariably the same object, evinces a design to reduce them under absolute despotism, it is their duty to throw off such government, and to provide new guards for their future security. Such has been the patient sufferance of women under this government, and such is now the necessity which constrains them to demand the equal station to which they are entitled.

For what purpose does the author employ the language of the first few lines of the United States Constitution?

- A. To frame a new idea within the context of familiar language
- B. To distract from the main point
- C. To deny the relevance of an established authority
- D. To establish an argument that will be later refuted
- E. To chastise a group or an individual

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

You may have noticed that the author slightly manipulates the language of the Constitution. The Constitution states that “all men are created equal” and the author alters this to say “that all men and women are created equal.” The purpose of doing this is to contextualize a new idea within the framework of existing, and familiar, language. The author clearly feels that this will make her argument more evocative and relevant.

**QUESTION 1022** Adapted from Women’s Political Future by Frances E.

W. Harper (1893)

The world has need of all the spiritual aid that woman can give for the social advancement and moral development of the human race. The tendency of the present age, with its restlessness, religious upheavals, failures, blunders, and crimes, is toward broader freedom, an increase of knowledge, the emancipation of thought, and recognition of the brotherhood of man; in this movement woman, as the companion of man, must be an equal. So close is the bond between man and woman that you cannot raise one without lifting the other. The world cannot move without woman's sharing in the movement, and to help give a right impetus to that movement is woman's highest privilege.

If the fifteenth century discovered America to the Old World, the nineteenth is discovering woman to herself. Not the opportunity of discovering new worlds, but that of filling this old world with fairer and higher aims than the greed of gold and the lust of power, is hers. Through weary, wasting years men have destroyed, dashed in pieces, and overthrown, but today we stand on the threshold of woman's era, and woman's work is grandly constructive. In her hand are possibilities whose use or abuse must tell upon the political life of the nation, and send their influence for good or evil across the track of unborn ages.

In context, the reference to the discovery of America is meant to underline what aspect of women’s life in the nineteenth century?

- A. The removal of obstacles to sexual equality
- B. The ability of women to vote
- C. The growing opportunities for self-realization
- D. The closeness of men and women
- E. The education of women in private schools

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The author makes reference to the discovery of America in the fifteenth century in comparison to women’s discovery of their own identity in the nineteenth century. The author states that “the nineteenth is discovering woman to herself” and that “today we stand on the threshold of woman's era.”



**QUESTION 1023**

Adapted from An Account of the Remarkable Occurrences in the Life and Travels of Col. James Smith, (Late a Citizen of Bourbon County, Kentucky,) during his Captivity with the Indians, in the Years 1755, '56, '57, '58, & '59 by James Smith (1799; ed. Glugg & Elliott, 1834)

After the departure of these warriors we had hard times; and though we were not altogether out of provisions, we were brought to short allowance. At length Tontileaugo had considerable success, and we had meat brought into camp sufficient to last ten days. Tontileaugo then took me with him in order to encamp some distance from this winter-cabin, to try his luck there. We carried no provisions with us; he said he would leave what was there for the women and children, and that we could shift for ourselves. We steered about a south course up the waters of this creek, and encamped about ten or twelve miles from the winter-cabin. As it was still cold weather, and a crust upon the snow, which made a noise as we walked, and alarmed the deer, we could kill nothing, and consequently went to sleep without supper. The only chance we had, under these circumstances, was to hunt bear-holes; as the bears, about Christmas, search out a winter lodgingplace, where they lie about three or four months without eating or drinking. This may appear to some incredible, but it is well known to be the case by those who live in the remote western parts of North America.

The next morning early we proceeded on, and when we found a tree scratched by the bears climbing up, and the hole in the tree sufficiently large for the reception of the bear, we then felled a sapling or small tree against or near the hole, and it was my business to climb up and drive out the bear, while Tontileaugo stood ready with his gun and bow. We went on in this manner until evening without success. At length we found a large elm scratched, and a hole in it about forty feet up, but no tree high suitable to lodge against the hole. Tontileaugo got a long pole and some dry rotten wood, which he tied in bunches with bark; and as there was a tree that grew near the elm, and extended up near the hole, but leaned the wrong way, so that we could not lodge it to advantage, to remedy this inconvenience he climbed up this tree and carried with him his rotten wood, fire, and pole. The rotten wood he tied to his belt, and to one end of the pole he tied a hook and a piece of rotten wood, which he set fire to, as it would retain fire almost like punk, and reached this hook from limb to limb as he went up. When he got up with his pole he put dry wood on fire into the hole; after he put in the fire he heard the bear snuff, and he came speedily down, took his gun in his hand, and waited until the bear would come out; when it did appear he attempted taking sight with his rifle; but it being then too dark to see the sights, he set it down by a tree, and instantly bent his bow, took hold of an arrow, and shot the bear a little behind the shoulder. I was preparing also to shoot an arrow, but he called to me to stop, there was no occasion; and with that the bear fell to the ground. Being very hungry, we kindled a fire, opened the bear, took out the liver, and wrapped some of the caul-fat round, and put it on a wooden spit, which we stuck in the ground by the fire to roast; then we skinned the bear, got on our kettle, and had both roast and boiled, and also sauce to our meat, which appeared to me to be delicate fare. After I was fully satisfied I went to sleep; Tontileaugo awoke me, saying, "Come, eat hearty, we have got meat plenty now."

The next morning we cut down a lynn-tree, peeled bark and made a snug little shelter, facing the southeast, with a large log betwixt us and the northwest; we made a good fire before us, and scaffolded up our meat at one side. When we had finished our camp we went out to hunt; searched two trees for bears, but to no purpose. As the snow thawed a little in the afternoon, Tontileaugo killed a deer, which we carried with us to camp.

Sometime in February the four warriors returned, who had taken two scalps and six horses from the frontiers of Pennsylvania. The hunters could then scatter out a considerable distance from the winter-cabin and encamp, kill meat, and bring it in upon horses; so that we commonly, after this, had plenty of provision.

The point of view from which the passage is told can best be described as that of \_\_\_\_\_.

- A. None of these answers
- B. a Native American woman
- C. a child
- D. a third person narrator
- E. Tontileaugo

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The author is obviously first person as the passage makes use of the pronouns “we” and “I.” We know that the author is not Tontileaugo, and that the author sets him- or herself apart from the “women and children”; therefore, the only reasonable answer is “None of these answers.”

**QUESTION 1024**

Adapted from The Condition of the Working-Class in England in 1844 by Friedrich Engels (ed. 1892, trans. Wischnewetzky)

The order of our investigation of the different sections of the proletariat follows naturally from the foregoing history of its rise. The first proletarians were connected with manufacture, were engendered by it, and accordingly, those employed in manufacture, in the working up of raw materials, will first claim our attention. The production of raw materials and of fuel for manufacture attained importance only in consequence of the industrial change, and engendered a new proletariat, the coal and metal miners. Then, in the third place, manufacture influenced agriculture, and in the fourth, the condition of Ireland; and the fractions of the proletariat belonging to each, will find their place accordingly. We shall find, too, that the factory hands are most enlightened as to their own interests, the miners somewhat less so, the agricultural laborers scarcely at all. We shall find the same order again among the industrial workers, and shall see how the factory hands, eldest children of the industrial revolution, have from the beginning to the present day formed the nucleus of the Labour Movement, and how the others have joined this movement just in proportion as their handicraft has been invaded by the progress of machinery. We shall thus learn from the example which England offers, from the equal pace which the Labour Movement has kept with the movement of industrial development, the historical significance of manufacture.

Since, however, at the present moment, pretty much the whole industrial proletariat is involved in the movement, and the condition of the separate sections has much in common, because they all are industrial, we shall have first to examine the condition of the industrial proletariat as a whole, in order later to notice more particularly each separate division with its own peculiarities.

It has been already suggested that manufacture centralizes property in the hands of the few. It requires large capital with which to erect the colossal establishments that ruin the petty trading bourgeoisie and with which to press into its service the forces of Nature, so driving the hand labour of the independent workman out of the market. The division of labour, the application of water and especially steam, and the application of machinery, are the three great levers with which manufacture, since the middle of the last century, has been busy putting the world out of joint. Manufacture, on a small scale, created the middle-class; on a large scale, it created the working-class, and raised the elect of the middle-class to the throne, but only to overthrow them the more surely when the time comes. Meanwhile, it is an undeniable and easily explained fact that the numerous, petty middle-class of the “good old times” has been annihilated by manufacture, and resolved into rich capitalists on the one hand and poor workers on the other.

The centralizing tendency of manufacture does not, however, stop here. Population becomes centralized just as capital does; and, very naturally, since the human being, the worker, is regarded in manufacture simply as a piece of capital for the use of which the manufacturer pays interest under the name of wages. A manufacturing establishment requires many workers employed together in a single building, living near each other and forming a village of themselves in the case of a good-sized factory. They have needs for satisfying which other people are necessary; handicraftsmen, shoemakers, tailors, bakers, carpenters, stonemasons, settle at hand. The inhabitants of the village, especially the younger generation, accustom themselves to factory work, grow skillful in it, and when the first mill can no longer employ them all, wages fall, and the immigration of fresh manufacturers is the consequence. So the village grows into a small town, and the small

town into a large one. The greater the town, the greater its advantages. It offers roads, railroads, canals; the choice of skilled labour increases constantly, new establishments can be built more cheaply because of the competition among builders and machinists who are at hand, than in remote country districts, whither timber, machinery, builders, and operatives must be brought; it offers a market to which buyers crowd, and direct communication with the markets supplying raw material or demanding finished goods. Hence the marvelously rapid growth of the great manufacturing towns. The country, on the other hand, has the advantage that wages are usually lower than in town, and so town and country are in constant competition; and, if the advantage is on the side of the town to-day, wages sink so low in the country to-morrow, that new investments are most profitably made there. But the centralizing tendency of manufacture continues in full force, and every new factory built in the country bears in it the germ of a manufacturing town. If it were possible for this mad rush of manufacture to go on at this rate for another century, every manufacturing district of England would be one great manufacturing town, and Manchester and Liverpool would meet at Warrington or Newton; for in commerce, too, this centralization of the population works in precisely the same way, and hence it is that one or two great harbors, such as Hull and Liverpool, Bristol, and London, monopolize almost the whole maritime commerce of Great Britain.

Which of the following statements about the author's attitude toward the Irish is supported by the passage?

- A. The author thinks the latest people to be affected by industry were the Irish.
- B. The author is biased in favor of the Irish.
- C. The author mistrusts the Irish.
- D. The author is prejudiced against the Irish.
- E. The author supports attempts of the Irish to gain independence.

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

In listing who has been subject to changes as a result of the manufacture boom, the Irish are listed as fourth and last. From this, we can infer that the author believes they are the most recent group to be affected by the industrial boom.

**QUESTION 1025** "Comparing Technologies: A Difficult Endeavor" by  
Matthew Miner (2014)

Comparisons of technology are often difficult to make, not only because of the rapid pace of improvements but also because of the many new applications that are available as time progresses. If we were to consider the contemporary graphing calculator and the calculation capacities of computing machines from fifty years ago, there would be astounding improvements between these two devices. However, the improvements are not reduced merely to speed improvements. A graphing calculator also has numerous output capacities that far exceed those available much older computers, none of which had the ability to represent their output in any manner even closely resembling that of contemporary devices. Merely consider the display capacities of such a device. These enable users to input many new kinds of information, enabling design engineers to design new hardware functions to match the new means of collecting user input. The situation is even more obvious when one considers the numerous functions performed by a modern "smartphone." These devices are equipped with a panoply of features. With all of these new functions come many new types of computational capabilities as well. In order to process images quickly, specialized hardware must be designed and software written for it in order to ensure that there are few issues with the phone's operation. Indeed, the whole "real time" nature of telecommunications has exerted numerous pressures on the designers of computing devices. Layers of complexity, at all levels of production and development, are required to ensure that the phone can function in a synchronous manner. Gone are the days of asynchronous processing, when the computer user entered data into a mainframe, only to wait for a period of time before the processing results were provided. Today, even the smallest of digital devices must provide seamless service for users. The effects of this requirement are almost beyond number.

What is implied by the word "merely" at the beginning of the underlined sentence?

- A. None of the other answers
- B. The example given is quite intriguing, though many think it to be simplistic.
- C. There are many, more profound differences even beyond those mentioned here.
- D. These are really unimportant points that need little attention.
- E. The example that follows is meant for unexperienced audiences.

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The word "merely" here implies that the detail is just one among many. The author is calling the reader's attention to one little detail among many others. It is, perhaps, a bit simple in its nature, but it is not necessarily unimportant or simplistic. The general point is that many other details could be brought forward if need be.

**QUESTION 1026**

Adapted from Volume Four of The Natural History of Animals: The Animal Life of the World in Its Various Aspects and Relations by James Richard Ainsworth Davis (1903)

The examples of protective resemblance so far quoted are mostly permanent adaptations to one particular sort of surrounding. There are, however, numerous animals which possess the power of adjusting their color more or less rapidly so as to harmonize with a changing environment.

Some of the best known of these cases are found among those mammals and birds that inhabit countries more or less covered with snow during a part of the year. A good instance is afforded by the Irish or variable hare, which is chiefly found in Ireland and Scotland. In summer, this looks very much like an ordinary hare, though rather grayer in tint and smaller in size, but in winter it becomes white with the exception of the black tips to the ears. Investigations that have been made on the closely allied American hare seem to show that the phenomenon is due to the growth of new hairs of white hue.

The common stoat is subject to similar color change in the northern parts of its range. In summer it is of a bright reddish brown color with the exception of the under parts, which are yellowish white, and the end of the tail, which is black. But in winter, the entire coat, save only the tip of the tail, becomes white, and in that conditions the animal is known as an ermine. A similar example is afforded by the weasel. The seasonal change in the vegetarian Irish hare is purely of protective character, but in such an actively carnivorous creature as a stoat or weasel, it is aggressive as well, rendering the animal inconspicuous to its prey.

For what reason does the author describe the Irish hare as “vegetarian” in the underlined sentence?

- A. To help readers empathize with the hare
- B. To provide information about the hare's diet that the reader may not know
- C. To provide insight about what food is available in arctic environments
- D. To encourage the reader to switch to a vegetarian diet
- E. To contrast the hare with the stoat and the weasel

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The underlined sentence is the last sentence of the third paragraph, “The seasonal change in the vegetarian Irish hare is purely of protective character, but in such an actively carnivorous creature as a stoat or weasel, it is aggressive as well, rendering the animal inconspicuous to its prey. One could reasonably infer that a hare would be vegetarian, so “To provide information about the hare’s diet that the reader may not know” cannot be the correct answer. The section doesn’t aim to help readers empathize with the hare any more than the stoat and weasel, so “To help readers empathize with the hare” cannot be correct either. The sentence doesn’t specifically encourage the reader to do anything; it is merely providing information about certain animals; so, “To encourage the reader to switch to a vegetarian diet” cannot be correct. “To provide insight about what food is available in arctic environments” doesn’t make sense either, because we are not told about the food specifically available in arctic environments; we can’t even assume that there are only plants available, as the stoat and weasel eat meat. That brings us to the correct answer: “To contrast the hare with the stoat and the weasel.” The word “vegetarian” specifically contrasts with the word “carnivorous” used later in the sentence to describe the stoat and weasel. This contrast mirrors the contrast of defensive and aggressive/defensive color-changing adaptations which the author is discussing in the sentence.

**QUESTION 1027** Adapted from Ice-Caves of France and Switzerland by George Forrest Browne (1865)

This account states that the cave is in the county of Thorn, among the lowest spurs of the Carpathians. The entrance, which faces the north, and is exposed to the cold winds from the snowy part of the Carpathian range, is eighteen fathoms high and nine broad; and the cave spreads out laterally, and descends to a point fifty fathoms below the entrance, where it is twenty-six fathoms in breadth, and of irregular height. Beyond this no one had at that time penetrated, on account of the unsafe footing, although many distant echoes were returned by the farther recesses of the cave; indeed, to get even so far as this, much step-cutting was necessary.

When the external frost of winter comes on, the account proceeds, the effect in the cave is the same as if fires had been lighted there: the ice melts, and swarms of flies and bats and hares take refuge in the interior from the severity of the winter. As soon as spring arrives, the warmth of winter disappears from the interior, water exudes from the roof and is converted into ice, while the more abundant supplies which pour down on to the sandy floor are speedily frozen there. In the dog-days, the frost is so intense that a small icicle becomes in one day a huge mass of ice; but a cool day promptly brings a thaw, and the cave is looked upon as a barometer, not merely feeling, but also presaging, the changes of weather. The people of the neighborhood, when employed in field-work, arrange their labour so that the mid-day meal may be taken near the cave, when they either ice the water they have brought with them, or drink the melted ice, which they consider very good for the stomach. It had been calculated that six hundred weekly carts would not be sufficient to keep the cavern free from ice. The ground above the cave is peculiarly rich in grass.

In explanation of these phenomena, Bell threw out the following suggestions, which need no comment. The earth being of itself cold and damp, the external heat of the atmosphere, by partially penetrating into the ground, drives in this native cold to the inner parts of the earth, and makes the cold there more dense. On the other hand, when the external air is cold, it draws forth towards the surface the heat there may be in the inner part of the earth, and thus makes caverns warm.

In support and illustration of this view, he states that in the hotter parts of Hungary, when the people wish to cool their wine, they dig a hole two feet deep, and place in it the flagon of wine, and, after filling up the hole again, light a blazing fire upon the surface, which cools the wine as if the flagon had been laid in ice. He also suggests that possibly the cold winds from the Carpathians bring with them imperceptible particles of snow, which reach the water of the cave, and convert it into ice. Further, the rocks of the Carpathians abound in salts, nitre, alum, etc., which may, perhaps, mingle with such snowy particles, and produce the ordinary effect of the snow and salt in the artificial production of ice.

As it is used in the passage, the underlined word “presaging” most nearly means \_\_\_\_\_.

- A. receiving
- B. emulating
- C. predicting
- D. alerting
- E. responding

**Correct Answer:** C

**Section:** Reading  
**Explanation**

**Explanation/Reference:**

Explanation:

“Presaging” is giving a sign or a warning that something will happen, so it is nearest in meaning to “foreshadowing” or “predicting.” This meaning can be inferred from the word “sage,” suggesting wisdom, and the prefix “pre-,” which suggests the wisdom is prior to the event. To help you, “emulating” means imitating out of respect.

**QUESTION 1028** Adapted from Ice-Caves of France and Switzerland by George Forrest Browne (1865)

This account states that the cave is in the county of Thorn, among the lowest spurs of the Carpathians. The entrance, which faces the north, and is exposed to the cold winds from the snowy part of the Carpathian range, is eighteen fathoms high and nine broad; and the cave spreads out laterally, and descends to a point fifty fathoms below the entrance, where it is twenty-six fathoms in breadth, and of irregular height. Beyond this no one had at that time penetrated, on account of the unsafe footing, although many distant echoes were returned by the farther recesses of the cave; indeed, to get even so far as this, much step-cutting was necessary.

When the external frost of winter comes on, the account proceeds, the effect in the cave is the same as if fires had been lighted there: the ice melts, and swarms of flies and bats and hares take refuge in the interior from the severity of the winter. As soon as spring arrives, the warmth of winter disappears from the interior, water exudes from the roof and is converted into ice, while the more abundant supplies which pour down on to the sandy floor are speedily frozen there. In the dog-days, the frost is so intense that a small icicle becomes in one day a huge mass of ice; but a cool day promptly brings a thaw, and the cave is looked upon as a barometer, not merely feeling, but also presaging, the changes of weather. The people of the neighborhood, when employed in field-work, arrange their labour so that the mid-day meal may be taken near the cave, when they either ice the water they have brought with them, or drink the melted ice, which they consider very good for the stomach. It had been calculated that six hundred weekly carts would not be sufficient to keep the cavern free from ice. The ground above the cave is peculiarly rich in grass.

In explanation of these phenomena, Bell threw out the following suggestions, which need no comment. The earth being of itself cold and damp, the external heat of the atmosphere, by partially penetrating into the ground, drives in this native cold to the inner parts of the earth, and makes the cold there more dense. On the other hand, when the external air is cold, it draws forth towards the surface the heat there may be in the inner part of the earth, and thus makes caverns warm. In support and illustration of this view, he states that in the hotter parts of Hungary, when the people wish to cool their wine, they dig a hole two feet deep, and place in it the flagon of wine, and, after filling up the hole again, light a blazing fire upon the surface, which cools the wine as if the flagon had been laid in ice. He also suggests that possibly the cold winds from the Carpathians bring with them imperceptible particles of snow, which reach the water of the cave, and convert it into ice. Further, the rocks of the Carpathians abound in salts, nitre, alum, etc., which may, perhaps, mingle with such snowy particles, and produce the ordinary effect of the snow and salt in the artificial production of ice.

Which of these is the best antonym of the underlined word “partially,” as it is used in this passage?

- A. Wholly
- B. Unbiased
- C. Plentifully
- D. Resplendent
- E. Fragmentarily

**Correct Answer:** A

**Section:** Reading  
**Explanation**

**Explanation/Reference:**

Explanation:

In this case “partially” means in part rather than with partiality or with bias. The opposite of “partially” in this context then is fully or “wholly,” as the reverse meaning of the sentence would be “the heat fully penetrating the earth.” To help you, “resplendent” means splendid or dazzling.

**QUESTION 1029** Adapted from Ice-Caves of France and Switzerland by George Forrest Browne (1865)

This account states that the cave is in the county of Thorn, among the lowest spurs of the Carpathians. The entrance, which faces the north, and is exposed to the cold winds from the snowy part of the Carpathian range, is eighteen fathoms high and nine broad; and the cave spreads out laterally, and descends to a point fifty fathoms below the entrance, where it is twenty-six fathoms in breadth, and of irregular height. Beyond this no one had at that time penetrated, on account of the unsafe footing, although many distant echoes were returned by the farther recesses of the cave; indeed, to get even so far as this, much step-cutting was necessary.

When the external frost of winter comes on, the account proceeds, the effect in the cave is the same as if fires had been lighted there: the ice melts, and swarms of flies and bats and hares take refuge in the interior from the severity of the winter. As soon as spring arrives, the warmth of winter disappears from the interior, water exudes from the roof and is converted into ice, while the more abundant supplies which pour down on to the sandy floor are speedily frozen there. In the dog-days, the frost is so intense that a small icicle becomes in one day a huge mass of ice; but a cool day promptly brings a thaw, and the cave is looked upon as a barometer, not merely feeling, but also presaging, the changes of weather. The people of the neighborhood, when employed in field-work, arrange their labour so that the mid-day meal may be taken near the cave, when they either ice the water they have brought with them, or drink the melted ice, which they consider very good for the stomach. It had been calculated that six hundred weekly carts would not be sufficient to keep the cavern free from ice. The ground above the cave is peculiarly rich in grass.

In explanation of these phenomena, Bell threw out the following suggestions, which need no comment. The earth being of itself cold and damp, the external heat of the atmosphere, by partially penetrating into the ground, drives in this native cold to the inner parts of the earth, and makes the cold there more dense. On the other hand, when the external air is cold, it draws forth towards the surface the heat there may be in the inner part of the earth, and thus makes caverns warm. In support and illustration of this view, he states that in the hotter parts of Hungary, when the people wish to cool their wine, they dig a hole two feet deep, and place in it the flagon of wine, and, after filling up the hole again, light a blazing fire upon the surface, which cools the wine as if the flagon had been laid in ice. He also suggests that possibly the cold winds from the Carpathians bring with them imperceptible particles of snow, which reach the water of the cave, and convert it into ice. Further, the rocks of the Carpathians abound in salts, nitre, alum, etc., which may, perhaps, mingle with such snowy particles, and produce the ordinary effect of the snow and salt in the artificial production of ice.



As it is used in the passage, the underlined word “imperceptible” most nearly means \_\_\_\_\_.

- A. unattainable
- B. unperceivable
- C. undefinable
- D. indefatigable
- E. astonishing

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The particles of snow Bell talks about are unable to be perceived, which is synonymous with both “imperceptible.” To help you, “unattainable” means not able to be gotten, “undefinable” means not able to be defined, “indefatigable” means relentless, and “astonishing” means shocking.

### QUESTION 1030

Adapted from The Effects of Cross & Self-Fertilization in the Vegetable Kingdom by Charles Darwin (1876)

As it is impossible to exclude such minute pollen-carrying insects as Thrips, flowers which it was intended to fertilize with their own pollen may sometimes have been afterwards crossed with pollen brought by these insects from another flower on the same plant; but as we shall hereafter see, a cross of this kind does not produce any effect, or at most only a slight one. When two or more plants were placed near one another under the same net, as was often done, there is some real though not great danger of the flowers which were believed to be self-fertilized being afterwards crossed with pollen brought by Thrips from a distinct plant. I have said that the danger is not great because I have often found that plants which are self-sterile, unless aided by insects, remained sterile when several plants of the same species were placed under the same net. If, however, the flowers which had been presumably self-fertilized by me were in any case afterwards crossed by Thrips with pollen brought from a distinct plant, crossed seedlings would have been included amongst the self-fertilized; but it should be especially observed that this occurrence would tend to diminish and not to increase any superiority in average height, fertility, etc., of the crossed over the self-fertilized plants.

As the flowers which were crossed were never castrated, it is probable or even almost certain that I sometimes failed to cross-fertilize them effectually, and that they were afterwards spontaneously self-fertilized. This would have been most likely to occur with dichogamous species, for without much care it is not easy to perceive whether their stigmas are ready to be fertilized when the anthers open. But in all cases, as the flowers were protected from wind, rain, and the access of insects, any pollen placed by me on the stigmatic surface whilst it was immature, would generally have remained there until the stigma was mature; and the flowers would then have been crossed as was intended. Nevertheless, it is highly probable that self-fertilized seedlings have sometimes by this means got included amongst the crossed seedlings. The effect would be, as in the former case, not to exaggerate but to diminish any average superiority of the crossed over the self-fertilized plants.

Errors arising from the two causes just named, and from others, – such as some of the seeds not having been thoroughly ripened, though care was taken to avoid this error – the sickness or unperceived injury of any of the plants, – will have been to a large extent eliminated, in those cases in which many crossed and self-fertilized plants were measured and an average struck. Some of these causes of error will also have been eliminated by the seeds having been allowed to germinate on bare damp sand, and being planted in pairs; for it is not likely that ill-matured and well-matured, or diseased and healthy seeds, would germinate at exactly the same time. The same result will have been gained in the several cases in which only a few of the tallest, finest, and healthiest plants on each side of the pots were measured.

Kolreuter and Gartner have proved that with some plants several, even as many as from fifty to sixty, pollen-grains are necessary for the fertilization of all the ovules in the ovarium. Naudin also found in the case of *Mirabilis* that if only one or two of its very large pollen-grains were placed on the stigma, the plants raised from such seeds were dwarfed. I was therefore careful to give an amply sufficient supply of pollen, and generally covered the stigma with it; but I did not take any special pains to place exactly the same amount on the stigmas of the self-fertilized and crossed flowers. After having acted in this manner during two seasons, I remembered that Gartner thought, though without any direct evidence, that an excess of pollen was perhaps injurious. It was therefore necessary to ascertain whether the fertility of the flowers was affected by applying a rather small and an extremely large quantity of pollen to the stigma. Accordingly a very small mass of pollen-grains was placed on one side of the large stigma in sixty-four flowers of *Ipomoea purpurea*, and a great mass of pollen over the whole surface of the stigma in sixty-four other flowers. In order to vary the experiment, half the flowers of both lots were on plants produced from self-fertilized seeds, and the other half on plants from crossed seeds. The sixty-four flowers with an excess of pollen yielded sixty-one capsules; and excluding four capsules, each of which contained only a single poor seed, the remainder contained on an average 5.07 seeds per capsule. The sixty-four flowers with only a little pollen placed on one side of the stigma yielded sixty-three capsules, and excluding one from the same cause as before, the remainder contained on an average 5.129 seeds. So that the flowers fertilized with little pollen yielded rather more capsules and seeds than did those fertilized with an excess; but the difference is too slight to be of any significance. On the other hand, the seeds produced by the flowers with an excess of pollen were a little heavier of the two; for 170 of them weighed 79.67 grains, whilst 170 seeds from the flowers with very little pollen weighed 79.20 grains. Both lots of seeds having been placed on damp sand presented no difference in their rate of germination. We may therefore conclude that my experiments were not affected by any slight difference in the amount of pollen used; a sufficiency having been employed in all cases.

As it is used in the passage, the underlined word “dichogamous” in the second paragraph most likely means \_\_\_\_\_.

- A. invasive
- B. monotheistic
- C. impressive
- D. hermaphroditic
- E. sterile

**Correct Answer:** D

**Section:** Reading

**Explanation**

#### Explanation/Reference:

Explanation:

“Dichogamous” comes from the word "dichogamy," which is the production of male and female reproductive organs by a single organism at different times. A “dichogamous” plant is therefore a "hermaphroditic" plant, or a plant that has both male and female sexual organs. A few clues are given to the meaning of "dichogamous," as the prefix "di-" indicates that the word in question will relate to the number two, or two of something, and the sentence in which "dichogamous" is used in the passage also says "for without much care it is not easy to perceive whether their stigmas are ready to be fertilized when the anthers open." "Stamens" and "anthers" are the sexual organs of flowers, so one can infer from the sentence that one type of flower has both of these parts, so "dichogamous" must be most similar in meaning to "hermaphroditic."

**QUESTION 1031** Adapted from Essays on Early Ornithology and Kindred Subjects by James R. McClymont (1920)

The voyagers named it the Angra de Santa Elena, and it may have been the bay which is now known as St. Helen’s Bay. But it is worthy of note that the G. de Sta. Ellena of the Cantino Chart is laid down in a position which corresponds rather with that of Table Bay than with that of St. Helen’s Bay.

The Portuguese came into contact with the inhabitants of the country adjacent to the anchorage. These people had tawny complexions, and carried wooden spears tipped with horn – assagais of a kind – and bows and arrows. They also used foxes’ tails attached to short wooden handles. We are not informed for what purposes the foxes’ tails were used. Were they used to brush flies away, or were they insignia of authority? The food of the natives was the flesh of whales, seals, and antelopes (gazellas), and the roots of certain plants. Crayfish or ‘Cape lobsters’ abounded near the anchorage.

The author of the roteiro affirms that the birds of the country resembled the birds in Portugal, and that amongst them were cormorants, larks, turtle-doves, and gulls. The gulls are called "guayvotas," but "guayvotas" is probably another instance of the eccentric orthography of the author and equivalent to "gaivotas."

In December the squadron reached the Angra de São Bràs, which was either Mossel Bay or another bay in close proximity to Mossel Bay. Here penguins and seals were in great abundance. The author of the roteiro calls the penguins "sotelycairos," which is more correctly written "sotilicarios" by subsequent writers. The word is probably related to the Spanish "sotil" and the Latin "subtilis," and may contain an allusion to the supposed cunning of the penguins, which disappear by diving when an enemy approaches.

The sotilicarios, says the chronicler, could not fly because there were no quill-feathers in their wings; in size they were as large as drakes, and their cry resembled the braying of an ass. Castanheda, Goes, and Osorio also mention the sotilicario in their accounts of the first voyage of Vasco da Gama, and compare its flipper to the wing of a bat – a not wholly inept comparison, for the under-surface of the wings of penguins is wholly devoid of feathery covering. Manuel de Mesquita Perestrello, who visited the south coast of Africa in 1575, also describes the Cape penguin. From a manuscript of his Roteiro in the Oporto Library, one learns that the flippers of the sotilicario were covered with minute feathers, as indeed they are on the upper surface and that they dived after fish, upon which they fed, and on which they fed their young, which were hatched in nests constructed of fishbones. There is nothing to cavil at in these statements, unless it be that which asserts that the nests were constructed of fishbones, for this is not in accordance with the observations of contemporary naturalists, who tell us that the nests of the Cape Penguin (*Spheniscus demersus*) are constructed of stones, shells, and debris. It is, therefore, probable that the fishbones which Perestrello saw were the remains of repasts of seals.

Seals, says the roteiro, were in great number at the Angra de São Bràs. On one occasion the number was counted and was found to be three thousand. Some were as large as bears and their roaring was as the roaring of lions. Others, which were very small, bleated like kids. These differences in size and in voice may be explained by differences in the age and in the sex of the seals, for seals of different species do not usually resort to the same locality. The seal which formerly frequented the south coast of Africa – for it is, I believe, no longer a denizen of that region – was that which is known to naturalists as *Arctocephalus delalandii*, and, as adult males sometimes attain eight and a half feet in length, it may well be described as of the size of a bear. Cubs from six to eight months of age measure about two feet and a half in length. The Portuguese caught anchovies in the bay, which they salted to serve as provisions on the voyage. They anchored a second time in the Angra de São Bràs in March, 1499, on their homeward voyage.

Yet one more allusion to the penguins and seals of the Angra de São Bràs is of sufficient historical interest to be mentioned. The first Dutch expedition to Bantam weighed anchor on the 2nd of April, 1595, and on the 4th of August of the same year the vessels anchored in a harbor called "Ague Sambras," in eight or nine fathoms of water, on a sandy bottom. So many of the sailors were sick with scurvy – "thirty or thirty-three," said the narrator, "in one ship" – that it was necessary to find fresh fruit for them. "In this bay," runs the English translation of the narrative, "lieth a small Island wherein are many birds called Pyncuins and sea Wolves that are taken with men’s hands." In the original Dutch narrative by Willem Lodewyckszoon, published in Amsterdam in 1597, the name of the birds appears as "Pinguijns." The

underlined word “cavil” most nearly means \_\_\_\_\_.

- A. write about
- B. believe
- C. guess
- D. comprehend
- E. nitpick

**Correct Answer:** E

**Section:** Reading

**Explanation**

#### Explanation/Reference:

Explanation:

In the fifth paragraph, the author states, "There is nothing to cavil at in these statements, unless it be that which asserts that the nests were constructed of fishbones, for this is not in accordance with the observations of contemporary naturalists, who tell us that the nests of the Cape Penguin (*Spheniscus demersus*) are constructed of stones, shells, and debris." The argument is that the description of the penguins’ behaviour is fine apart from one detail. So, the author is saying there is nothing to nitpick or challenge apart from the assumption that the nests are made from fish bones.

#### QUESTION 1032

Timothy acted with \_\_\_\_\_, never being dissuaded by others from any task to which he set himself.

- A. arrogance

- B. deafness
- C. stubbornness
- D. inanity
- E. determination

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

When people try to “dissuade” someone from doing something, they attempt to convince that person not to undertake the given task. Since Timothy was never dissuaded by the arguments of others, he could be said to be “resolute,” that is, firm in purpose. The word determination best expresses this. When someone “determines” something, he or she finds the exact meaning or plan for that thing. A determined person has decided on his or her plan and does not give up in pursuit of it.

### QUESTION 1033

Adapted from A Practical Treatise on the Hive and Honey-Bee by Lorenzo Lorraine Langstroth (1857 ed.)

Of all the numerous enemies of the honey-bee, the Bee-Moth (*Tinea mellonella*), in climates of hot summers, is by far the most to be dreaded. So widespread and fatal have been its ravages in this country that thousands have abandoned the cultivation of bees in despair, and in districts which once produced abundant supplies of the purest honey, bee-keeping has gradually dwindled down into a very insignificant pursuit. Contrivances almost without number have been devised to defend the bees against this invidious foe, but still it continues its desolating inroads, almost unchecked, laughing as it were to scorn at all the so-called "moth-proof" hives, and turning many of the ingenious fixtures designed to entrap or exclude it into actual aids and comforts in its nefarious designs.

I should feel but little confidence in being able to reinstate bee-keeping in our country into a certain and profitable pursuit if I could not show the apiarian in what way he can safely bid defiance to the pestiferous assaults of this, his most implacable enemy. I have patiently studied its habits for years, and I am at length able to announce a system of management founded upon the peculiar construction of my hives, which will enable the careful bee-keeper to protect his colonies against the monster. The bee-moth infects our apiaries, just as weeds take possession of a fertile soil. Before explaining the means upon which I rely to circumvent the moth, I will first give a brief description of its habits.

Swammerdam, towards the close of the seventeenth century, gave a very accurate description of this insect, which was then called by the very expressive name of the "bee-wolf." He has furnished good drawings of it, in all its changes, from the worm to the perfect moth, together with the peculiar webs or galleries that it constructs and from which the name of *Tinea galleria* or “gallery moth” has been given to it by some entomologists. He failed, however, to discriminate between the male and female, which, because they differ so much in size and appearance, he supposed to be two different species of the wax-moth. It seems to have been a great pest in his time, and even Virgil speaks of the "dirum tineæ genus," the dreadful offspring of the moth; that is the worm.

This destroyer usually makes its appearance about the hives in April or May, the time of its coming depending upon the warmth of the climate or the forwardness of the season. It is seldom seen on the wing (unless startled from its lurking place about the hive) until towards dark, and is evidently chiefly nocturnal in its habits. In dark cloudy days, however, I have noticed it on the wing long before sunset, and if several such days follow in succession, the female, oppressed with the urgent necessity of laying her eggs, may be seen endeavoring to gain admission to the hives. The female is much larger than the male, and "her color is deeper and more inclining to a darkish gray, with small spots or blackish streaks on the interior edge of her upper wings." The color of the male inclines more to a light gray; they might easily be mistaken for different species of moths. These insects are surprisingly agile, both on foot and on the wing. The motions of a bee are very slow in comparison. "They are," says Reaumur, "the most nimble-footed creatures that I know." "If the approach to the apiary be observed of a moonlight evening, the moths will be found flying or running round the hives, watching an opportunity to enter, whilst the bees that have to guard the entrances against their intrusion will be seen acting as vigilant sentinels, performing continual rounds near this important post, extending their antenna to the utmost, and moving them to the right and left alternately. Woe to the unfortunate moth that comes within their reach!" "It is curious," says Huber, "to observe how artfully the moth knows how to profit, to the disadvantage of the bees, which require much light for seeing objects; and the precautions taken by the latter in reconnoitering and expelling so dangerous an enemy." Based on the passage, another word for “beehive” is \_\_\_\_\_.

- A. contrivance
- B. apiary
- C. shed
- D. galley
- E. apiarian

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

In the second paragraph, the author says, “The bee-moth infects our Apiaries,” and in the last paragraph, “If the approach to the Apiary be observed of a moonlight evening . . .” From this, we can infer that “Apiary” is another word for “beehive,” as the bee-moth infects the hives. We can also learn from this that an “Apiarian” is a beehive keeper or someone who keeps bees.

### QUESTION 1034

Adapted from A Practical Treatise on the Hive and Honey-Bee by Lorenzo Lorraine Langstroth (1857 ed.)

Of all the numerous enemies of the honey-bee, the Bee-Moth (*Tinea mellonella*), in climates of hot summers, is by far the most to be dreaded. So widespread and fatal have been its ravages in this country that thousands have abandoned the cultivation of bees in despair, and in districts which once produced abundant supplies of the purest honey, bee-keeping has gradually dwindled down into a very insignificant pursuit. Contrivances almost without number have been devised to



defend the bees against this invidious foe, but still it continues its desolating inroads, almost unchecked, laughing as it were to scorn at all the so-called "moth-proof" hives, and turning many of the ingenious fixtures designed to entrap or exclude it into actual aids and comforts in its nefarious designs.

I should feel but little confidence in being able to reinstate bee-keeping in our country into a certain and profitable pursuit if I could not show the apiarian in what way he can safely bid defiance to the pestiferous assaults of this, his most implacable enemy. I have patiently studied its habits for years, and I am at length able to announce a system of management founded upon the peculiar construction of my hives, which will enable the careful bee-keeper to protect his colonies against the monster. The bee-moth infects our apiaries, just as weeds take possession of a fertile soil. Before explaining the means upon which I rely to circumvent the moth, I will first give a brief description of its habits.

Swammerdam, towards the close of the seventeenth century, gave a very accurate description of this insect, which was then called by the very expressive name of the "bee-wolf." He has furnished good drawings of it, in all its changes, from the worm to the perfect moth, together with the peculiar webs or galleries that it constructs and from which the name of *Tinea galleria* or "gallery moth" has been given to it by some entomologists. He failed, however, to discriminate between the male and female, which, because they differ so much in size and appearance, he supposed to be two different species of the wax-moth. It seems to have been a great pest in his time, and even Virgil speaks of the "dirum tineæ genus," the dreadful offspring of the moth; that is the worm.

This destroyer usually makes its appearance about the hives in April or May, the time of its coming depending upon the warmth of the climate or the forwardness of the season. It is seldom seen on the wing (unless startled from its lurking place about the hive) until towards dark, and is evidently chiefly nocturnal in its habits. In dark cloudy days, however, I have noticed it on the wing long before sunset, and if several such days follow in succession, the female, oppressed with the urgent necessity of laying her eggs, may be seen endeavoring to gain admission to the hives. The female is much larger than the male, and "her color is deeper and more inclining to a darkish gray, with small spots or blackish streaks on the interior edge of her upper wings." The color of the male inclines more to a light gray; they might easily be mistaken for different species of moths. These insects are surprisingly agile, both on foot and on the wing. The motions of a bee are very slow in comparison. "They are," says Reaumur, "the most nimble-footed creatures that I know." "If the approach to the apiary be observed of a moonlight evening, the moths will be found flying or running round the hives, watching an opportunity to enter, whilst the bees that have to guard the entrances against their intrusion will be seen acting as vigilant sentinels, performing continual rounds near this important post, extending their antenna to the utmost, and moving them to the right and left alternately. Woe to the unfortunate moth that comes within their reach!" "It is curious," says Huber, "to observe how artfully the moth knows how to profit, to the disadvantage of the bees, which require much light for seeing objects; and the precautions taken by the latter in reconnoitering and expelling so dangerous an enemy."

As it is used in the passage, the underlined word "discriminate" in the third paragraph most nearly means \_\_\_\_\_.

- A. forsee
- B. describe
- C. recognize
- D. distinguish
- E. destroy

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:



The full sentence in which the word "discriminate" appears is, "[Swammerdam] failed, however, to discriminate between the male and female [bee-moth], which, because they differ so much in size and appearance, he supposed to be two different species of the wax-moth." We can tell that the correct synonym for "discriminate" in this context is "distinguish," as Swammerdam did not distinguish between the male and the female bee-moth.

#### QUESTION 1035

Adapted from A Practical Treatise on the Hive and Honey-Bee by Lorenzo Lorraine Langstroth (1857 ed.)

Of all the numerous enemies of the honey-bee, the Bee-Moth (*Tinea mellonella*), in climates of hot summers, is by far the most to be dreaded. So widespread and fatal have been its ravages in this country that thousands have abandoned the cultivation of bees in despair, and in districts which once produced abundant supplies of the purest honey, bee-keeping has gradually dwindled down into a very insignificant pursuit. Contrivances almost without number have been devised to defend the bees against this invidious foe, but still it continues its desolating inroads, almost unchecked, laughing as it were to scorn at all the so-called "moth-proof" hives, and turning many of the ingenious fixtures designed to entrap or exclude it into actual aids and comforts in its nefarious designs.

I should feel but little confidence in being able to reinstate bee-keeping in our country into a certain and profitable pursuit if I could not show the apiarian in what way he can safely bid defiance to the pestiferous assaults of this, his most implacable enemy. I have patiently studied its habits for years, and I am at length able to announce a system of management founded upon the peculiar construction of my hives, which will enable the careful bee-keeper to protect his colonies against the monster. The bee-moth infects our apiaries, just as weeds take possession of a fertile soil. Before explaining the means upon which I rely to circumvent the moth, I will first give a brief description of its habits.

Swammerdam, towards the close of the seventeenth century, gave a very accurate description of this insect, which was then called by the very expressive name of the "bee-wolf." He has furnished good drawings of it, in all its changes, from the worm to the perfect moth, together with the peculiar webs or galleries that it constructs and from which the name of *Tinea galleria* or "gallery moth" has been given to it by some entomologists. He failed, however, to discriminate between the male and female, which, because they differ so much in size and appearance, he supposed to be two different species of the wax-moth. It seems to have been a great pest in his time, and even Virgil speaks of the "dirum tineæ genus," the dreadful offspring of the moth; that is the worm.

This destroyer usually makes its appearance about the hives in April or May, the time of its coming depending upon the warmth of the climate or the forwardness of the season. It is seldom seen on the wing (unless startled from its lurking place about the hive) until towards dark, and is evidently chiefly nocturnal in its habits. In dark cloudy days, however, I have noticed it on the wing long before sunset, and if several such days follow in succession, the female, oppressed with the urgent necessity of laying her eggs, may be seen endeavoring to gain admission to the hives. The female is much larger than the male, and "her color is deeper and more inclining to a darkish gray, with small spots or blackish streaks on the interior edge of her upper wings." The color of the male inclines more to a light gray; they might easily be mistaken for different species of moths. These insects are surprisingly agile, both on foot and on the wing. The motions of a bee are very slow in comparison. "They are," says Reaumur, "the most nimble-footed creatures that I know." "If the approach to the apiary be observed of a moonlight evening, the moths will be found flying or running round the hives, watching an opportunity to enter, whilst the bees that have to guard the entrances against their intrusion will be seen acting as vigilant sentinels, performing continual rounds near this important post, extending their antenna to the utmost, and moving them to the right and left alternately. Woe to the unfortunate moth that comes within their reach!" "It is curious," says Huber, "to observe how artfully the moth knows how to profit, to the disadvantage of the bees, which require much light for seeing objects; and the precautions taken by the latter in reconnoitering and expelling so dangerous an enemy." Which of these is the best antonym of the underlined word "nefarious" in the first paragraph?

- A. Sinful

- B. Truthful
- C. Moral
- D. Honest
- E. Righteous

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The line in which the word is used describes how the bee-moth "[turns] many of the ingenious fixtures designed to entrap or exclude it, into actual aids and comforts in its nefarious designs." In other words, the moth is using the things which were designed to stop it for its nefarious, or wicked, designs. The answer choice that is the best antonym of "wicked" is "righteous," or good.

**QUESTION 1036** "Darwinism's Effect on Science" by  
Matthew Minerd (2014)

For much of the history of human thought, the sciences have studied subjects that seemed to be eternal and unchanging. Even the basic laws of the Nile's flooding were investigated in the hopes of finding never-altering laws. Similarly, the scientific investigations of the ancient Near East and Greece into the regular laws of the stars ultimately looked for constant patterns. This overall pattern of scientific reasoning has left deep marks on the minds of almost all thinkers and found its apotheosis in modern physics. From the time of the early renaissance to the nineteenth century, physics represented the ultimate expression of scientific investigation for almost all thinkers. Its static laws appeared to be the unchanging principles of all motion and life on earth. By the nineteenth century, it had appeared that only a few details had to be "cleared up" before all science was basically known.

In many ways, this situation changed dramatically with the arrival of Darwinism. It would change even more dramatically in early twentieth-century physics as well. Darwin's theories of evolution challenged many aspects of the "static" worldview. Even those who did not believe that a divine being created an unchanging world were shaken by the new vistas opened up to science by his studies. It had been a long-accepted inheritance of Western culture to believe that the species of living organisms were unchanging in nature. Though there might be many different kinds of creatures, the kinds themselves were not believed to change. The thesis of a universal morphing of types shattered this cosmology, replacing the old world-view with a totally new one. Among the things that had to change in light of Darwin's work was the very view of science held by most people.

What is the meaning of the underlined word "apotheosis"?

- A. Realization
- B. Reaction
- C. Culmination
- D. Negation
- E. Explanation



**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The final sentences of the first paragraph give a good clue to the meaning of "apotheosis." The general idea is that modern physics represented the highest development of this idea of unchanging laws. Indeed, it did so to the point of seeming as though everything had been discovered – only details needed to be "cleaned up" and finalized. Therefore, the best meaning, based on our context clues, is "culmination," meaning high point.

**QUESTION 1037** "Interpreting the Copernican Revolution" by  
Matthew Minerd (2014)

The expressions of one discipline can often alter the way that other subjects understand themselves. Among such cases are numbered the investigations of Nicolaus Copernicus. Copernicus is best known for his views concerning heliocentrism, a view which eventually obliterated many aspects of the ancient/medieval worldview, at least from the standpoint of physical science. It had always been the natural view of mankind that the earth stood at the center of the universe, a fixed point in reference to the rest of the visible bodies. The sun, stars, and planets all rotated around the earth.

With time, this viewpoint became one of the major reference points for modern life. It provided a provocative image that was used – and often abused – by many people for various purposes. For those who wished to weaken the control of religion on mankind, it was said that the heliocentric outlook proved man's insignificance. In contrast with earlier geocentrism, heliocentrism was said to show that man is not the center of the universe. He is merely one small being in the midst of a large cosmos. However, others wished to use the "Copernican Revolution" in a very different manner. These thinkers wanted to show that there was another "recentering" that had to happen. Once upon a time, we talked about the world. Now, however, it was necessary to talk of man as the central reference point. Just as the solar system was "centered" on the sun, so too should the sciences be centered on the human person.

However, both of these approaches are fraught with problems. Those who wished to undermine the religious mindset rather misunderstood the former outlook on the solar system. The earlier geocentric mindset did not believe that the earth was the most important body in the heavens. Instead, many ancient and medieval thinkers believed that the highest "sphere" above the earth was the most important being in the physical universe. Likewise, the so-called "Copernican Revolution" in physics was different from the one applied to the human person. Copernicus' revolution showed that the human point of view was not the center, whereas the later forms of "Copernican revolution" wished to show just the opposite.

Of course, there are many complexities in the history of such important changes in scientific outlook. Nevertheless, it is fascinating to see the wide-reaching effects of such discoveries, even when they have numerous, ambiguous effects.

What is meant by “heliocentrism”?

- A. That something is centered on the sun
- B. That something floats like helium gas
- C. That something is primarily made of helium
- D. That something is centered on the earth
- E. None of the other answers

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Perhaps you do not know the word "heliocentrism." However, from the context clues in the selection, you can tell that Copernicus' theories were opposed to earlier ones that held that the earth was the center of the universe. The word "heliocentric" comes from the Greek "helios," which means sun, with the suffix "-centric." To be "heliocentric" means "to be centered on the sun," as is the planetary motion of our solar system.

#### QUESTION 1038

Adapted from “Humming-Birds: As Illustrating the Luxuriance of Tropical Nature” in Tropical Nature, and Other Essays by Alfred Russel Wallace (1878)

The food of hummingbirds has been a matter of much controversy. All the early writers down to Buffon believed that they lived solely on the nectar of flowers, but since that time, every close observer of their habits maintains that they feed largely, and in some cases wholly, on insects. Azara observed them on the La Plata in winter taking insects out of the webs of spiders at a time and place where there were no flowers. Bullock, in Mexico, declares that he saw them catch small butterflies, and that he found many kinds of insects in their stomachs. Waterton made a similar statement. Hundreds and perhaps thousands of specimens have since been dissected by collecting naturalists, and in almost every instance their stomachs have been found full of insects, sometimes, but not generally, mixed with a proportion of honey. Many of them in fact may be seen catching gnats and other small insects just like fly-catchers, sitting on a dead twig over water, darting off for a time in the air, and then returning to the twig. Others come out just at dusk, and remain on the wing, now stationary, now darting about with the greatest rapidity, imitating in a limited space the evolutions of the goatsuckers, and evidently for the same end and purpose. Mr. Gosse also remarks, "All the hummingbirds have more or less the habit, when in flight, of pausing in the air and throwing the body and tail into rapid and odd contortions. This is most observable in the Polytmus, from the effect that such motions have on the long feathers of the tail. That the object of these quick turns is the capture of insects, I am sure, having watched one thus engaged pretty close to me." The meaning of the underlined word “evolutions” in context is \_\_\_\_\_.

- A. modifications
- B. rotations
- C. rebellions
- D. ideas
- E. movements

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Seeing the word “evolutions” in a science passage may bring specific things to mind – Darwin, natural selection, and survival of the fittest, perhaps. However, it’s always important to consider how the word is used in the passage provided. Words with very strong common meanings may be used for their more obscure secondary meanings in order to trick you. The passage uses the word “evolutions” in this sentence: “[Other hummingbirds] come out just at dusk, and remain on the wing, now stationary, now darting about with the greatest rapidity, imitating in a limited space the evolutions of the goatsuckers, and evidently for the same end and purpose.” If the word “evolutions” weren’t used here and there were instead a blank space in the sentence, what kind of word would you use to fill it in? Maybe something like “motions” or “behavior,” right? With that in mind, let’s consider the answer choices. “Modifications,” which may seem to be most in line with the typical meaning of “evolution,” doesn’t make sense in the sentence’s context. Neither does “rebellions” or “ideas.” Choosing between “movements” and “rotations,” nothing tells us that the hummingbirds are specifically “rotating,” so the best answer choice is the more general “movements.”

**QUESTION 1039** "Comparing Technologies: A Difficult Endeavor" by Matthew Minerd (2014)

Comparisons of technology are often difficult to make, not only because of the rapid pace of improvements but also because of the many new applications that are available as time progresses. If we were to consider the contemporary graphing calculator and the calculation capacities of computing machines from fifty years ago, there would be astounding improvements between these two devices. However, the improvements are not reduced merely to speed improvements. A graphing calculator also has numerous output capacities that far exceed those available much older computers, none of which had the ability to represent their output in any manner even closely resembling that of contemporary devices. Merely consider the display capacities of such a device. These enable users to input many new kinds of information, enabling design engineers to design new hardware functions to match the new means of collecting user input. The situation is even more obvious when one considers the numerous functions performed by a modern “smartphone.” These devices are equipped with a panoply of features. With all of these new functions come many new types of computational capabilities as well. In order to process images quickly, specialized hardware must be designed and software written for it in order to ensure that there are few issues with the phone’s operation. Indeed, the whole “real time” nature of telecommunications has exerted numerous pressures on the designers of computing devices. Layers of complexity, at all levels of production and development, are required to ensure that the phone can function in a synchronous

manner. Gone are the days of asynchronous processing, when the computer user entered data into a mainframe, only to wait for a period of time before the processing results were provided. Today, even the smallest of digital devices must provide seamless service for users. The effects of this requirement are almost beyond number.

What is meant by the underlined word “applications”?

- A. Practical uses
- B. Employment opportunities
- C. None of the other answers
- D. Formal requests
- E. Computer software

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The word "apply" has a number of meanings, though they all have a general sense of taking something from one domain and placing or using it in another. When we apply for a job, we take a form (or series of documents) and give them to someone. Likewise, we apply a decal to a window by placing it upon the window. Ideas are "applied" to reality when they are used in new practical settings. This is the idea of the term in this sentence. Do not be confused by the metaphorical use of the term in a word like "software application." The passage is trying to trick you into confusing these terms.

**QUESTION 1040** "Comparing Technologies: A Difficult Endeavor" by Matthew Miner (2014)

Comparisons of technology are often difficult to make, not only because of the rapid pace of improvements but also because of the many new applications that are available as time progresses. If we were to consider the contemporary graphing calculator and the calculation capacities of computing machines from fifty years ago, there would be astounding improvements between these two devices. However, the improvements are not reduced merely to speed improvements. A graphing calculator also has numerous output capacities that far exceed those available much older computers, none of which had the ability to represent their output in any manner even closely resembling that of contemporary devices. Merely consider the display capacities of such a device. These enable users to input many new kinds of information, enabling design engineers to design new hardware functions to match the new means of collecting user input. The situation is even more obvious when one considers the numerous functions performed by a modern “smartphone.” These devices are equipped with a panoply of features. With all of these new functions come many new types of computational capabilities as well. In order to process images quickly, specialized hardware must be designed and software written for it in order to ensure that there are few issues with the phone’s operation. Indeed, the whole “real time” nature of telecommunications has exerted numerous pressures on the designers of computing devices. Layers of complexity, at all levels of production and development, are required to ensure that the phone can function in a synchronous manner. Gone are the days of asynchronous processing, when the computer user entered data into a mainframe, only to wait for a period of time before the processing results were provided. Today, even the smallest of digital devices must provide seamless service for users. The effects of this requirement are almost beyond number.

What does the underlined word “panoply” mean?

- A. Large assortment
- B. None of the other answers
- C. Amazing advancement
- D. Advanced technology
- E. Several items

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Generally speaking, the word "panoply" means a complete assortment or complete collection. In the sentence following this one, the passage continues, "With all of these new functions . . . ." This implies that there are many different functions on modern "smartphones." The best option is "large assortment," which captures the sense of completeness or sheer number that is part of being a "panoply."

**QUESTION 1041**

Adapted from “Introduced Species That Have Become Pests” in Our Vanishing Wild Life, Its Extermination and Protection by William Temple Hornaday (1913)

The man who successfully transplants or "introduces" into a new habitat any persistent species of living thing assumes a very grave responsibility. Every introduced species is doubtful gravel until panned out. The enormous losses that have been inflicted upon the world through the perpetuation of follies with wild vertebrates and insects would, if added together, be enough to purchase a principality. The most aggravating feature of these follies in transplantation is that never yet have they been made severely punishable. We are just as careless and easygoing on this point as we were about the government of the Yellowstone Park in the days when Howell and other poachers destroyed our first national bison herd,

and when caught red-handed – as Howell was, skinning seven Park bison cows – could not be punished for it, because there was no penalty prescribed by any law. Today, there is a way in which any revengeful person could inflict enormous damage on the entire South, at no cost to himself, involve those states in enormous losses and the expenditure of vast sums of money, yet go absolutely unpunished!

The gypsy moth is a case in point. This winged calamity was imported at Maiden, Massachusetts, near Boston, by a French entomologist, Mr. Leopold Trouvelot, in 1868 or 69. History records the fact that the man of science did not purposely set free the pest. He was endeavoring with live specimens to find a moth that would produce a cocoon of commercial value to America, and a sudden gust of wind blew out of his study, through an open window, his living and breeding specimens of the gypsy moth. The moth itself is not bad to look at, but its larvae is a great, overgrown brute with an appetite like a hog. Immediately Mr. Trouvelot sought to recover his specimens, and when he failed to find them all, like a man of real honor, he notified the State authorities of the accident. Every effort was made to recover all the specimens, but enough escaped to produce progeny that soon became a scourge to the trees of Massachusetts. The method of the big, nasty-looking mottled-brown caterpillar was very simple. It devoured the entire foliage of every tree that grew in its sphere of influence.

The gypsy moth spread with alarming rapidity and persistence. In course of time, the state authorities of Massachusetts were forced to begin a relentless war upon it, by poisonous sprays and by fire. It was awful! Up to this date (1912) the New England states and the United States Government service have expended in fighting this pest about \$7,680,000!

The spread of this pest has been retarded, but the gypsy moth never will be wholly stamped out. Today it exists in Rhode Island, Connecticut, and New Hampshire, and it is due to reach New York at an early date. It is steadily spreading in three directions from Boston, its original point of departure, and when it strikes the State of New York, we, too, will begin to pay dearly for the Trouvelot experiment.

Based on the context in which it is used, what is the most likely definition of the underlined word “entomologist”?

- A. someone who causes and then solves a problem
- B. a scientist who studies insects
- C. a scientist who studies invasive species
- D. a type of insect that eats other insects
- E. someone who draws pictures of insects

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The word “entomologist” is used in the following part of the passage:

“The Gypsy Moth is a case in point. This winged calamity was imported at Maiden, Massachusetts, near Boston, by a French entomologist, Mr. Leopold Trouvelot, in 1868 or 69.”

“Entomologist” is describing “Mr. Leopold Trouvelot,” so it cannot mean “a type of insect that eats other insects.” Nothing in the passage suggests that Mr. Trouvelot drew insects, so we can discard “someone who draws pictures of insects” as an answer choice. The answer “someone who causes and then solves a problem” doesn’t make sense either; while Mr. Trouvelot causes a problem by introducing the gypsy moth to the United States, he isn’t able to solve it. This leaves us with two answer choices: “a scientist who studies invasive species” and “a scientist who studies insects.” Nothing suggests that Mr. Trouvelot is a scientist who studies invasive species; indeed, at this point in the passage, the gypsy moth hasn’t even been released yet, so it is debatable whether we could call it an invasive species before it “invades.”

**QUESTION 1042** "The Place of Lesion Studies in Neuroscience" by Samantha Winter (2013)

It’s easy to forget that the study of neuroscience originated from non-normalized, non-statistically appraised methods like lesion studies. It’s equally easy, with the advent of sophisticated technology, to render such a method obsolete. A small group of neuroscientists today make a case for the reinstitution of lesion studies – the study of abnormal brains with damaged regions in order to better understand the brain – into the twenty-first-century cognitive neuroscience realm. Their suggestion is bold, but their argument is justified.

Cognitive neuroscientists advocate for the use of convergent methods. Many of them argue that with the limitations of our existing techniques, convergent evidence is imperative for sound research. If this is the case, why ignore a method that has potential for implying causality in a domain dominated by correlational research? Rather than advocating for a single method, neuroscientists should take their own advice and use convergent techniques. Sound research should combine a variety of techniques to examine both causal relationships and overcome the individual shortcomings of each method through the use of many.

Lesion studies are also significantly more beneficial now than they were in earlier times. Neuroimaging methods have enhanced our understanding of what contributes to the brain problems most often encountered, and more refined experiments have been developed to confirm the findings from the more unreliable lesion studies. This transformation allows lesion studies to be included alongside the other systems as a mechanism for understanding the human brain.

In the first sentence of the second paragraph, the underlined word "convergent" most closely means \_\_\_\_\_.

- A. multiple and complimentary
- B. identical
- C. convenient
- D. similar and current
- E. numerous

**Correct Answer:** A

**Section:** Reading

**Explanation**



**Explanation/Reference:**

Explanation:

The answer is "multiple and complimentary." In this context, convergent methods are different methods that work together to achieve a unified goal. They are not "Identical" methods, but rather different methods. They may be "Similar," but "convergence" does not refer to the time frame, therefore there is no indication of whether or not they are current, thereby eliminating that choice. "Numerous," may be misleading, but there only need to be two methods in order to achieve convergence, "Numerous" is an incomplete answer, since it does not imply the complimentary nature of these methods.

**QUESTION 1043** "The Place of Lesion Studies in Neuroscience" by  
Samantha Winter (2013)

It's easy to forget that the study of neuroscience originated from non-normalized, non-statistically appraised methods like lesion studies. It's equally easy, with the advent of sophisticated technology, to render such a method obsolete. A small group of neuroscientists today make a case for the reinstitution of lesion studies – the study of abnormal brains with damaged regions in order to better understand the brain – into the twenty-first-century cognitive neuroscience realm. Their suggestion is **bold**, but their argument is justified.

Cognitive neuroscientists advocate for the use of convergent methods. Many of them argue that with the limitations of our existing techniques, convergent evidence is imperative for sound research. If this is the case, why ignore a method that has potential for implying causality in a domain dominated by correlational research? Rather than advocating for a single method, neuroscientists should take their own advice and use convergent techniques. Sound research should combine a variety of techniques to examine both causal relationships and overcome the individual shortcomings of each method through the use of many.

Lesion studies are also significantly more beneficial now than they were in earlier times. Neuroimaging methods have enhanced our understanding of what contributes to the brain problems most often encountered, and more refined experiments have been developed to confirm the findings from the more unreliable lesion studies. This transformation allows lesion studies to be included alongside the other systems as a mechanism for understanding the human brain.

In the last sentence of the first paragraph, "bold" most closely means \_\_\_\_\_.

- A. daring
- B. extruding
- C. emphasized
- D. cunning
- E. impertinent

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Bold is not used in the sense of bolded text in a document, therefore cunning and extruding are both incorrect. Cunning may be a mechanism for describing the neuroscientists, but the definition of bold is unrelated to sharpness or wit.

**QUESTION 1044** "The Cell Cycle" by  
Joseph Ritchie (2014)

The process by which cells divide and multiply is known as the cell cycle. This cycle consists of two main phases: interphase and mitosis. Each phase consists of a series of clearly defined and observable steps. At the conclusion of the cycle, each parent cell produces two genetically identical daughter cells that may also replicate by proceeding through the cell cycle.

Roughly ninety percent of the cell cycle is spent in interphase. Interphase is comprised of three main steps: the first gap phase, the synthesis phase (also called "S phase"), and the second gap phase. The initial gap phase is a period of cellular preparation in which the cell increases in size and readies itself for DNA synthesis. In the synthesis phase, or S phase, DNA replication occurs, so that when the cell divides, each daughter cell will have the DNA necessary to function properly. In the second gap phase, the cell grows in size and prepares for cellular division in the mitotic phase. At the end of each gap phase, the cell has to pass a regulatory checkpoint to ensure that nothing is going wrong. If anything has gone wrong, the checkpoints stop the cell from proceeding through the cell cycle any further.

The next part of the cell cycle is mitosis. Mitosis is a form of cell division and is broken down into five distinct phases. During prophase, the genetic material contained in the cell's chromatin condenses into distinct chromosomes.

Prometaphase is marked by the breakdown of the cell's nuclear envelope and the formation of centrosomes at the poles of the cell. During metaphase, the cell's chromosomes are moved to the center of the cell. A checkpoint ensures that the chromosomes are properly aligned on the center and halts the cell cycle if any errors have occurred. In anaphase, chromosomes break apart at their center, or centromere, and sister chromatids move to opposite ends of the cell. Lastly, telophase and cytokinesis occur as nuclear membranes form to physically divide the cell into two new daughter cells. Chromosomes also unwind into loose chromatin during this part of mitosis. Cytokinesis is defined as the division of the each cell's cytoplasm and organelles. At the conclusion of the cell cycle, two genetically identical daughter cells have formed.

The cell cycle operates by a series of checkpoints and external cues. This system of checks enables the cell to enter a state of dormancy known as the gap zero phase when conditions or other factors inhibit the cell cycle. Conversely, unregulated and uncontrolled cellular division can occur under certain circumstances. A cell in a state of uncontrolled division is known to be cancerous. Lastly, cells have the ability to mediate their own death by way of apoptosis if certain genetic or physical abnormalities exist. The cell cycle is a complex process that enables cells to replicate and proliferate under a stringent set of checks and balances that produce healthy and viable daughter cells that are each able to perform the process in the future.

Which of the following is the term for mediated cell death?

- A. Chromatin
- B. Anaphase
- C. Apoptosis

D. Cellular envelope

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The final paragraph states that a cell can mediate its own death via apoptosis if conditions indicate that it is necessary. These conditions would indicate that it is either too physically or genetically damaged to reproduce productive daughter cells. The other choices are incorrect because they are not supported by the passage.

**QUESTION 1045** "The Cell Cycle" by  
Joseph Ritchie (2014)

The process by which cells divide and multiply is known as the cell cycle. This cycle consists of two main phases: interphase and mitosis. Each phase consists of a series of clearly defined and observable steps. At the conclusion of the cycle, each parent cell produces two genetically identical daughter cells that may also replicate by proceeding through the cell cycle.

Roughly ninety percent of the cell cycle is spent in interphase. Interphase is comprised of three main steps: the first gap phase, the synthesis phase (also called "S phase"), and the second gap phase. The initial gap phase is a period of cellular preparation in which the cell increases in size and readies itself for DNA synthesis. In the synthesis phase, or S phase, DNA replication occurs, so that when the cell divides, each daughter cell will have the DNA necessary to function properly. In the second gap phase, the cell grows in size and prepares for cellular division in the mitotic phase. At the end of each gap phase, the cell has to pass a regulatory checkpoint to ensure that nothing is going wrong. If anything has gone wrong, the checkpoints stop the cell from proceeding through the cell cycle any further.

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The cell cycle operates by a series of checkpoints and external cues. This system of checks enables the cell to enter a state of dormancy known as the gap zero phase when conditions or other factors inhibit the cell cycle. Conversely, unregulated and uncontrolled cellular division can occur under certain circumstances. A cell in a state of uncontrolled division is known to be cancerous. Lastly, cells have the ability to mediate their own death by way of apoptosis if certain genetic or physical abnormalities exist. The cell cycle is a complex process that enables cells to replicate and proliferate under a stringent set of checks and balances that produce healthy and viable daughter cells that are each able to perform the process in the future.



Cytokinesis is best defined as which of the following?

- A. The division of the nucleus
- B. The replication of DNA
- C. The division of the cytoplasm
- D. The migration of sister chromatids to the poles of a cell

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The third paragraph of the passage defines cytokinesis as the "division of the cell's cytoplasm and organelles." Cytokinesis occurs when the nucleolus has reformed in each cell. The organelles and cytoplasmic material are equally divided amongst daughter cells, and they split from one another as their cell walls grow to fully encompass each new daughter cell.

**QUESTION 1046**

Adapted from Volume Four of The Natural History of Animals: The Animal Life of the World in Its Various Aspects and Relations by James Richard Ainsworth Davis (1903)

The examples of protective resemblance so far quoted are mostly permanent adaptations to one particular sort of surrounding. There are, however, numerous animals which possess the power of adjusting their color more or less rapidly so as to harmonize with a changing environment.

Some of the best known of these cases are found among those mammals and birds that inhabit countries more or less covered with snow during a part of the year. A good instance is afforded by the Irish or variable hare, which is chiefly found in Ireland and Scotland. In summer, this looks very much like an ordinary hare, though rather grayer in tint and smaller in size, but in winter it becomes white with the exception of the black tips to the ears. Investigations that have been made on the closely allied American hare seem to show that the phenomenon is due to the growth of new hairs of white hue.

The common stoat is subject to similar color change in the northern parts of its range. In summer it is of a bright reddish brown color with the exception of the under parts, which are yellowish white, and the end of the tail, which is black. But in winter, the entire coat, save only the tip of the tail, becomes white, and in that conditions the animal is known as an ermine. A similar example is afforded by the weasel. The seasonal change in the vegetarian Irish hare is purely of protective character, but in such an actively carnivorous creature as a stoat or weasel, it is aggressive as well, rendering the animal inconspicuous to its prey.



Which of the following terms is closest in meaning to the underlined word “inconspicuous”?

- A. important
- B. fraudulent
- C. wily
- D. hidden
- E. obvious

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The word “inconspicuous” is used the passage’s last sentence, “The seasonal change in the vegetarian Irish hare is purely of protective character, but in such an actively carnivorous creature as a stoat or weasel, it is aggressive as well, rendering the animal inconspicuous to its prey.” “Important” makes no sense in this context, so we can discard that answer. “Wily” (sneaky and clever) and “fraudulent” (deceptive) may each seem like an ok answer, but neither of these would necessarily make the animal a better predator, and “wily” doesn’t describe how a predator would relate to its prey, and “fraudulent” is usually reserved for describing human behavior and intentions. “Hidden” would certainly make the animal a better predator, though – if a predator were “hidden” from its prey, it would be much harder for the prey to avoid the predator. “Hidden” makes the most sense in the context of the sentence, so it is the correct answer.

#### QUESTION 1047

Adapted from “Feathers of Sea Birds and Wild Fowl for Bedding” from The Utility of Birds by Edward Forbush (ed. 1922)

In the colder countries of the world, the feathers and down of waterfowl have been in great demand for centuries as filling for beds and pillows. Such feathers are perfect non-conductors of heat, and beds, pillows, or coverlets filled with them represent the acme of comfort and durability. The early settlers of New England saved for such purposes the feathers and down from the thousands of wild-fowl which they killed, but as the population increased in numbers, the quantity thus furnished was insufficient, and the people sought a larger supply in the vast colonies of ducks and geese along the Labrador coast.

The manner in which the feathers and down were obtained, unlike the method practiced in Iceland, did not tend to conserve and protect the source of supply. In Iceland, the people have continued to receive for many years a considerable income by collecting eider down, but there they do not “kill the goose that lays the golden eggs.” Ducks line their nests with down plucked from their own breasts and that of the eider is particularly valuable for bedding. In Iceland, these birds are so carefully protected that they have become as tame and unsuspicious as domestic fowls In North America. Where they are constantly hunted they often conceal their nests in the midst of weeds or bushes, but in Iceland, they make their nests and deposit their eggs in holes dug for them in the sod. A supply of the ducks is maintained so that the people derive from them an annual income.

In North America, quite a different policy was pursued. The demand for feathers became so great in the New England colonies about the middle of the eighteenth century that vessels were fitted out there for the coast of Labrador for the express purpose of securing the feathers and down of wild fowl. Eider down having become valuable and these ducks being in the habit of congregating by thousands on barren islands of the Labrador coast, the birds became the victims of the ships’ crews. As the ducks molt all their primary feathers at once in July or August and are then quite incapable of flight and the young birds are unable to fly until well grown, the hunters were able to surround the helpless birds, drive them together, and kill them with clubs. Otis says that millions of wildfowl were thus destroyed and that in a few years their haunts were so broken up by this wholesale slaughter and their numbers were so diminished that feather voyages became unprofitable and were given up.

This practice, followed by the almost continual eggging, clubbing, shooting, etc. by Labrador fishermen, may have been a chief factor in the extinction of the Labrador duck, that species of supposed restricted breeding range. No doubt had the eider duck been restricted in its breeding range to the islands of Labrador, it also would have been exterminated long ago.

Based on the context in which it is used in the first paragraph, what is the meaning of the underlined word “acme”?

- A. pinnacle
- B. quilt
- C. warmth
- D. usefulness
- E. employment

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The word “acme” is used in the following sentence in the passage: “Such feathers are perfect non-conductors of heat, and beds, pillows, or coverlets filled with them represent the acme of comfort and durability.” If we were to remove the word “acme” from this sentence and replace it with another term, what term would make sense? Something like “peak” or “perfection” would make sense. Considering that, let’s now look at the answer choices. While the sentence is talking about “warmth” and bedding, of which a “quilt” is a type, it’s clear that neither “warmth” nor “quilt” can be the correct answer. “Usefulness” and “employment” don’t make as much sense as “pinnacle” does, so “pinnacle” is the correct answer.

#### QUESTION 1048

Adapted from “Feathers of Sea Birds and Wild Fowl for Bedding” from The Utility of Birds by Edward Forbush (ed. 1922)

In the colder countries of the world, the feathers and down of waterfowl have been in great demand for centuries as filling for beds and pillows. Such feathers are perfect non-conductors of heat, and beds, pillows, or coverlets filled with them represent the acme of comfort and durability. The early settlers of New England saved for such purposes the feathers and down from the thousands of wild-fowl which they killed, but as the population increased in numbers, the quantity thus furnished was insufficient, and the people sought a larger supply in the vast colonies of ducks and geese along the Labrador coast.

The manner in which the feathers and down were obtained, unlike the method practiced in Iceland, did not tend to conserve and protect the source of supply. In Iceland, the people have continued to receive for many years a considerable income by collecting eider down, but there they do not “kill the goose that lays the golden eggs.” Ducks line their nests with down plucked from their own breasts and that of the eider is particularly valuable for bedding. In Iceland, these birds are so carefully protected that they have become as tame and unsuspicious as domestic fowls In North America. Where they are constantly hunted they often conceal their nests in the midst of weeds or bushes, but in Iceland, they make their nests and deposit their eggs in holes dug for them in the sod. A supply of the ducks is maintained so that the people derive from them an annual income.

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This practice, followed by the almost continual egging, clubbing, shooting, etc. by Labrador fishermen, may have been a chief factor in the extinction of the Labrador duck, that species of supposed restricted breeding range. No doubt had the eider duck been restricted in its breeding range to the islands of Labrador, it also would have been exterminated long ago.

Based on the context in which it is used, what is the most likely meaning of the underlined word “egging” in the passage’s last paragraph?

- A. The laying of eggs
- B. The hatching of eggs
- C. The encouraging of someone
- D. The act of throwing eggs at a target
- E. The gathering and removing of eggs

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The word “egging” appears in the following sentence in the passage: “This practice, followed by the almost continual egging, clubbing, shooting, etc. by Labrador fishermen, may have been a chief factor in the extinction of the Labrador duck, that species of supposed restricted breeding range.” The word “egging” is here clearly describing something with a bad connotation, as it appears in parallel with “clubbing” and “shooting.” We can infer that it must mean doing something to hurt the ducks, as “clubbing” and “shooting” have that in common. This lets us discard the answer choices “the laying of eggs” and “the hatching of eggs.” These wouldn’t hurt the ducks, and at any rate, ducks lay their own eggs and then those eggs hatch; neither answer choice makes sense when used to describe something humans could do to duck eggs. While to “egg someone on” can mean to encourage that person, that is not the meaning that is being used in the passage, so we can ignore this answer choice as well. This leaves us with “the act of throwing eggs at a target” and “the destruction of eggs.” Nothing suggests that the eggs are being thrown at the ducks, so the better answer choice is the more general one, “the gathering and removing of eggs.” Indeed, this makes more sense, as the hunters could probably eat or sell the eggs.

#### QUESTION 1049

Adapted from "Taking a Second Look: An Analysis of Genetic Markers in Species Relatedness" by Joseph Ritchie (2014)

Phylogenetics is the study of genetic composition in various species and is used by evolutionary biologists to investigate similarities in the molecular sequences of proteins in varying organisms. The amino acid sequences that build proteins are used to construct mathematical matrices that aid in determining evolutionary ties through the investigation of percentage similarities. The study of these matrices helps to expose evolutionary relationships between species that may not have the same overt characteristics.

Species adapt and evolve based on the pressures that exist in their environment. Climate, food source, and habitat availability are only a few factors that act on species adaptation. These stressors can alter the physical characteristics of organisms. This divergence in evolution has made it difficult to determine the interrelatedness of organisms by analyzing their physical characteristics alone.

For instance, looking only at physical characteristics, the ghost bat resembles a pigeon more than a spider monkey; however, phylogenetics has found that the amino acid sequences that construct the beta hemoglobin molecules of bats are twenty percent more similar to those of mammalian primates than those of birds. This helps reject the assumption that common physical characteristics between species are all that is needed to determine relatedness.

The differences produced by divergent evolution observed in the forest-dwelling, arboreal spider monkey and the nocturnal, airborne ghost bat can be reconciled through homology. Homologous characteristics are anatomical traits that are similar in two or more different species. For instance, the bone structure of a spider monkey’s wrist and fingers greatly resembles that of a bat’s wing or even a whale’s fin. These similarities are reinforced by phylogenetic evidence that supports the idea that physically dissimilar species can be evolutionarily related through anatomical and genetic similarities.

The underlined word "divergent" in paragraph four most nearly means which of the following?

- A. Similar
- B. Indirect
- C. Congruent
- D. Dividing

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The different appendages mentioned were all resultant from divergent evolution, or evolution that caused differences to emerge as distinct. It is suggested that the two organisms mentioned started out very similar to one another, then changed greatly in physical appearance over the years, yet still maintained some similarities to one another. Thus, "dividing" is the best answer choice.

#### QUESTION 1050

Adapted from "Taking a Second Look: An Analysis of Genetic Markers in Species Relatedness" by Joseph Ritchie (2014)

Phylogenetics is the study of genetic composition in various species and is used by evolutionary biologists to investigate similarities in the molecular sequences of proteins in varying organisms. The amino acid sequences that build proteins are used to construct mathematical matrices that aid in determining evolutionary ties through the investigation of percentage similarities. The study of these matrices helps to expose evolutionary relationships between species that may not have the same overt characteristics.

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The underlined word "overt" in paragraph one most nearly means which of the following?

- A. Inner
- B. Genetic
- C. Outward
- D. Familial

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

In the passage, "overt" most nearly means outward or physical characteristics. The sentence suggests the meaning of this word coincides with characteristics that are obvious and significant to the illustration of this subject matter. The word "overt," in this situation, also helps to show the difference between these species and others.

**QUESTION 1051** Adapted from Ice-Caves of France and Switzerland by George Forrest Browne (1865)

This account states that the cave is in the county of Thorn, among the lowest spurs of the Carpathians. The entrance, which faces the north, and is exposed to the cold winds from the snowy part of the Carpathian range, is eighteen fathoms high and nine broad; and the cave spreads out laterally, and descends to a point fifty fathoms below the entrance, where it is twenty-six fathoms in breadth, and of irregular height. Beyond this no one had at that time penetrated, on account of the unsafe footing, although many distant echoes were returned by the farther recesses of the cave; indeed, to get even so far as this, much step-cutting was necessary.

When the external frost of winter comes on, the account proceeds, the effect in the cave is the same as if fires had been lighted there: the ice melts, and swarms of flies and bats and hares take refuge in the interior from the severity of the winter. As soon as spring arrives, the warmth of winter disappears from the interior, water exudes from the roof and is converted into ice, while the more abundant supplies which pour down on to the sandy floor are speedily frozen there. In the dog-days, the frost is so intense that a small icicle becomes in one day a huge mass of ice; but a cool day promptly brings a thaw, and the cave is looked upon as a barometer, not merely feeling, but also presaging, the changes of weather. The people of the neighborhood, when employed in field-work, arrange their labour so that the mid-day meal may be taken near the cave, when they either ice the water they have brought with them, or drink the melted ice, which they consider very good for the stomach. It had been calculated that six hundred weekly carts would not be sufficient to keep the cavern free from ice. The ground above the cave is peculiarly rich in grass.

In explanation of these phenomena, Bell threw out the following suggestions, which need no comment. The earth being of itself cold and damp, the external heat of the atmosphere, by partially penetrating into the ground, drives in this native cold to the inner parts of the earth, and makes the cold there more dense. On the other hand, when the external air is cold, it draws forth towards the surface the heat there may be in the inner part of the earth, and thus makes caverns warm. In support and illustration of this view, he states that in the hotter parts of Hungary, when the people wish to cool their wine, they dig a hole two feet deep, and place in it the flagon of wine, and, after filling up the hole again, light a blazing fire upon the surface, which cools the wine as if the flagon had been laid in ice. He also suggests that possibly the cold winds from the Carpathians bring with them imperceptible particles of snow, which reach the water of the cave, and convert it into ice. Further, the rocks of the Carpathians abound in salts, niter, alum, etc., which may, perhaps, mingle with such snowy particles, and produce the ordinary effect of the snow and salt in the artificial production of ice.

What is the main idea of the underlined sentence in the second paragraph?

- A. The depletion of ice in the cave is induced by the movement of transportation near the cave on a weekly basis.
- B. It is estimated that six hundred carts could clear the cave of ice in a week.

- C. Five hundred cartloads of ice removed from the cave per week would not free the cavern from it.
- D. The locals could drink a vast quantity of the melted ice before the cave was depleted of it.
- E. If carts removed ice from the cave the area nearby would grow more grass.

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation: The next-to-last sentence in the second paragraph states that not even six hundred carts a week could clear the cave of ice. The answer that best expresses this is the one that states that "over five hundred carts of ice could not free the cavern from ice" in like terms. If six hundred cartloads of ice would not clear the cave, five hundred cartloads would not be able to either.

#### QUESTION 1052

Adapted from The Effects of Cross & Self-Fertilisation in the Vegetable Kingdom by Charles Darwin (1876)

As it is impossible to exclude such minute pollen-carrying insects as Thrips, flowers which it was intended to fertilise with their own pollen may sometimes have been afterwards crossed with pollen brought by these insects from another flower on the same plant; but as we shall hereafter see, a cross of this kind does not produce any effect, or at most only a slight one. When two or more plants were placed near one another under the same net, as was often done, there is some real though not great danger of the flowers which were believed to be self-fertilised being afterwards crossed with pollen brought by Thrips from a distinct plant. I have said that the danger is not great because I have often found that plants which are self-sterile, unless aided by insects, remained sterile when several plants of the same species were placed under the same net. If, however, the flowers which had been presumably self-fertilised by me were in any case afterwards crossed by Thrips with pollen brought from a distinct plant, crossed seedlings would have been included amongst the self-fertilised; but it should be especially observed that this occurrence would tend to diminish and not to increase any superiority in average height, fertility, etc., of the crossed over the self-fertilised plants.

As the flowers which were crossed were never castrated, it is probable or even almost certain that I sometimes failed to cross-fertilise them effectually, and that they were afterwards spontaneously self-fertilised. This would have been most likely to occur with dichogamous species, for without much care it is not easy to perceive whether their stigmas are ready to be fertilised when the anthers open. But in all cases, as the flowers were protected from wind, rain, and the access of insects, any pollen placed by me on the stigmatic surface whilst it was immature, would generally have remained there until the stigma was mature; and the flowers would then have been crossed as was intended. Nevertheless, it is highly probable that self-fertilised seedlings have sometimes by this means got included amongst the crossed seedlings. The effect would be, as in the former case, not to exaggerate but to diminish any average superiority of the crossed over the self-fertilised plants.

Errors arising from the two causes just named, and from others, – such as some of the seeds not having been thoroughly ripened, though care was taken to avoid this error – the sickness or unperceived injury of any of the plants, – will have been to a large extent eliminated, in those cases in which many crossed and self-fertilised plants were measured and an average struck. Some of these causes of error will also have been eliminated by the seeds having been allowed to germinate on bare damp sand, and being planted in pairs; for it is not likely that ill-matured and well-matured, or diseased and healthy seeds, would germinate at exactly the same time. The same result will have been gained in the several cases in which only a few of the tallest, finest, and healthiest plants on each side of the pots were measured.

Kolreuter and Gartner have proved that with some plants several, even as many as from fifty to sixty, pollen-grains are necessary for the fertilisation of all the ovules in the ovarium. Naudin also found in the case of *Mirabilis* that if only one or two of its very large pollen-grains were placed on the stigma, the plants raised from such seeds were dwarfed. I was therefore careful to give an amply sufficient supply of pollen, and generally covered the stigma with it; but I did not take any special pains to place exactly the same amount on the stigmas of the self-fertilised and crossed flowers. After having acted in this manner during two seasons, I remembered that Gartner thought, though without any direct evidence, that an excess of pollen was perhaps injurious. It was therefore necessary to ascertain whether the fertility of the flowers was affected by applying a rather small and an extremely large quantity of pollen to the stigma. Accordingly a very small mass of pollen-grains was placed on one side of the large stigma in sixty-four flowers of *Ipomoea purpurea*, and a great mass of pollen over the whole surface of the stigma in sixty-four other flowers. In order to vary the experiment, half the flowers of both lots were on plants produced from self-fertilised seeds, and the other half on plants from crossed seeds. The sixty-four flowers with an excess of pollen yielded sixty-one capsules; and excluding four capsules, each of which contained only a single poor seed, the remainder contained on an average 5.07 seeds per capsule. The sixty-four flowers with only a little pollen placed on one side of the stigma yielded sixty-three capsules, and excluding one from the same cause as before, the remainder contained on an average 5.129 seeds. So that the flowers fertilised with little pollen yielded rather more capsules and seeds than did those fertilised with an excess; but the difference is too slight to be of any significance. On the other hand, the seeds produced by the flowers with an excess of pollen were a little heavier of the two; for 170 of them weighed 79.67 grains, whilst 170 seeds from the flowers with very little pollen weighed 79.20 grains. Both lots of seeds having been placed on damp sand presented no difference in their rate of germination. We may therefore conclude that my experiments were not affected by any slight difference in the amount of pollen used; a sufficiency having been employed in all cases.

Which of the following sentences best summarizes the start of the second paragraph?

- A. Emasculation of the flowers was unnecessary.
- B. The author neglected to remove the sexual organs of the plants, leaving a possible margin for error.
- C. The flowers were not neutered, as there was no threat from insect pollination.
- D. If greater care had been taken, the experiments would be less anomalous.
- E. The author was meticulous in both pollination and removal of stamens.

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

In the first two sentences of the second paragraph, the author states that as he did not "castrate" the flowers, or remove their sexual organs, the possibility that poorly-fertilized flowers self-fertilized is possible. This would of course lead to some errors in the experiment.

#### QUESTION 1053



Adapted from A Practical Treatise on the Hive and Honey-Bee by Lorenzo Lorraine Langstroth (1857 ed.)

Of all the numerous enemies of the honey-bee, the Bee-Moth (*Tinea mellonella*), in climates of hot summers, is by far the most to be dreaded. So widespread and fatal have been its ravages in this country that thousands have abandoned the cultivation of bees in despair, and in districts which once produced abundant supplies of the purest honey, bee-keeping has gradually dwindled down into a very insignificant pursuit. Contrivances almost without number have been devised to defend the bees against this invidious foe, but still it continues its desolating inroads, almost unchecked, laughing as it were to scorn at all the so-called "moth-proof" hives, and turning many of the ingenious fixtures designed to entrap or exclude it into actual aids and comforts in its nefarious designs.

I should feel but little confidence in being able to reinstate bee-keeping in our country into a certain and profitable pursuit if I could not show the apiarian in what way he can safely bid defiance to the pestiferous assaults of this, his most implacable enemy. I have patiently studied its habits for years, and I am at length able to announce a system of management founded upon the peculiar construction of my hives, which will enable the careful bee-keeper to protect his colonies against the monster. The bee-moth infects our apiaries, just as weeds take possession of a fertile soil. Before explaining the means upon which I rely to circumvent the moth, I will first give a brief description of its habits.

Swammerdam, towards the close of the seventeenth century, gave a very accurate description of this insect, which was then called by the very expressive name of the "bee-wolf." He has furnished good drawings of it, in all its changes, from the worm to the perfect moth, together with the peculiar webs or galleries that it constructs and from which the name of *Tinea galleria* or "gallery moth" has been given to it by some entomologists. He failed, however, to discriminate between the male and female, which, because they differ so much in size and appearance, he supposed to be two different species of the wax-moth. It seems to have been a great pest in his time, and even Virgil speaks of the "dirum tineæ genus," the dreadful offspring of the moth; that is the worm.

This destroyer usually makes its appearance about the hives in April or May, the time of its coming depending upon the warmth of the climate or the forwardness of the season. It is seldom seen on the wing (unless startled from its lurking place about the hive) until towards dark, and is evidently chiefly nocturnal in its habits. In dark cloudy days, however, I have noticed it on the wing long before sunset, and if several such days follow in succession, the female, oppressed with the urgent necessity of laying her eggs, may be seen endeavoring to gain admission to the hives. The female is much larger than the male, and "her color is deeper and more inclining to a darkish gray, with small spots or blackish streaks on the interior edge of her upper wings." The color of the male inclines more to a light gray; they might easily be mistaken for different species of moths. These insects are surprisingly agile, both on foot and on the wing. The motions of a bee are very slow in comparison. "They are," says Reaumur, "the most nimble-footed creatures that I know." "If the approach to the apiary be observed of a moonlight evening, the moths will be found flying or running round the hives, watching an opportunity to enter, whilst the bees that have to guard the entrances against their intrusion will be seen acting as vigilant sentinels, performing continual rounds near this important post, extending their antenna to the utmost, and moving them to the right and left alternately. Woe to the unfortunate moth that comes within their reach!" "It is curious," says Huber, "to observe how artfully the moth knows how to profit, to the disadvantage of the bees, which require much light for seeing objects; and the precautions taken by the latter in reconnoitering and expelling so dangerous an enemy."

Which of these most accurately restates the meaning of "The bee-moth infects our apiaries, just as weeds take possession of a fertile soil," a line found in the second paragraph?

- A. None other than gardeners and bee keepers can comprehend the devastations of the moth.
- B. The bee moth is nothing compared to the weed in fertile soil.
- C. The description of the moth is not sufficient without considering its impact on a garden.
- D. The impact of the bee moth on a hive is disproportionate to that of the weed on a garden.
- E. The bee moth is to the bee keeper what the dandelion is to the gardener.

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The author is making a comparison by using the simile of the moth being like a weed. So, the moth has a similar effect on a hive as a weed – like a dandelion – has on a garden.

#### QUESTION 1054

Adapted from "Darwin's Predecessors" by J. Arthur Thomson in *Evolution in Modern Thought* (1917 ed.)

In seeking to discover Darwin's relation to his predecessors, it is useful to distinguish the various services which he rendered to the theory of organic evolution.

As everyone knows, the general idea of the doctrine of descent is that the plants and animals of the present day are the lineal descendants of ancestors on the whole somewhat simpler, that these again are descended from yet simpler forms, and so on backwards towards the literal "Protozoa" and "Protophyta" about which we unfortunately know nothing. Now no one supposes that Darwin originated this idea, which in rudiment at least is as old as Aristotle. What Darwin did was to make it current intellectual coin. He gave it a form that commended itself to the scientific and public intelligence of the day, and he won widespread conviction by showing with consummate skill that it was an effective formula to work with, a key which no lock refused. In a scholarly, critical, and preeminently fair-minded way, admitting difficulties and removing them, foreseeing objections and forestalling them, he showed that the doctrine of descent supplied a modal interpretation of how our present-day fauna and flora have come to be.

In the second place, Darwin applied the evolution-idea to particular problems, such as the descent of man, and showed what a powerful tool it is, introducing order into masses of uncorrelated facts, interpreting enigmas both of structure and function, both bodily and mental, and, best of all, stimulating and guiding further investigation. But here again it cannot be claimed that Darwin was original. The problem of the descent or ascent of man, and other particular cases of evolution, had attracted not a few naturalists before Darwin's day, though no one [except Herbert Spencer in the psychological domain (1855)] had come near him in precision and thoroughness of inquiry.

In the third place, Darwin contributed largely to a knowledge of the factors in the evolution-process, especially by his analysis of what occurs in the case of domestic animals and cultivated plants, and by his elaboration of the theory of natural selection, which Alfred Russel Wallace independently stated at the same time, and of which there had been a few previous suggestions of a more or less vague description. It was here that Darwin's originality was greatest, for he revealed to naturalists the many different forms – often very subtle – which natural selection takes, and with the insight of a disciplined scientific imagination he realized what a mighty engine of progress it has been and is.

What is meant by the underlined expression, "current intellectual coin"?

- A. A profitable topic to pursue
- B. None of the other answers
- C. A regular topic of discussion

- D. A topic with ramifications for the markets
- E. An example of a publishable field of inquiry

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The best way to approach this expression is by thinking of the expression "to coin a phrase." We say that someone "coins" a phrase when he or she invents it, using it for the first time before later becomes popular. The general idea is that the phase is able to be "traded" in discourse. We can use it when talking as if such ideas are like coins in commerce. Therefore, to make something "common intellectual coin" is to make it something that can be discussed, that is, to make it a topic of general discussion.

#### QUESTION 1055

Adapted from "Humming-Birds: As Illustrating the Luxuriance of Tropical Nature" in Tropical Nature, and Other Essays by Alfred Russel Wallace (1878)

The food of hummingbirds has been a matter of much controversy. All the early writers down to Buffon believed that they lived solely on the nectar of flowers, but since that time, every close observer of their habits maintains that they feed largely, and in some cases wholly, on insects. Azara observed them on the La Plata in winter taking insects out of the webs of spiders at a time and place where there were no flowers. Bullock, in Mexico, declares that he saw them catch small butterflies, and that he found many kinds of insects in their stomachs. Waterton made a similar statement. Hundreds and perhaps thousands of specimens have since been dissected by collecting naturalists, and in almost every instance their stomachs have been found full of insects, sometimes, but not generally, mixed with a proportion of honey. Many of them in fact may be seen catching gnats and other small insects just like fly-catchers, sitting on a dead twig over water, darting off for a time in the air, and then returning to the twig. Others come out just at dusk, and remain on the wing, now stationary, now darting about with the greatest rapidity, imitating in a limited space the evolutions of the goatsuckers, and evidently for the same end and purpose. Mr. Gosse also remarks, " All the hummingbirds have more or less the habit, when in flight, of pausing in the air and throwing the body and tail into rapid and odd contortions. This is most observable in the Polytmus, from the effect that such motions have on the long feathers of the tail. That the object of these quick turns is the capture of insects, I am sure, having watched one thus engaged pretty close to me." The meaning of the underlined phrase "on the wing" is \_\_\_\_\_.

- A. in flight
- B. having been thrown
- C. vacationing
- D. without preparation or preplanning
- E. located on a feather on a bird's wing



**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The phrase "on the wing" is used in the following sentence in the passage: "[Other hummingbirds] come out just at dusk, and remain on the wing, now stationary, now darting about with the greatest rapidity, imitating in a limited space the evolutions of the goatsuckers, and evidently for the same end and purpose."

"On the wing" may initially appear to mean just what it says, "located on a feather on a bird's wing," but considering the way it is used in the passage, this doesn't make any sense. The sentence describes the hummingbirds "darting about," and in order for them to do that, they would have to be flying, so you can tell that "on the wing" means "in flight." None of the other answer choices make sense given the context in which the phrase is used.

#### QUESTION 1056

Adapted from "Introduced Species That Have Become Pests" in Our Vanishing Wild Life, Its Extermination and Protection by William Temple Hornaday (1913)

The man who successfully transplants or "introduces" into a new habitat any persistent species of living thing assumes a very grave responsibility. Every introduced species is doubtful gravel until panned out. The enormous losses that have been inflicted upon the world through the perpetuation of follies with wild vertebrates and insects would, if added together, be enough to purchase a principality. The most aggravating feature of these follies in transplantation is that never yet have they been made severely punishable. We are just as careless and easygoing on this point as we were about the government of the Yellowstone Park in the days when Howell and other poachers destroyed our first national bison herd, and when caught red-handed – as Howell was, skinning seven Park bison cows – could not be punished for it, because there was no penalty prescribed by any law. Today, there is a way in which any revengeful person could inflict enormous damage on the entire South, at no cost to himself, involve those states in enormous losses and the expenditure of vast sums of money, yet go absolutely unpunished!

The gypsy moth is a case in point. This winged calamity was imported at Maiden, Massachusetts, near Boston, by a French entomologist, Mr. Leopold Trouvelot, in 1868 or 69. History records the fact that the man of science did not purposely set free the pest. He was endeavoring with live specimens to find a moth that would produce a cocoon of commercial value to America, and a sudden gust of wind blew out of his study, through an open window, his living and breeding specimens of the gypsy moth. The moth itself is not bad to look at, but its larvae is a great, overgrown brute with an appetite like a hog. Immediately Mr. Trouvelot sought to recover his specimens, and when he failed to find them all, like a man of real honor, he notified the State authorities of the accident. Every effort was made to recover all the specimens, but enough escaped to produce progeny that soon became a scourge to the trees of Massachusetts. The method of the big, nasty-looking mottled-brown caterpillar was very simple. It devoured the entire foliage of every tree that grew in its sphere of influence.

The gypsy moth spread with alarming rapidity and persistence. In course of time, the state authorities of Massachusetts were forced to begin a relentless war upon it, by poisonous sprays and by fire. It was awful! Up to this date (1912) the New England states and the United States Government service have expended in fighting this pest about \$7,680,000!

The spread of this pest has been retarded, but the gypsy moth never will be wholly stamped out. Today it exists in Rhode Island, Connecticut, and New Hampshire, and it is due to reach New York at an early date. It is steadily spreading in three directions from Boston, its original point of departure, and when it strikes the State of New York, we, too, will begin to pay dearly for the Trouvelot experiment.

Which of the following best paraphrases the underlined sentence, “Every introduced species is doubtful gravel until panned out”?

- A. An invasive species can cause beneficial effects to its new environment as well as harmful ones.
- B. One can’t tell whether an introduced species will be helpful or harmful until it is actually introduced.
- C. Species that live underground should be carefully examined before being moved into new environments.
- D. One should never move a species from its natural environment into a new environment for fear of the consequences.
- E. Species that live in gravel are usually harmful when placed in new environments.

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Here, the author is using figurative language to describe introduced species. He metaphorically calls them “doubtful gravel until [they are] panned out.” Because he’s not speaking literally, this sentence has nothing to do with the ground or gravel itself, so we can eliminate the answer choices “Species that live underground should be carefully examined before being moved into new environments” and “Species that live in gravel are usually harmful when placed in new environments.”

What is the author getting at with his metaphor? Panning rocks and dirt allows miners to separate out valuable minerals from other matter. Think of miners “panning for gold” – it’s the same principle, except here, the author is speaking of it as applying to gravel. By calling the gravel “doubtful,” the author is expressing that you don’t know what you’re going to get with it before you “pan it out” and see if there is anything valuable in it. Applying this thinking to invasive species, the author is therefore saying that “one can’t tell whether an introduced species will be helpful or harmful until it is actually introduced.”

If you didn’t know what panning gravel was, you could still solve this question by narrowing down your answer choices. For instance, nowhere in the passage are the beneficial effects of introduced species discussed, though the author discusses this in a previous chapter of his book. Because they’re not mentioned in the passage, we can discard the answer choice “An invasive species can cause beneficial effects to its new environment as well as harmful ones.” This is definitely not what the indicated sentence is saying; if we replaced the sentence with this answer choice, the logic of the paragraph wouldn’t make any sense.

As for the remaining answer choice, “One should never move a species from its natural environment into a new environment for fear of the consequences,” it cannot be correct because in the sentence before the one on which this question focuses, the author writes, “The man who successfully transplants or ‘introduces’ into a new habitat any persistent species of living thing assumes a very grave responsibility.” Note that he doesn’t say that this should never be done; he just implies that it could go very badly. It wouldn’t make much sense if in the next sentence, the author said this should never be done. It seems more logical that he would have led with that statement, it being the stronger of the two.

#### QUESTION 1057

"The Place of Lesion Studies in Neuroscience" by Samantha Winter (2013)

It’s easy to forget that the study of neuroscience originated from non-normalized, non-statistically appraised methods like lesion studies. It’s equally easy, with the advent of sophisticated technology, to render such a method obsolete. A small group of neuroscientists today make a case for the reinstitution of lesion studies – the study of abnormal brains with damaged regions in order to better understand the brain – into the twenty-first-century cognitive neuroscience realm. Their suggestion is bold, but their argument is justified.

Cognitive neuroscientists advocate for the use of convergent methods. Many of them argue that with the limitations of our existing techniques, convergent evidence is imperative for sound research. If this is the case, why ignore a method that has potential for implying causality in a domain dominated by correlational research? Rather than advocating for a single method, neuroscientists should take their own advice and use convergent techniques. Sound research should combine a variety of techniques to examine both causal relationships and overcome the individual shortcomings of each method through the use of many.

Lesion studies are also significantly more beneficial now than they were in earlier times. Neuroimaging methods have enhanced our understanding of what contributes to the brain problems most often encountered, and more refined experiments have been developed to confirm the findings from the more unreliable lesion studies. This transformation allows lesion studies to be included alongside the other systems as a mechanism for understanding the human brain.

The underlined selection "to render such a method obsolete" most closely means \_\_\_\_\_.

- A. to make lesion studies more important
- B. to consider lesion studies outdated
- C. to question the existence of lesion studies
- D. to redesign lesion studies
- E. to make neuroscience the most important field of science

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:



The answer is obsolete, because it means outdated or archaic, and the word “method” refers back to the prior sentence, “methods like lesion studies,” thus stating that the some consider these lesion studies outdated. Because of the meaning of the word obsolete, “to make lesion studies more important” is incorrect. This statement does not refer to the field of neuroscience, therefore “to make neuroscience the most important field of science” is incorrect, and there is no consideration in the paper (and certainly not in the first few sentences) that lesions do not exist, just how valuable they are to the field of study – therefore “to question the existence of lesion studies” is incorrect.

#### QUESTION 1058

Adapted from Volume Four of The Natural History of Animals: The Animal Life of the World in Its Various Aspects and Relations by James Richard Ainsworth Davis (1903)

The examples of protective resemblance so far quoted are mostly permanent adaptations to one particular sort of surrounding. There are, however, numerous animals which possess the power of adjusting their color more or less rapidly so as to harmonize with a changing environment.

Some of the best known of these cases are found among those mammals and birds that inhabit countries more or less covered with snow during a part of the year. A good instance is afforded by the Irish or variable hare, which is chiefly found in Ireland and Scotland. In summer, this looks very much like an ordinary hare, though rather grayer in tint and smaller in size, but in winter it becomes white with the exception of the black tips to the ears. Investigations that have been made on the closely allied American hare seem to show that the phenomenon is due to the growth of new hairs of white hue.

The common stoat is subject to similar color change in the northern parts of its range. In summer it is of a bright reddish brown color with the exception of the under parts, which are yellowish white, and the end of the tail, which is black. But in winter, the entire coat, save only the tip of the tail, becomes white, and in that condition the animal is known as an ermine. A similar example is afforded by the weasel. The seasonal change in the vegetarian Irish hare is purely of protective character, but in such an actively carnivorous creature as a stoat or weasel, it is aggressive as well, rendering the animal inconspicuous to its prey.

The phrase “harmonize with,” underlined in the first paragraph, most closely means \_\_\_\_\_.

- A. match
- B. conduct
- C. sing in harmony with
- D. systematize
- E. parallel

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The phrase “harmonize with” appears in this sentence in the first paragraph: “There are, however, numerous animals which possess the power of adjusting their color more or less rapidly so as to harmonize with a changing environment.” While “harmonize with” can mean “sing in harmony with,” this meaning doesn’t make sense in the context of the passage’s sentence. “Parallel,” “systematize,” and “conduct” don’t make sense either – only “match” makes sense, so it is the correct answer.

#### QUESTION 1059

Example Question #5 : Language In Science Passages

Adapted from “Feathers of Sea Birds and Wild Fowl for Bedding” from The Utility of Birds by Edward Forbush (ed. 1922)

In the colder countries of the world, the feathers and down of waterfowl have been in great demand for centuries as filling for beds and pillows. Such feathers are perfect non-conductors of heat, and beds, pillows, or coverlets filled with them represent the acme of comfort and durability. The early settlers of New England saved for such purposes the feathers and down from the thousands of wild-fowl which they killed, but as the population increased in numbers, the quantity thus furnished was insufficient, and the people sought a larger supply in the vast colonies of ducks and geese along the Labrador coast.

The manner in which the feathers and down were obtained, unlike the method practiced in Iceland, did not tend to conserve and protect the source of supply. In Iceland, the people have continued to receive for many years a considerable income by collecting eider down, but there they do not “kill the goose that lays the golden eggs.” Ducks line their nests with down plucked from their own breasts and that of the eider is particularly valuable for bedding. In Iceland, these birds are so carefully protected that they have become as tame and unsuspicious as domestic fowls In North America. Where they are constantly hunted they often conceal their nests in the midst of weeds or bushes, but in Iceland, they make their nests and deposit their eggs in holes dug for them in the sod. A supply of the ducks is maintained so that the people derive from them an annual income.

In North America, quite a different policy was pursued. The demand for feathers became so great in the New England colonies about the middle of the eighteenth century that vessels were fitted out there for the coast of Labrador for the express purpose of securing the feathers and down of wild fowl. Eider down having become valuable and these ducks being in the habit of congregating by thousands on barren islands of the Labrador coast, the birds became the victims of the ships’ crews. As the ducks molt all their primary feathers at once in July or August and are then quite incapable of flight and the young birds are unable to fly until well grown, the hunters were able to surround the helpless birds, drive them together, and kill them with clubs. Otis says that millions of wildfowl were thus destroyed and that in a few years their haunts were so broken up by this wholesale slaughter and their numbers were so diminished that feather voyages became unprofitable and were given up.

This practice, followed by the almost continual eggging, clubbing, shooting, etc. by Labrador fishermen, may have been a chief factor in the extinction of the Labrador duck, that species of supposed restricted breeding range. No doubt had the eider duck been restricted in its breeding range to the islands of Labrador, it also would have been exterminated long ago.

Which of the following best restates the meaning of the underlined phrase “as the population increased in numbers, the quantity thus furnished was insufficient”?

- A. As the population of New England settlers increased, the amount of eider down collected was no longer enough
- B. As the number of ducks increased, the number of eggs they laid became no longer satisfactory
- C. As the population of Icelandic ducks increased, their food sources began to deplete

D. As the number of citizens of New England increased, the desirability of eider down decreased  
E. As the number of Icelandic citizens increased, the populations of Icelandic ducks decreased

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

In order to answer this question correctly, you have to consider the context in which this phrase appears: "The early settlers of New England saved for such purposes the feathers and down from the thousands of wild-fowl which they killed, but as the population increased in numbers, the quantity thus furnished was insufficient, and the people sought a larger supply in the vast colonies of ducks and geese along the Labrador coast." It only makes sense for "population" to refer to a population of people, not of ducks, as the sentence concludes by saying "the people sought a larger supply in the vast colonies of ducks and geese along the Labrador coast." They would not need to seek out a larger supply of ducks and geese if the population of ducks and geese was increasing. Knowing this, we can discard the answer choices "As the number of ducks increased, the number of eggs they laid became no longer satisfactory" and "As the population of Icelandic ducks increased, their food sources began to deplete." The sentence is only discussing New England settlers; it does not mention Iceland. So, "As the number of Icelandic citizens increased, the populations of Icelandic ducks decreased" cannot be correct either. This leaves us with two answer choices: "As the number of citizens of New England increased, the desirability of eider down decreased," and "As the population of North America increased, the amount of eider down collected was no longer enough." The important distinction made between these two answer choices hinges on the meaning of the word "quantity." "Quantity" means number of, so the correct answer is "As the population of New England increased, the amount of eider down collected was no longer enough." If you read the sentence quickly and confused quantity with "quality," which means how good something is, you may have picked the other answer choice. It's important to read carefully, especially when answering questions that deal with paraphrasing!

#### QUESTION 1060

Adapted from "Recent Views as to Direct Action of Light on the Colors of Flowers and Fruits" in Tropical Nature, and Other Essays by Alfred Russel Wallace (1878)

The theory that the brilliant colors of flowers and fruits is due to the direct action of light has been supported by a recent writer by examples taken from the arctic instead of from the tropical flora. In the arctic regions, vegetation is excessively rapid during the short summer, and this is held to be due to the continuous action of light throughout the long summer days. "The further we advance towards the north, the more the leaves of plants increase in size as if to absorb a greater proportion of the solar rays. M. Grisebach says that during a journey in Norway he observed that the majority of deciduous trees had already, at the 60th degree of latitude, larger leaves than in Germany, while M. Ch. Martins has made a similar observation as regards the leguminous plants cultivated in Lapland." The same writer goes on to say that all the seeds of cultivated plants acquire a deeper color the further north they are grown, white haricots becoming brown or black, and white wheat becoming brown, while the green color of all vegetation becomes more intense. The flowers also are similarly changed: those which are white or yellow in central Europe becoming red or orange in Norway. This is what occurs in the Alpine flora, and the cause is said to be the same in both – the greater intensity of the sunlight. In the one the light is more persistent, in the other more intense because it traverses a less thickness of atmosphere. Admitting the facts as above stated to be in themselves correct, they do not by any means establish the theory founded on them; and it is curious that Grisebach, who has been quoted by this writer for the fact of the increased size of the foliage, gives a totally different explanation of the more vivid colors of Arctic flowers. He says, "We see flowers become larger and more richly colored in proportion as, by the increasing length of winter, insects become rarer, and their cooperation in the act of fecundation is exposed to more uncertain chances." (Vegetation du Globe, col. i. p. 61–French translation.) This is the theory here adopted to explain the colors of Alpine plants, and we believe there are many facts that will show it to be the preferable one. The statement that the white and yellow flowers of temperate Europe become red or golden in the Arctic regions must we think be incorrect. By roughly tabulating the colors of the plants given by Sir Joseph Hooker as permanently Arctic, we find among fifty species with more or less conspicuous flowers, twenty-five white, twelve yellow, eight purple or blue, three lilac, and two red or pink; showing a very similar proportion of white and yellow flowers to what obtains further south.

The underlined sentence in the passage tells us that \_\_\_\_\_.

- A. many northern-dwelling plants have small leaves
- B. the further south you travel, the smaller plants' leaves should be
- C. if you take a plant from a northern climate into a southern climate, its leaves will shrink
- D. leaf size is associated with atmospheric moisture levels
- E. the number of leaves on a tree is related to the latitude in which it is found

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The underlined sentence is "The further we advance towards the north, the more the leaves of plants increase in size as if to absorb a greater proportion of the solar rays." This has nothing to do with the number of leaves on a plant, so "the number of leaves on a tree is related to the latitude in which it is found" cannot be the correct answer. Similarly, nothing is said about moisture levels in the specified sentence, so "leaf size is associated with atmospheric moisture levels" cannot be correct either. Many northern-dwelling plants have small leaves" reverses the relationship being presented in a way that makes it incorrect; northern plants should have large leaves, not small ones. "If you take a plant from a northern climate into a southern climate, its leaves will shrink" derives too much from the statement; nothing is said about a given set of leaves changing size, just a variation amongst the sizes of many different sets of leaves. This leaves us with one remaining answer choice, the correct one: "the further south you travel, the smaller plants' leaves should be." The specified sentence tells us that if you move north, the leaves of plants you see should get bigger. So, therefore, if you head south, the leaves you see on plants should get smaller. The correct answer states what the sentence is saying in a reverse, but still correct, way.

#### QUESTION 1061

Adapted from "Recent Views as to Direct Action of Light on the Colors of Flowers and Fruits" in Tropical Nature, and Other Essays by Alfred Russel Wallace (1878)

The theory that the brilliant colors of flowers and fruits is due to the direct action of light has been supported by a recent writer by examples taken from the arctic instead of from the tropical flora. In the arctic regions, vegetation is excessively rapid during the short summer, and this is held to be due to the continuous action of light throughout the long summer days. "The further we advance towards the north, the more the leaves of plants increase in size as if to absorb a greater proportion of the solar rays. M. Grisebach says that during a journey in Norway he observed that the majority of deciduous trees had already, at the 60th degree of latitude, larger leaves than in Germany, while M. Ch. Martins has made a similar observation as regards the leguminous plants cultivated in Lapland." The same writer goes on to say that all the seeds of cultivated plants acquire a deeper color the further north they are grown, white haricots becoming brown or black, and white wheat becoming brown, while the green color of all vegetation becomes more intense. The flowers also are similarly changed: those which are white or yellow in central Europe becoming red or orange in Norway. This is what occurs in the Alpine flora, and the cause is said to be the same in both – the greater intensity of the sunlight. In the one the light is more persistent, in the other more intense because it traverses a less thickness of atmosphere.

Admitting the facts as above stated to be in themselves correct, they do not by any means establish the theory founded on them; and it is curious that Grisebach, who has been quoted by this writer for the fact of the increased size of the foliage, gives a totally different explanation of the more vivid colors of Arctic flowers. He says, "We see flowers become larger and more richly colored in proportion as, by the increasing length of winter, insects become rarer, and their cooperation in the act of fecundation is exposed to more uncertain chances." (Vegetation du Globe, col. i. p. 61–French translation.) This is the theory here adopted to explain the colors of Alpine plants, and we believe there are many facts that will show it to be the preferable one. The statement that the white and yellow flowers of temperate Europe become red or golden in the Arctic regions must we think be incorrect. By roughly tabulating the colors of the plants given by Sir Joseph Hooker as permanently Arctic, we find among fifty species with more or less conspicuous flowers, twenty-five white, twelve yellow, eight purple or blue, three lilac, and two red or pink; showing a very similar proportion of white and yellow flowers to what obtains further south.

By the underlined phrase "act of fecundation" in the second paragraph, the author means \_\_\_\_\_.

- A. the expansion of the area in which a given type of organism is found
- B. seasonal shedding of leaves
- C. process of becoming active after a period of dormancy
- D. the consumption of a prey organism by a predator
- E. pollination

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The phrase "act of fecundation" appears in the following sentence: "[Grisebach] says, 'We see flowers become larger and more richly colored in proportion as, by the increasing length of winter, insects become rarer, and their cooperation in the act of fecundation is exposed to more uncertain chances.'" (Vegetation du Globe, col. i. p. 61 – French translation.)" From this context, we can infer that whatever the "act of fecundation" is, insects are cooperatively involved in it. The only answer choice in which insects play a part for flowers is "pollination," so "pollination" is the correct answer. None of the other answer choices are supported by the text.

**QUESTION 1062** Adapted from Essays on Early Ornithology and Kindred Subjects by James R. McClymont (1920)

The voyagers named it the Angra de Santa Elena, and it may have been the bay which is now known as St. Helen's Bay. But it is worthy of note that the G. de Sta. Ellena of the Cantino Chart is laid down in a position which corresponds rather with that of Table Bay than with that of St. Helen's Bay.

The Portuguese came into contact with the inhabitants of the country adjacent to the anchorage. These people had tawny complexions, and carried wooden spears tipped with horn—assagais of a kind—and bows and arrows. They also used foxes' tails attached to short wooden handles. We are not informed for what purposes the foxes' tails were used. Were they used to brush flies away, or were they insignia of authority? The food of the natives was the flesh of whales, seals, and antelopes (gazellas), and the roots of certain plants. Crayfish or 'Cape lobsters' abounded near the anchorage.

The author of the roteiro affirms that the birds of the country resembled the birds in Portugal, and that amongst them were cormorants, larks, turtle-doves, and gulls. The gulls are called "guayvotas," but "guayvotas" is probably another instance of the eccentric orthography of the author and equivalent to "gaivotas."

In December the squadron reached the Angra de São Bràs, which was either Mossel Bay or another bay in close proximity to Mossel Bay. Here penguins and seals were in great abundance. The author of the roteiro calls the penguins "sotelycairos," which is more correctly written "sotilicarios" by subsequent writers. The word is probably related to the Spanish "sotil" and the Latin "subtilis," and may contain an allusion to the supposed cunning of the penguins, which disappear by diving when an enemy approaches.

The sotilicarios, says the chronicler, could not fly because there were no quill-feathers in their wings; in size they were as large as drakes, and their cry resembled the braying of an ass. Castanheda, Goes, and Osorio also mention the sotilicario in their accounts of the first voyage of Vasco da Gama, and compare its flipper to the wing of a bat – a not wholly inept comparison, for the under-surface of the wings of penguins is wholly devoid of feathery covering. Manuel de Mesquita Perestrello, who visited the south coast of Africa in 1575, also describes the Cape penguin. From a manuscript of his Roteiro in the Oporto Library, one learns that the flippers of the sotilicario were covered with minute feathers, as indeed they are on the upper surface and that they dived after fish, upon which they fed, and on which they fed their young, which were hatched in nests constructed of fishbones. There is nothing to cavil at in these statements, unless it be that which asserts that the nests were constructed of fishbones, for this is not in accordance with the observations of contemporary naturalists, who tell us that the nests of the Cape Penguin (*Spheniscus demersus*) are constructed of stones, shells, and debris. It is, therefore, probable that the fishbones which Perestrello saw were the remains of repasts of seals.

Seals, says the roteiro, were in great number at the Angra de São Bràs. On one occasion the number was counted and was found to be three thousand. Some were as large as bears and their roaring was as the roaring of lions. Others, which were very small, bleated like kids. These differences in size and in voice may be explained by differences in the age and in the sex of the seals, for seals of different species do not usually resort to the same locality. The seal which formerly frequented the south coast of Africa – for it is, I believe, no longer a denizen of that region – was that which is known to naturalists as *Arctocephalus delalandii*, and, as adult males sometimes attain eight and a half feet in length, it may well be described as of the size of a bear. Cubs from six to eight months of age measure about two feet and a half in length. The Portuguese caught anchovies in the bay, which they salted to serve as provisions on the voyage. They anchored a second time in the Angra de São Bràs in March, 1499, on their homeward voyage.

Yet one more allusion to the penguins and seals of the Angra de São Bràs is of sufficient historical interest to be mentioned. The first Dutch expedition to Bantam weighed anchor on the 2nd of April, 1595, and on the 4th of August of the same year the vessels anchored in a harbor called "Ague Sambras," in eight or nine fathoms of water, on a sandy bottom. So many of the sailors were sick with scurvy – "thirty or thirty-three," said the narrator, "in one ship" – that it was necessary to find fresh fruit for them. "In this bay," runs the English translation of the narrative, "lieth a small Island wherein are many birds called Pyncuins and sea Wolves that are taken with men's hands." In the original Dutch narrative by Willem Lodewyckszoon, published in Amsterdam in 1597, the name of the birds appears as "Pinguïjns."

In the third paragraph, the information about orthography serves to \_\_\_\_\_.

- A. Show that the differences between "guayvotas" and "gaivotas" are due to the writer's strange way of spelling things.
- B. Show that mistakes in spelling "gaivotas" as "guayvotas" arose due to arguments over proper roots of words.
- C. Show that the author of the roteiro was more interested in the animals than his or her writing.
- D. Show that the previous documenters of bird-life on the country had little idea of what they were doing.
- E. Show that the birds we see today are a different species to those mentioned in the roteiro.

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The author of the passage mentions the strange spelling of the name for gulls and says they come from the author of the roteiro's "eccentric orthography," or strange way of spelling things.

**QUESTION 1063** Adapted from Ice-Caves of France and Switzerland by George Forrest Browne (1865)

This account states that the cave is in the county of Thorn, among the lowest spurs of the Carpathians. The entrance, which faces the north, and is exposed to the cold winds from the snowy part of the Carpathian range, is eighteen fathoms high and nine broad; and the cave spreads out laterally, and descends to a point fifty fathoms below the entrance, where it is twenty-six fathoms in breadth, and of irregular height. Beyond this no one had at that time penetrated, on account of the unsafe footing, although many distant echoes were returned by the farther recesses of the cave; indeed, to get even so far as this, much step-cutting was necessary.

When the external frost of winter comes on, the account proceeds, the effect in the cave is the same as if fires had been lighted there: the ice melts, and swarms of flies and bats and hares take refuge in the interior from the severity of the winter. As soon as spring arrives, the warmth of winter disappears from the interior, water exudes from the roof and is converted into ice, while the more abundant supplies which pour down on to the sandy floor are speedily frozen there. In the dog-days, the frost is so intense that a small icicle becomes in one day a huge mass of ice; but a cool day promptly brings a thaw, and the cave is looked upon as a barometer, not merely feeling, but also presaging, the changes of weather.

The people of the neighborhood, when employed in field-work, arrange their labour so that the mid-day meal may be taken near the cave, when they either ice the water they have brought with them, or drink the melted ice, which they consider very good for the stomach. It had been calculated that six hundred weekly carts would not be sufficient to keep the cavern free from ice. The ground above the cave is peculiarly rich in grass.

In explanation of these phenomena, Bell threw out the following suggestions, which need no comment. The earth being of itself cold and damp, the external heat of the atmosphere, by partially penetrating into the ground, drives in this native cold to the inner parts of the earth, and makes the cold there more dense. On the other hand, when the external air is cold, it draws forth towards the surface the heat there may be in the inner part of the earth, and thus makes caverns warm.

In support and illustration of this view, he states that in the hotter parts of Hungary, when the people wish to cool their wine, they dig a hole two feet deep, and place in it the flagon of wine, and, after filling up the hole again, light a blazing fire upon the surface, which cools the wine as if the flagon had been laid in ice. He also suggests that possibly the cold winds from the Carpathians bring with them imperceptible particles of snow, which reach the water of the cave, and convert it into ice. Further, the rocks of the Carpathians abound in salts, niter, alum, etc., which may, perhaps, mingle with such snowy particles, and produce the ordinary effect of the snow and salt in the artificial production of ice.

In the third paragraph, the information about Bell's hypothesis serves to \_\_\_\_\_.

- A. demonstrate the exponential growth of ice in the cave
- B. vilify the author
- C. demonstrate the habits of the inhabitants of different European nations
- D. discredit Bell
- E. explain the phenomenon described in the second paragraph

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The third paragraph is a justification and explanation of the seemingly contradictory phenomenon of the second paragraph. The author is describing how the ice cave is able to retain its cold temperature in summer, as is mentioned in the second paragraph.

**QUESTION 1064**

Adapted from The Effects of Cross & Self-Fertilisation in the Vegetable Kingdom by Charles Darwin (1876)

As it is impossible to exclude such minute pollen-carrying insects as Thrips, flowers which it was intended to fertilize with their own pollen may sometimes have been afterwards crossed with pollen brought by these insects from another flower on the same plant; but as we shall hereafter see, a cross of this kind does not produce any effect, or at most only a slight one. When two or more plants were placed near one another under the same net, as was often done, there is some real though not great danger of the flowers which were believed to be self-fertilized being afterwards crossed with pollen brought by Thrips from a distinct plant. I have said that the danger is not great because I have often found that plants which are self-sterile, unless aided by insects, remained sterile when several plants of the same species were placed under the same net. If, however, the flowers which had been presumably self-fertilized by me were in any case afterwards crossed



by Thrips with pollen brought from a distinct plant, crossed seedlings would have been included amongst the self-fertilized; but it should be especially observed that this occurrence would tend to diminish and not to increase any superiority in average height, fertility, etc., of the crossed over the self-fertilized plants.

As the flowers which were crossed were never castrated, it is probable or even almost certain that I sometimes failed to cross-fertilize them effectually, and that they were afterwards spontaneously self-fertilized. This would have been most likely to occur with dichogamous species, for without much care it is not easy to perceive whether their stigmas are ready to be fertilized when the anthers open. But in all cases, as the flowers were protected from wind, rain, and the access of insects, any pollen placed by me on the stigmatic surface whilst it was immature, would generally have remained there until the stigma was mature; and the flowers would then have been crossed as was intended. Nevertheless, it is highly probable that self-fertilized seedlings have sometimes by this means got included amongst the crossed seedlings. The effect would be, as in the former case, not to exaggerate but to diminish any average superiority of the crossed over the self-fertilized plants.

Errors arising from the two causes just named, and from others, – such as some of the seeds not having been thoroughly ripened, though care was taken to avoid this error – the sickness or unperceived injury of any of the plants, – will have been to a large extent eliminated, in those cases in which many crossed and self-fertilised plants were measured and an average struck. Some of these causes of error will also have been eliminated by the seeds having been allowed to germinate on bare damp sand, and being planted in pairs; for it is not likely that ill-matured and well-matured, or diseased and healthy seeds, would germinate at exactly the same time. The same result will have been gained in the several cases in which only a few of the tallest, finest, and healthiest plants on each side of the pots were measured.

Kolreuter and Gartner have proved that with some plants several, even as many as from fifty to sixty, pollen-grains are necessary for the fertilisation of all the ovules in the ovarium. Naudin also found in the case of *Mirabilis* that if only one or two of its very large pollen-grains were placed on the stigma, the plants raised from such seeds were dwarfed. I was therefore careful to give an amply sufficient supply of pollen, and generally covered the stigma with it; but I did not take any special pains to place exactly the same amount on the stigmas of the self-fertilized and crossed flowers. After having acted in this manner during two seasons, I remembered that Gartner thought, though without any direct evidence, that an excess of pollen was perhaps injurious. It was therefore necessary to ascertain whether the fertility of the flowers was affected by applying a rather small and an extremely large quantity of pollen to the stigma. Accordingly a very small mass of pollen-grains was placed on one side of the large stigma in sixty-four flowers of *Ipomoea purpurea*, and a great mass of pollen over the whole surface of the stigma in sixty-four other flowers. In order to vary the experiment, half the flowers of both lots were on plants produced from self-fertilized seeds, and the other half on plants from crossed seeds. The sixty-four flowers with an excess of pollen yielded sixty-one capsules; and excluding four capsules, each of which contained only a single poor seed, the remainder contained on an average 5.07 seeds per capsule. The sixty-four flowers with only a little pollen placed on one side of the stigma yielded sixty-three capsules, and excluding one from the same cause as before, the remainder contained on an average 5.129 seeds. So that the flowers fertilized with little pollen yielded rather more capsules and seeds than did those fertilized with an excess; but the difference is too slight to be of any significance. On the other hand, the seeds produced by the flowers with an excess of pollen were a little heavier of the two; for 170 of them weighed 79.67 grains, whilst 170 seeds from the flowers with very little pollen weighed 79.20 grains. Both lots of seeds having been placed on damp sand presented no difference in their rate of germination. We may therefore conclude that my experiments were not affected by any slight difference in the amount of pollen used; a sufficiency having been employed in all cases.

In the fourth paragraph, the information about the work of Kolreuter and Gartner serves to \_\_\_\_\_.

- A. show that the author has researched the subject
- B. begin a discussion on the appropriate amounts of pollen needed in the experiment
- C. support the information about errors in germination given in the previous paragraph
- D. continue a discourse on the most effective methods to rear healthy plants
- E. argue that further study of the effect of pollen quantity on the rate of fertilization is necessary



**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

It should be expected that the author would have researched the subject, so the purpose of the reference cannot be the demonstration of their research. The paragraph begins a discussion on the amount of pollen used and whether it has an adverse impact on seeds produced or plants produced. The work of Kolreuter and Gartner, as stated by the author, concerns the specific amount of pollen needed to fertilize all the ovules, so it allows the author to transition naturally into a new line of discussion.

#### QUESTION 1065

Adapted from “Humming-Birds: As Illustrating the Luxuriance of Tropical Nature” in *Tropical Nature, and Other Essays* by Alfred Russel Wallace (1878)

The food of hummingbirds has been a matter of much controversy. All the early writers down to Buffon believed that they lived solely on the nectar of flowers, but since that time, every close observer of their habits maintains that they feed largely, and in some cases wholly, on insects. Azara observed them on the La Plata in winter taking insects out of the webs of spiders at a time and place where there were no flowers. Bullock, in Mexico, declares that he saw them catch small butterflies, and that he found many kinds of insects in their stomachs. Waterton made a similar statement. Hundreds and perhaps thousands of specimens have since been dissected by collecting naturalists, and in almost every instance their stomachs have been found full of insects, sometimes, but not generally, mixed with a proportion of honey. Many of them in fact may be seen catching gnats and other small insects just like fly-catchers, sitting on a dead twig over water, darting off for a time in the air, and then returning to the twig. Others come out just at dusk, and remain on the wing, now stationary, now darting about with the greatest rapidity, imitating in a limited space the evolutions of the goatsuckers, and evidently for the same end and purpose. Mr. Gosse also remarks, “All the hummingbirds have more or less the habit, when in flight, of pausing in the air and throwing the body and tail into rapid and odd contortions. This is most observable in the *Polytmus*, from the effect that such motions have on the long feathers of the tail. That the object of these quick turns is the capture of insects, I am sure, having watched one thus engaged pretty close to me.” What can we infer from the author’s use of the underlined phrase, “sometimes, but not generally”?

- A. Hummingbirds can be found with both honey and insects in their stomachs, and this is what scientists observe most often.
- B. Hummingbirds can be found with only honey in their stomachs quite often.
- C. None of the other answers
- D. Hummingbirds can be found with insects in their stomachs, but this is rare.
- E. Hummingbirds can be found with honey in their stomachs, but it is not common.

**Correct Answer:** E  
**Section:** Reading  
**Explanation**

**Explanation/Reference:**  
Explanation:

The phrase “sometimes, but not generally” is found in the sentence, “Hundreds and perhaps thousands of specimens have since been dissected by collecting naturalists, and in almost every instance their stomachs have been found full of insects, sometimes, but not generally, mixed with a proportion of honey.” The phrase is specifically talking about the presence of honey in hummingbirds’ stomachs, not of insects, so we can eliminate the answer choice “Hummingbirds can be found with insects in their stomachs, but this is rare.” Since “not generally” means “not most of the time,” the author is saying “sometimes, but not most of the time, hummingbirds have honey in their stomachs.” This is only accurately stated by the answer choice “Hummingbirds can be found with honey in their stomachs, but it is not common.” The answer choices “Hummingbirds can be found with both honey and insects in their stomachs, and this is what scientists observe most often” and “Hummingbirds can be found with only honey in their stomachs quite often” are incorrect because neither suggests that finding a hummingbird with honey in its stomach is rare, which is what the author is saying.

#### QUESTION 1066

Adapted from Volume Four of The Natural History of Animals: The Animal Life of the World in Its Various Aspects and Relations by James Richard Ainsworth Davis (1903)

The examples of protective resemblance so far quoted are mostly permanent adaptations to one particular sort of surrounding. There are, however, numerous animals which possess the power of adjusting their color more or less rapidly so as to harmonize with a changing environment.

Some of the best known of these cases are found among those mammals and birds that inhabit countries more or less covered with snow during a part of the year. A good instance is afforded by the Irish or variable hare, which is chiefly found in Ireland and Scotland. In summer, this looks very much like an ordinary hare, though rather grayer in tint and smaller in size, but in winter it becomes white with the exception of the black tips to the ears. Investigations that have been made on the closely allied American hare seem to show that the phenomenon is due to the growth of new hairs of white hue.

The common stoat is subject to similar color change in the northern parts of its range. In summer it is of a bright reddish brown color with the exception of the under parts, which are yellowish white, and the end of the tail, which is black. But in winter, the entire coat, save only the tip of the tail, becomes white, and in that conditions the animal is known as an ermine. A similar example is afforded by the weasel. The seasonal change in the vegetarian Irish hare is purely of protective character, but in such an actively carnivorous creature as a stoat or weasel, it is aggressive as well, rendering the animal inconspicuous to its prey.

Why is the American hare mentioned in the passage?

- A. It is a type of hare that does not change color.
- B. It is better at hiding than the Scottish hare.
- C. It is another name for the Scottish hare.
- D. Scientists have studied it to find out how a hare's fur changes color.
- E. It is a predator of the Scottish hare.



**Correct Answer:** D  
**Section:** Reading  
**Explanation**

**Explanation/Reference:**  
Explanation:

The American hare is mentioned in the last line of the passage’s second paragraph, “Investigations that have been made on the closely allied American hare seem to show that the phenomenon is due to the growth of new hairs of white hue.” Here, the American hare is mentioned because “investigations” “have been made” on it, and those “investigations” “seem to show that the phenomenon is due to” something. We can tell from this context that in these “investigations,” scientists have studied how a hare’s fur changes color, since they are about what “the phenomenon is due to.” This means that “Scientists have studied it to find out how a hare’s fur changes color.” None of the other answer choices are supported by the passage.

#### QUESTION 1067

Adapted from "Recent Views as to Direct Action of Light on the Colors of Flowers and Fruits" in Tropical Nature, and Other Essays by Alfred Russel Wallace (1878)

The theory that the brilliant colors of flowers and fruits is due to the direct action of light has been supported by a recent writer by examples taken from the arctic instead of from the tropical flora. In the arctic regions, vegetation is excessively rapid during the short summer, and this is held to be due to the continuous action of light throughout the long summer days. "The further we advance towards the north, the more the leaves of plants increase in size as if to absorb a greater proportion of the solar rays." M. Grisebach says that during a journey in Norway he observed that the majority of deciduous trees had already, at the 60th degree of latitude, larger leaves than in Germany, while M. Ch. Martins has made a similar observation as regards the leguminous plants cultivated in Lapland." The same writer goes on to say that all the seeds of cultivated plants acquire a deeper color the further north they are grown, white haricots becoming brown or black, and white wheat becoming brown, while the green color of all vegetation becomes more intense. The flowers also are similarly changed: those which are white or yellow in central Europe becoming red or orange in Norway. This is what occurs in the Alpine flora, and the cause is said to be the same in both – the greater intensity of the sunlight. In the one the light is more persistent, in the other more intense because it traverses a less thickness of atmosphere.

Admitting the facts as above stated to be in themselves correct, they do not by any means establish the theory founded on them; and it is curious that Grisebach, who has been quoted by this writer for the fact of the increased size of the foliage, gives a totally different explanation of the more vivid colors of Arctic flowers. He says, “We see flowers become larger and more richly colored in proportion as, by the increasing length of winter, insects become rarer, and their cooperation in the act of fecundation is exposed to more uncertain chances.” (Vegetation du Globe, col. i. p. 61–French translation.) This is the theory here adopted to explain the colors of Alpine plants, and we believe there are many facts that will show it to be the preferable one. The statement that the white and yellow flowers of temperate Europe become red or golden in the Arctic regions must we think be incorrect. By roughly tabulating the colors of the plants given by Sir Joseph Hooker as permanently Arctic, we find among fifty species with more or less conspicuous flowers, twenty-five white, twelve yellow, eight purple or blue, three lilac, and two red or pink; showing a very similar proportion of white and yellow flowers to what obtains further south.

What role does the underlined sentence play in the passage as a whole?

- A. It provides a counterargument opposing the theory of the "recent writer" quoted in the first paragraph.
- B. It provides evidence that the phenomenon being discussed exists, but does not support one theory more than the other.
- C. It provides evidence that supports the theory of the writer quoted in the first paragraph, but casts doubt on other theories.
- D. It offers an opinion as to the validity of the theory of the "recent writer" quoted in the first paragraph.
- E. It demonstrates that the "recent writer" quoted in the first paragraph is unreliable.

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The sentence underlined is "The further we advance towards the north, the more the leaves of plants increase in size as if to absorb a greater proportion of the solar rays." To answer this question correctly, you have to pay a great deal of attention to the way in which it is presented in the passage. It is quoted as evidence that the "recent writer" uses to support his or her theory that leaf size differs in this way due to a change in the intensity of the sunlight. So, neither "It provides a counterargument opposing the theory of the 'recent writer' quoted in the first paragraph" nor "It demonstrates that the 'recent writer' quoted in the first paragraph is unreliable" can be the correct answer. Since the statement in question is just presenting evidence, and not an opinion, "It offers an opinion as to the validity of the theory of the 'recent writer' quoted in the first paragraph" cannot be the correct answer either.

This leaves us with two possible answer choices: "It provides evidence that supports the theory of the writer quoted in the first paragraph, but casts doubt on other theories," and "It provides evidence that the phenomenon being discussed exists, but does not support one theory more than the other." The author of the passage, in the second paragraph, says that "the facts as above stated" are "in themselves correct, they do not by any means establish the theory founded on them." Given this, along with the fact that the underlined sentence's evidence never casts doubt on any theories in the passage, the correct answer is "It provides evidence that the phenomenon being discussed exists, but does not support one theory more than the other."

**QUESTION 1068** Adapted from Ice-Caves of France and Switzerland by George Forrest Browne (1865)

This account states that the cave is in the county of Thorn, among the lowest spurs of the Carpathians. The entrance, which faces the north, and is exposed to the cold winds from the snowy part of the Carpathian range, is eighteen fathoms high and nine broad; and the cave spreads out laterally, and descends to a point fifty fathoms below the entrance, where it is twenty-six fathoms in breadth, and of irregular height. Beyond this no one had at that time penetrated, on account of the unsafe footing, although many distant echoes were returned by the farther recesses of the cave; indeed, to get even so far as this, much step-cutting was necessary.

When the external frost of winter comes on, the account proceeds, the effect in the cave is the same as if fires had been lighted there: the ice melts, and swarms of flies and bats and hares take refuge in the interior from the severity of the winter. As soon as spring arrives, the warmth of winter disappears from the interior, water exudes from the roof and is converted into ice, while the more abundant supplies which pour down on to the sandy floor are speedily frozen there. In the dog-days, the frost is so intense that a small icicle becomes in one day a huge mass of ice; but a cool day promptly brings a thaw, and the cave is looked upon as a barometer, not merely feeling, but also presaging, the changes of weather.

The people of the neighborhood, when employed in field-work, arrange their labour so that the mid-day meal may be taken near the cave, when they either ice the water they have brought with them, or drink the melted ice, which they consider very good for the stomach. It had been calculated that six hundred weekly carts would not be sufficient to keep the cavern free from ice. The ground above the cave is peculiarly rich in grass.

In explanation of these phenomena, Bell threw out the following suggestions, which need no comment. The earth being of itself cold and damp, the external heat of the atmosphere, by partially penetrating into the ground, drives in this native cold to the inner parts of the earth, and makes the cold there more dense. On the other hand, when the external air is cold, it draws forth towards the surface the heat there may be in the inner part of the earth, and thus makes caverns warm.

In support and illustration of this view, he states that in the hotter parts of Hungary, when the people wish to cool their wine, they dig a hole two feet deep, and place in it the flagon of wine, and, after filling up the hole again, light a blazing fire upon the surface, which cools the wine as if the flagon had been laid in ice. He also suggests that possibly the cold winds from the Carpathians bring with them imperceptible particles of snow, which reach the water of the cave, and convert it into ice. Further, the rocks of the Carpathians abound in salts, nitre, alum, etc., which may, perhaps, mingle with such snowy particles, and produce the ordinary effect of the snow and salt in the artificial production of ice.

The point of view from which the passage is told can best be described as that of \_\_\_\_\_.

- A. an ethnographer
- B. a novelist
- C. a geographer
- D. a statistician
- E. a mountaineer

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

As the passage largely concerns itself with geographical formations, such as the cave, we can assume that the best answer is "a geographer." This also becomes apparent if we consider the unsuitability of the other answers, for instance "an ethnographer" is akin to an anthropologist and "a statistician" would be completely wrong, as the passage has nothing to do with statistics and a statistician is a person who studies, calculates, and interprets statistics.



**QUESTION 1069** Adapted from Ice-Caves of France and Switzerland by George Forrest Browne (1865)

This account states that the cave is in the county of Thorn, among the lowest spurs of the Carpathians. The entrance, which faces the north, and is exposed to the cold winds from the snowy part of the Carpathian range, is eighteen fathoms high and nine broad; and the cave spreads out laterally, and descends to a point fifty fathoms below the entrance, where it is twenty-six fathoms in breadth, and of irregular height. Beyond this no one had at that time penetrated, on account of the unsafe footing, although many distant echoes were returned by the farther recesses of the cave; indeed, to get even so far as this, much step-cutting was necessary.

When the external frost of winter comes on, the account proceeds, the effect in the cave is the same as if fires had been lighted there: the ice melts, and swarms of flies and bats and hares take refuge in the interior from the severity of the winter. As soon as spring arrives, the warmth of winter disappears from the interior, water exudes from the roof and is converted into ice, while the more abundant supplies which pour down on to the sandy floor are speedily frozen there. In the dog-days, the frost is so intense that a small icicle becomes in one day a huge mass of ice; but a cool day promptly brings a thaw, and the cave is looked upon as a barometer, not merely feeling, but also presaging, the changes of weather. The people of the neighborhood, when employed in field-work, arrange their labour so that the mid-day meal may be taken near the cave, when they either ice the water they have brought with them, or drink the melted ice, which they consider very good for the stomach. It had been calculated that six hundred weekly carts would not be sufficient to keep the cavern free from ice. The ground above the cave is peculiarly rich in grass.

In explanation of these phenomena, Bell threw out the following suggestions, which need no comment. The earth being of itself cold and damp, the external heat of the atmosphere, by partially penetrating into the ground, drives in this native cold to the inner parts of the earth, and makes the cold there more dense. On the other hand, when the external air is cold, it draws forth towards the surface the heat there may be in the inner part of the earth, and thus makes caverns warm. In support and illustration of this view, he states that in the hotter parts of Hungary, when the people wish to cool their wine, they dig a hole two feet deep, and place in it the flagon of wine, and, after filling up the hole again, light a blazing fire upon the surface, which cools the wine as if the flagon had been laid in ice. He also suggests that possibly the cold winds from the Carpathians bring with them imperceptible particles of snow, which reach the water of the cave, and convert it into ice. Further, the rocks of the Carpathians abound in salts, niter, alum, etc., which may, perhaps, mingle with such snowy particles, and produce the ordinary effect of the snow and salt in the artificial production of ice.

The tone of this passage could best be described as \_\_\_\_\_.

- A. conversant
- B. condescending
- C. retaliatory
- D. blithe
- E. supposing

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:



If we consider “conversant” in either its archaic meaning as having frequent or familiar association, or in its current meaning of having knowledge of or experience in, then this is the best answer. The author is informed about his subject and does not leave much information to conjecture. He talks at length about the subject in an intelligent manner. The passage shows no evidence of being any of the other answers in tone: “supposing” means imagining; “condescending” means haughty or talking down to someone; “blithe” means carefree or informal; and “retaliatory” means done to achieve revenge.

**QUESTION 1070**

Adapted from The Effects of Cross & Self-Fertilisation in the Vegetable Kingdom by Charles Darwin (1876)

As it is impossible to exclude such minute pollen-carrying insects as Thrips, flowers which it was intended to fertilize with their own pollen may sometimes have been afterwards crossed with pollen brought by these insects from another flower on the same plant; but as we shall hereafter see, a cross of this kind does not produce any effect, or at most only a slight one. When two or more plants were placed near one another under the same net, as was often done, there is some real though not great danger of the flowers which were believed to be self-fertilized being afterwards crossed with pollen brought by Thrips from a distinct plant. I have said that the danger is not great because I have often found that plants which are self-sterile, unless aided by insects, remained sterile when several plants of the same species were placed under the same net. If, however, the flowers which had been presumably self-fertilized by me were in any case afterwards crossed by Thrips with pollen brought from a distinct plant, crossed seedlings would have been included amongst the self-fertilized; but it should be especially observed that this occurrence would tend to diminish and not to increase any superiority in average height, fertility, etc., of the crossed over the self-fertilized plants.

As the flowers which were crossed were never castrated, it is probable or even almost certain that I sometimes failed to cross-fertilise them effectually, and that they were afterwards spontaneously self-fertilized. This would have been most likely to occur with dichogamous species, for without much care it is not easy to perceive whether their stigmas are ready to be fertilized when the anthers open. But in all cases, as the flowers were protected from wind, rain, and the access of insects, any pollen placed by me on the stigmatic surface whilst it was immature, would generally have remained there until the stigma was mature; and the flowers would then have been crossed as was intended. Nevertheless, it is highly probable that self-fertilised seedlings have sometimes by this means got included amongst the crossed seedlings. The effect would be, as in the former case, not to exaggerate but to diminish any average superiority of the crossed over the self-fertilised plants.

Errors arising from the two causes just named, and from others, – such as some of the seeds not having been thoroughly ripened, though care was taken to avoid this error – the sickness or unperceived injury of any of the plants, – will have been to a large extent eliminated, in those cases in which many crossed and self-fertilised plants were measured and an average struck. Some of these causes of error will also have been eliminated by the seeds having been allowed to germinate on bare damp sand, and being planted in pairs; for it is not likely that ill-matured and well-matured, or diseased and healthy seeds, would germinate at exactly the same time. The same result will have been gained in the several cases in which only a few of the tallest, finest, and healthiest plants on each side of the pots were measured.

Kolreuter and Gartner have proved that with some plants several, even as many as from fifty to sixty, pollen-grains are necessary for the fertilization of all the ovules in the ovarium. Naudin also found in the case of *Mirabilis* that if only one or two of its very large pollen-grains were placed on the stigma, the plants raised from such seeds were dwarfed. I was therefore careful to give an amply sufficient supply of pollen, and generally covered the stigma with it; but I did not take any special pains to place exactly the same amount on the stigmas of the self-fertilized and crossed flowers. After having acted in this manner during two seasons, I remembered that Gartner thought, though without any direct evidence, that an excess of pollen was perhaps injurious. It was therefore necessary to ascertain whether the fertility of the flowers was affected by applying a rather small and an extremely large quantity of pollen to the stigma. Accordingly a very small mass of pollen-grains was placed on one side of the large stigma in sixty-four flowers of *Ipomoea purpurea*, and a great mass of pollen over the whole surface of the stigma in sixty-four other flowers. In order to vary the experiment, half the flowers of both lots were on plants produced from self-fertilized seeds, and the other half on plants from crossed seeds. The sixty-four flowers with an excess of pollen yielded sixty-one capsules; and excluding four capsules, each of which contained

only a single poor seed, the remainder contained on an average 5.07 seeds per capsule. The sixty-four flowers with only a little pollen placed on one side of the stigma yielded sixty-three capsules, and excluding one from the same cause as before, the remainder contained on an average 5.129 seeds. So that the flowers fertilized with little pollen yielded rather more capsules and seeds than did those fertilized with an excess; but the difference is too slight to be of any significance. On the other hand, the seeds produced by the flowers with an excess of pollen were a little heavier of the two; for 170 of them weighed 79.67 grains, whilst 170 seeds from the flowers with very little pollen weighed 79.20 grains. Both lots of seeds having been placed on damp sand presented no difference in their rate of germination. We may therefore conclude that my experiments were not affected by any slight difference in the amount of pollen used; a sufficiency having been employed in all cases.

The point of view from which the passage is told can best be described as that of \_\_\_\_\_.

- A. a bored naturalist
- B. a frugal horticulturist
- C. a dilettante biologist
- D. a despondent theologian
- E. an exhaustive natural historian

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The easiest mistake to make here is to misread “naturalist” as “naturalist”. Where “naturalist” is someone who studies nature, a “naturalist” is more commonly known as a nudist. From the passage, we can tell that the author is both thorough and well-read in their experiments. So, “exhaustive natural historian” most easily fits as the adjectives of the other answers prove them incorrect: “dilettante” means amateur or someone who only dabbles in different fields but does not seriously study any of them, “frugal” suggests that the author is sparing in his investigation, and “despondent” suggesting that the author is hopeless.

**QUESTION 1071** Adapted from Essays on Early Ornithology and Kindred Subjects by James R. McClymont (1920)

The voyagers named it the Angra de Santa Elena, and it may have been the bay which is now known as St. Helen’s Bay. But it is worthy of note that the G. de Sta. Ellena of the Cantino Chart is laid down in a position which corresponds rather with that of Table Bay than with that of St. Helen’s Bay.

The Portuguese came into contact with the inhabitants of the country adjacent to the anchorage. These people had tawny complexions, and carried wooden spears tipped with horn—assagais of a kind—and bows and arrows. They also used foxes’ tails attached to short wooden handles. We are not informed for what purposes the foxes’ tails were used. Were they used to brush flies away, or were they insignia of authority? The food of the natives was the flesh of whales, seals, and antelopes (gazellas), and the roots of certain plants. Crayfish or ‘Cape lobsters’ abounded near the anchorage.

The author of the roteiro affirms that the birds of the country resembled the birds in Portugal, and that amongst them were cormorants, larks, turtle-doves, and gulls. The gulls are called "guayvotas," but "guayvotas" is probably another instance of the eccentric orthography of the author and equivalent to "gaivotas."

In December the squadron reached the Angra de São Bràs, which was either Mossel Bay or another bay in close proximity to Mossel Bay. Here penguins and seals were in great abundance. The author of the roteiro calls the penguins "sotelycairos," which is more correctly written "sotilicarios" by subsequent writers. The word is probably related to the Spanish "sotil" and the Latin "subtilis," and may contain an allusion to the supposed cunning of the penguins, which disappear by diving when an enemy approaches.

The sotilicarios, says the chronicler, could not fly because there were no quill-feathers in their wings; in size they were as large as drakes, and their cry resembled the braying of an ass. Castanheda, Goes, and Osorio also mention the sotilicario in their accounts of the first voyage of Vasco da Gama, and compare its flipper to the wing of a bat – a not wholly inept comparison, for the under-surface of the wings of penguins is wholly devoid of feathery covering. Manuel de Mesquita Perestrello, who visited the south coast of Africa in 1575, also describes the Cape penguin. From a manuscript of his Roteiro in the Oporto Library, one learns that the flippers of the sotilicario were covered with minute feathers, as indeed they are on the upper surface and that they dived after fish, upon which they fed, and on which they fed their young, which were hatched in nests constructed of fishbones. There is nothing to cavil at in these statements, unless it be that which asserts that the nests were constructed of fishbones, for this is not in accordance with the observations of contemporary naturalists, who tell us that the nests of the Cape Penguin (*Spheniscus demersus*) are constructed of stones, shells, and debris. It is, therefore, probable that the fishbones which Perestrello saw were the remains of repasts of seals.

Seals, says the roteiro, were in great number at the Angra de São Bràs. On one occasion the number was counted and was found to be three thousand. Some were as large as bears and their roaring was as the roaring of lions. Others, which were very small, bleated like kids. These differences in size and in voice may be explained by differences in the age and in the sex of the seals, for seals of different species do not usually resort to the same locality. The seal which formerly frequented the south coast of Africa – for it is, I believe, no longer a denizen of that region – was that which is known to naturalists as *Arctocephalus delalandii*, and, as adult males sometimes attain eight and a half feet in length, it may well be described as of the size of a bear. Cubs from six to eight months of age measure about two feet and a half in length. The Portuguese caught anchovies in the bay, which they salted to serve as provisions on the voyage. They anchored a second time in the Angra de São Bràs in March, 1499, on their homeward voyage.

Yet one more allusion to the penguins and seals of the Angra de São Bràs is of sufficient historical interest to be mentioned. The first Dutch expedition to Bantam weighed anchor on the 2nd of April, 1595, and on the 4th of August of the same year the vessels anchored in a harbor called "Ague Sambras," in eight or nine fathoms of water, on a sandy bottom. So many of the sailors were sick with scurvy – "thirty or thirty-three," said the narrator, "in one ship" – that it was necessary to find fresh fruit for them. "In this bay," runs the English translation of the narrative, "lieth a small Island wherein are many birds called Pyncuins and sea Wolves that are taken with men's hands." In the original Dutch narrative by Willem Lodewyckszoon, published in Amsterdam in 1597, the name of the birds appears as "Pinguijns." The point of view from which the passage is told can best be described as that of \_\_\_\_\_.

- A. An explorer
- B. An expert on extinct species
- C. A bird expert studying historical documents
- D. A nautical theorist
- E. An historian talking about birds amongst other subjects

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The passage is mainly concerned with the history of encounters with certain animals on the coast of Africa. While both "a bird expert studying historical documents" and "a historian talking about birds amongst other subjects" might look like possibly correct answers, the author appears to be considering the historical documents only to glean what information they present about animal encounters on the coast of Africa. This suggests they are more concerned with birds than with history, making "a bird expert studying historical documents" the correct answer.

#### QUESTION 1072

Adapted from Essays on Early Ornithology and Kindred Subjects by James R. McClymont (1920)

The voyagers named it the Angra de Santa Elena, and it may have been the bay which is now known as St. Helen's Bay. But it is worthy of note that the G. de Sta. Ellena of the Cantino Chart is laid down in a position which corresponds rather with that of Table Bay than with that of St. Helen's Bay.

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Which of the following statements about the author's attitude toward the sources that he cites is supported by the passage?

- A. The author finds these sources to be filled with errors, but is using them as they are the only sources available.
- B. The author thinks his sources are too elaborate in their descriptions.
- C. The author reveres the sources he cites in the passage.
- D. The author chose to mock his sources.
- E. The author is skeptical about some of his sources' conclusions.

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

At certain points, the author challenges some of the conclusions made by the texts he cites. Near the end of the fifth paragraph, the phrase "for this is not in accordance with the observations of contemporary naturalists" is a good example of this skepticism. It is also to be expected that when a contemporary author cites historical sources, he or she might very well be skeptical of the conclusions drawn in those sources in comparison to modern knowledge.

#### QUESTION 1073

Adapted from A Practical Treatise on the Hive and Honey-Bee by Lorenzo Lorraine Langstroth (1857 ed.)

Of all the numerous enemies of the honey-bee, the Bee-Moth (*Tinea mellonella*), in climates of hot summers, is by far the most to be dreaded. So widespread and fatal have been its ravages in this country that thousands have abandoned the cultivation of bees in despair, and in districts which once produced abundant supplies of the purest honey, bee-keeping has gradually dwindled down into a very insignificant pursuit. Contrivances almost without number have been devised to defend the bees against this invidious foe, but still it continues its desolating inroads, almost unchecked, laughing as it were to scorn at all the so-called "moth-proof" hives, and turning many of the ingenious fixtures designed to entrap or exclude it into actual aids and comforts in its nefarious designs.

I should feel but little confidence in being able to reinstate bee-keeping in our country into a certain and profitable pursuit if I could not show the apiarian in what way he can safely bid defiance to the pestiferous assaults of this, his most implacable enemy. I have patiently studied its habits for years, and I am at length able to announce a system of management founded upon the peculiar construction of my hives, which will enable the careful bee-keeper to protect his colonies against the monster. The bee-moth infects our apiaries, just as weeds take possession of a fertile soil. Before explaining the means upon which I rely to circumvent the moth, I will first give a brief description of its habits.

Swammerdam, towards the close of the seventeenth century, gave a very accurate description of this insect, which was then called by the very expressive name of the "bee-wolf." He has furnished good drawings of it, in all its changes, from the worm to the perfect moth, together with the peculiar webs or galleries that it constructs and from which the name of *Tinea galleria* or "gallery moth" has been given to it by some entomologists. He failed, however, to discriminate between the male and female, which, because they differ so much in size and appearance, he supposed to be two different species of the wax-moth. It seems to have been a great pest in his time, and even Virgil speaks of the "dirum tineæ genus," the dreadful offspring of the moth; that is the worm.

This destroyer usually makes its appearance about the hives in April or May, the time of its coming depending upon the warmth of the climate or the forwardness of the season. It is seldom seen on the wing (unless startled from its lurking place about the hive) until towards dark, and is evidently chiefly nocturnal in its habits. In dark cloudy days, however, I have noticed it on the wing long before sunset, and if several such days follow in succession, the female, oppressed with the urgent necessity of laying her eggs, may be seen endeavoring to gain admission to the hives. The female is much larger than the male, and "her color is deeper and more inclining to a darkish gray, with small spots or blackish streaks on the interior edge of her upper wings." The color of the male inclines more to a light gray; they might easily be mistaken for different species of moths. These insects are surprisingly agile, both on foot and on the wing. The motions of a bee are very slow in comparison. "They are," says Reaumur, "the most nimble-footed creatures that I know." "If the approach to the apiary be observed of a moonlight evening, the moths will be found flying or running round the hives, watching an opportunity to enter, whilst the bees that have to guard the entrances against their intrusion will be seen acting as vigilant sentinels, performing continual rounds near this important post, extending their antenna to the utmost, and moving them to the right and left alternately. Woe to the unfortunate moth that comes within their reach!" "It is curious," says Huber, "to observe how artfully the moth knows how to profit, to the disadvantage of the bees, which require much light for seeing objects; and the precautions taken by the latter in reconnoitering and expelling so dangerous an enemy." The point of view from which the passage is told can best be described as that of \_\_\_\_\_.

- A. a reverend
- B. a scientific illustrator
- C. a prominent naturalist
- D. an enthusiastic bee keeper
- E. an intermittent apiarian

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:



We can tell that the author is an enthusiastic bee keeper by the subject matter of the text and the intricate details he goes into. It happens to be true that the author is a reverend, but if we are only inferring his identity from the passage itself, we could not infer this, because the passage only discusses bee-keeping and doesn't mention anything that would make us think he is a reverend.

#### QUESTION 1074

Adapted from "Introduced Species That Have Become Pests" in *Our Vanishing Wild Life, Its Extinction and Protection* by William Temple Hornaday (1913)

The man who successfully transplants or "introduces" into a new habitat any persistent species of living thing assumes a very grave responsibility. Every introduced species is doubtful gravel until panned out. The enormous losses that have been inflicted upon the world through the perpetuation of follies with wild vertebrates and insects would, if added together, be enough to purchase a principality. The most aggravating feature of these follies in transplantation is that never yet have they been made severely punishable. We are just as careless and easygoing on this point as we were about the government of the Yellowstone Park in the days when Howell and other poachers destroyed our first national bison herd, and when caught red-handed – as Howell was, skinning seven Park bison cows – could not be punished for it, because there was no penalty prescribed by any law. Today, there is a way in which any revengeful person could inflict enormous damage on the entire South, at no cost to himself, involve those states in enormous losses and the expenditure of vast sums of money, yet go absolutely unpunished!

The gypsy moth is a case in point. This winged calamity was imported at Maiden, Massachusetts, near Boston, by a French entomologist, Mr. Leopold Trouvelot, in 1868 or 69. History records the fact that the man of science did not purposely set free the pest. He was endeavoring with live specimens to find a moth that would produce a cocoon of commercial value to America, and a sudden gust of wind blew out of his study, through an open window, his living and breeding specimens of the gypsy moth. The moth itself is not bad to look at, but its larvae are a great, overgrown brute with an appetite like a hog. Immediately Mr. Trouvelot sought to recover his specimens, and when he failed to find them all, like a man of real honor, he notified the State authorities of the accident. Every effort was made to recover all the specimens, but enough escaped to produce progeny that soon became a scourge to the trees of Massachusetts. The method of the big, nasty-looking mottled-brown caterpillar was very simple. It devoured the entire foliage of every tree that grew in its sphere of influence.

The gypsy moth spread with alarming rapidity and persistence. In course of time, the state authorities of Massachusetts were forced to begin a relentless war upon it, by poisonous sprays and by fire. It was awful! Up to this date (1912) the New England states and the United States Government service have expended in fighting this pest about \$7,680,000!

The spread of this pest has been retarded, but the gypsy moth never will be wholly stamped out. Today it exists in Rhode Island, Connecticut, and New Hampshire, and it is due to reach New York at an early date. It is steadily spreading in three directions from Boston, its original point of departure, and when it strikes the State of New York, we, too, will begin to pay dearly for the Trouvelot experiment.

The author's tone in this passage is best described as \_\_\_\_\_.

- A. sarcastic
- B. optimistic
- C. humorous
- D. frustrated



E. imaginative

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Throughout the passage, the author laments that people who damage the environment by releasing invasive species cannot be legally punished for it, and provides the example of the gypsy moth as a particularly damaging invasive species. He takes his topic quite seriously, so we can't call his tone "humorous." He never uses sarcasm, so we can't call it "sarcastic." He doesn't think that the United States will ever be rid of the gypsy moth, so we can't call his tone "optimistic." This leaves us with "imaginative" and "frustrated." The author doesn't use fanciful or figurative language in the passage, so we can't accurately call his tone "imaginative." "Frustrated" is the best answer. The author clearly wants to change the situation surrounding invasive species and the way in which those who introduce them are legally treated, but he cannot do anything to effect change in this area besides inform his readers of what's wrong with the current system.

#### QUESTION 1075

Adapted from "Introduced Species That Have Become Pests" in Our Vanishing Wild Life, Its Extermination and Protection by William Temple Hornaday (1913)

The man who successfully transplants or "introduces" into a new habitat any persistent species of living thing assumes a very grave responsibility. Every introduced species is doubtful gravel until panned out. The enormous losses that have been inflicted upon the world through the perpetuation of follies with wild vertebrates and insects would, if added together, be enough to purchase a principality. The most aggravating feature of these follies in transplantation is that never yet have they been made severely punishable. We are just as careless and easygoing on this point as we were about the government of the Yellowstone Park in the days when Howell and other poachers destroyed our first national bison herd, and when caught red-handed – as Howell was, skinning seven Park bison cows – could not be punished for it, because there was no penalty prescribed by any law. Today, there is a way in which any revengeful person could inflict enormous damage on the entire South, at no cost to himself, involve those states in enormous losses and the expenditure of vast sums of money, yet go absolutely unpunished!

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The description of the gypsy moth caterpillar found in the passage's second paragraph suggests that the author \_\_\_\_\_ it.

A. underestimates

B. detests

C. respects

D. adores

E. misunderstands

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

How does the author describe the gypsy moth caterpillar in the second paragraph? Well, we can tell he's not very fond of it at all because he says, "The moth itself is not bad to look at, but its larvae is a great, overgrown brute with an appetite like a hog." Similarly, at the end of the paragraph, he writes, "Every effort was made to recover all the specimens, but enough escaped to produce progeny that soon became a scourge to the trees of Massachusetts. The method of the big, nasty-looking mottled-brown caterpillar was very simple. It devoured the entire foliage of every tree that grew in its sphere of influence." Based on the strong negative language the author uses when discussing the gypsy moth caterpillars and the damage they cause, we can pick out "detests" as the correct answer.

#### QUESTION 1076

Adapted from Volume Four of The Natural History of Animals: The Animal Life of the World in Its Various Aspects and Relations by James Richard Ainsworth Davis (1903)

The examples of protective resemblance so far quoted are mostly permanent adaptations to one particular sort of surrounding. There are, however, numerous animals which possess the power of adjusting their color more or less rapidly so as to harmonize with a changing environment.

Some of the best known of these cases are found among those mammals and birds that inhabit countries more or less covered with snow during a part of the year. A good instance is afforded by the Irish or variable hare, which is chiefly found in Ireland and Scotland. In summer, this looks very much like an ordinary hare, though rather grayer in tint and smaller in size, but in winter it becomes white with the exception of the black tips to the ears. Investigations that have been made on the closely allied American hare seem to show that the phenomenon is due to the growth of new hairs of white hue.

The common stoat is subject to similar color change in the northern parts of its range. In summer it is of a bright reddish brown color with the exception of the under parts, which are yellowish white, and the end of the tail, which is black. But in winter, the entire coat, save only the tip of the tail, becomes white, and in that conditions the animal is known as an ermine. A similar example is afforded by the weasel. The seasonal change in the vegetarian Irish hare is purely of protective character, but in such an actively carnivorous creature as a stoat or weasel, it is aggressive as well, rendering the animal inconspicuous to its prey.

The tone of this passage is best described as \_\_\_\_\_.

- A. objective
- B. optimistic
- C. judgmental
- D. considerate
- E. angry

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The author's tone in this passage is one that you may not even have noticed when reading the passage. Science passages like this one often employ a detached, impersonal, and neutral tone that can be called "objective." This type of tone doesn't involve the writer's opinion or take sides with one or another of the topics being discussed. For instance, if the writer made the hares seem pitiable and the stoats seem like mean, bloodthirsty predators, his tone could not be said to be "objective." However, the writer treats the stoats and hares in much the same way, discussing them in terms of their changing coat colors. "Objective" is the best answer for this question because we cannot support the assertions that the author's tone is "angry," "optimistic," "considerate," or "judgmental."

#### QUESTION 1077

Adapted from "Feathers of Sea Birds and Wild Fowl for Bedding" from The Utility of Birds by Edward Forbush (ed. 1922)

In the colder countries of the world, the feathers and down of waterfowl have been in great demand for centuries as filling for beds and pillows. Such feathers are perfect non-conductors of heat, and beds, pillows, or coverlets filled with them represent the acme of comfort and durability. The early settlers of New England saved for such purposes the feathers and down from the thousands of wild-fowl which they killed, but as the population increased in numbers, the quantity thus furnished was insufficient, and the people sought a larger supply in the vast colonies of ducks and geese along the Labrador coast.

The manner in which the feathers and down were obtained, unlike the method practiced in Iceland, did not tend to conserve and protect the source of supply. In Iceland, the people have continued to receive for many years a considerable income by collecting eider down, but there they do not "kill the goose that lays the golden eggs." Ducks line their nests with down plucked from their own breasts and that of the eider is particularly valuable for bedding. In Iceland, these birds are so carefully protected that they have become as tame and unsuspicious as domestic fowls In North America. Where they are constantly hunted they often conceal their nests in the midst of weeds or bushes, but in Iceland, they make their nests and deposit their eggs in holes dug for them in the sod. A supply of the ducks is maintained so that the people derive from them an annual income.

In North America, quite a different policy was pursued. The demand for feathers became so great in the New England colonies about the middle of the eighteenth century that vessels were fitted out there for the coast of Labrador for the express purpose of securing the feathers and down of wild fowl. Eider down having become valuable and these ducks being in the habit of congregating by thousands on barren islands of the Labrador coast, the birds became the victims of the ships' crews. As the ducks molt all their primary feathers at once in July or August and are then quite incapable of flight and the young birds are unable to fly until well grown, the hunters were able to surround the helpless birds, drive them together, and kill them with clubs. Otis says that millions of wildfowl were thus destroyed and that in a few years their haunts were so broken up by this wholesale slaughter and their numbers were so diminished that feather voyages became unprofitable and were given up.

This practice, followed by the almost continual eggging, clubbing, shooting, etc. by Labrador fishermen, may have been a chief factor in the extinction of the Labrador duck, that species of supposed restricted breeding range. No doubt had the eider duck been restricted in its breeding range to the islands of Labrador, it also would have been exterminated long ago.

The tone of the third paragraph of the passage \_\_\_\_\_.

- A. is completely objective
- B. casts the hunters' efficiency in a positive light
- C. makes the ducks' situation seem pitiable
- D. emphasizes the financial success of the Labrador feather voyages
- E. helps readers empathize with the hunters' difficult situation

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

How can we describe the author's tone in the passage's third paragraph? Well, the author writes that "the birds became the victims of the ships' crews" when "the hunters were able to surround the helpless birds, drive them together, and kill them with clubs"; afterwards, he refers back to this as "this wholesale slaughter." The author is certainly not attempting to cast the hunters' efficiency in a positive light or help readers empathize with the hunters' difficult situation. The author's

tone doesn't have any effects relating to the financial success of the Labrador feather voyages. It's also not objective: the hunters are being described as being the bad guys here, and the ducks are portrayed as being helpless. The best answer choice is the one that reflects this: that the author's tone "makes the ducks' situation seem pitiable."

**QUESTION 1078**

Adapted from "Feathers of Sea Birds and Wild Fowl for Bedding" from The Utility of Birds by Edward Forbush (ed. 1922)

In the colder countries of the world, the feathers and down of waterfowl have been in great demand for centuries as filling for beds and pillows. Such feathers are perfect non-conductors of heat, and beds, pillows, or coverlets filled with them represent the acme of comfort and durability. The early settlers of New England saved for such purposes the feathers and down from the thousands of wild-fowl which they killed, but as the population increased in numbers, the quantity thus furnished was insufficient, and the people sought a larger supply in the vast colonies of ducks and geese along the Labrador coast.

The manner in which the feathers and down were obtained, unlike the method practiced in Iceland, did not tend to conserve and protect the source of supply. In Iceland, the people have continued to receive for many years a considerable income by collecting eider down, but there they do not "kill the goose that lays the golden eggs." Ducks line their nests with down plucked from their own breasts and that of the eider is particularly valuable for bedding. In Iceland, these birds are so carefully protected that they have become as tame and unsuspicious as domestic fowls In North America. Where they are constantly hunted they often conceal their nests in the midst of weeds or bushes, but in Iceland, they make their nests and deposit their eggs in holes dug for them in the sod. A supply of the ducks is maintained so that the people derive from them an annual income.

In North America, quite a different policy was pursued. The demand for feathers became so great in the New England colonies about the middle of the eighteenth century that vessels were fitted out there for the coast of Labrador for the express purpose of securing the feathers and down of wild fowl. Eider down having become valuable and these ducks being in the habit of congregating by thousands on barren islands of the Labrador coast, the birds became the victims of the ships' crews. As the ducks molt all their primary feathers at once in July or August and are then quite incapable of flight and the young birds are unable to fly until well grown, the hunters were able to surround the helpless birds, drive them together, and kill them with clubs. Otis says that millions of wildfowl were thus destroyed and that in a few years their haunts were so broken up by this wholesale slaughter and their numbers were so diminished that feather voyages became unprofitable and were given up.

This practice, followed by the almost continual eggging, clubbing, shooting, etc. by Labrador fishermen, may have been a chief factor in the extinction of the Labrador duck, that species of supposed restricted breeding range. No doubt had the eider duck been restricted in its breeding range to the islands of Labrador, it also would have been exterminated long ago.

Based on the author's tone, we can tell that he thinks that \_\_\_\_\_.

- A. Icelandic eider ducks have become too tame
- B. the use of eider down in bedding is a barbaric practice
- C. the Labrador feather voyages shouldn't have given up so easily
- D. the Icelandic way of collecting eider down is preferable to the practices employed in North America
- E. the Labrador feather voyages should have killed the ducks for their meat, not for their feathers

**Correct Answer:** D

**Section:** Reading

**Explanation**



**Explanation/Reference:**

Explanation:

The author describes the methods of collecting down in North America in a way that makes them seem barbaric and casts the ducks as the helpless victims of the hunters. Because of this, we can eliminate any of the answer choices that suggest the author would have encouraged the continuation of the Labrador feather voyages. The idea that the Labrador feather voyages should have killed the ducks for their meat instead of their feathers is never mentioned or suggested. While the author mentions that the Icelandic eider ducks have become quite tame, he doesn't suggest this is a bad thing and that they are "too tame." Similarly, while he describes the use of eider down in bedding materials and suggests that the North American methods of collecting down are barbaric, he doesn't suggest that the use of eider down as a whole is a barbaric practice; he seems to support the collection of down using the Icelandic methods that don't hurt the ducks. This supports the final answer we are left with and, the correct one: "the Icelandic way of collecting eider down is preferable to the practices employed in North America."

**QUESTION 1079**

Adapted from The Effects of Cross & Self-Fertilization in the Vegetable Kingdom by Charles Darwin (1876)

As it is impossible to exclude such minute pollen-carrying insects as Thrips, flowers which it was intended to fertilize with their own pollen may sometimes have been afterwards crossed with pollen brought by these insects from another flower on the same plant; but as we shall hereafter see, a cross of this kind does not produce any effect, or at most only a slight one. When two or more plants were placed near one another under the same net, as was often done, there is some real though not great danger of the flowers which were believed to be self-fertilized being afterwards crossed with pollen brought by Thrips from a distinct plant. I have said that the danger is not great because I have often found that plants which are self-sterile, unless aided by insects, remained sterile when several plants of the same species were placed under the same net. If, however, the flowers which had been presumably self-fertilized by me were in any case afterwards crossed by Thrips with pollen brought from a distinct plant, crossed seedlings would have been included amongst the self-fertilized; but it should be especially observed that this occurrence would tend to diminish and not to increase any superiority in average height, fertility, etc., of the crossed over the self-fertilized plants.

As the flowers which were crossed were never castrated, it is probable or even almost certain that I sometimes failed to cross-fertilize them effectually, and that they were afterwards spontaneously self-fertilized. This would have been most likely to occur with dichogamous species, for without much care it is not easy to perceive whether their stigmas are ready to be fertilized when the anthers open. But in all cases, as the flowers were protected from wind, rain, and the access of insects, any pollen placed by me on the stigmatic surface whilst it was immature, would generally have remained there until the stigma was mature; and the flowers would then have been crossed as was intended. Nevertheless, it is highly probable that self-fertilized seedlings have sometimes by this means got included amongst the crossed seedlings. The effect would be, as in the former case, not to exaggerate but to diminish any average superiority of the crossed over the self-fertilized plants. Errors arising from the two causes just named, and from others, – such as some of the seeds not having been thoroughly ripened, though care was taken to avoid this error – the sickness or unperceived injury of any of the plants, – will have been to a large extent eliminated, in those cases in which many crossed and self-fertilized plants were measured and an average struck. Some of these causes of error will also have been eliminated by the seeds having been allowed to germinate on bare damp sand, and being planted in pairs; for it is not likely that ill-matured and well-matured, or diseased and healthy seeds, would germinate at exactly the same time. The same result will have been gained in the several cases in which only a few of the tallest, finest, and healthiest plants on each side of the pots were measured.

Kolreuter and Gartner have proved that with some plants several, even as many as from fifty to sixty, pollen-grains are necessary for the fertilization of all the ovules in the ovarium. Naudin also found in the case of *Mirabilis* that if only one or two of its very large pollen-grains were placed on the stigma, the plants raised from such seeds were dwarfed. I was therefore careful to give an amply sufficient supply of pollen, and generally covered the stigma with it; but I did not take any



special pains to place exactly the same amount on the stigmas of the self-fertilized and crossed flowers. After having acted in this manner during two seasons, I remembered that Gartner thought, though without any direct evidence, that an excess of pollen was perhaps injurious. It was therefore necessary to ascertain whether the fertility of the flowers was affected by applying a rather small and an extremely large quantity of pollen to the stigma. Accordingly a very small mass of pollen-grains was placed on one side of the large stigma in sixty-four flowers of *Ipomoea purpurea*, and a great mass of pollen over the whole surface of the stigma in sixty-four other flowers. In order to vary the experiment, half the flowers of both lots were on plants produced from self-fertilized seeds, and the other half on plants from crossed seeds. The sixty-four flowers with an excess of pollen yielded sixty-one capsules; and excluding four capsules, each of which contained only a single poor seed, the remainder contained on an average 5.07 seeds per capsule. The sixty-four flowers with only a little pollen placed on one side of the stigma yielded sixty-three capsules, and excluding one from the same cause as before, the remainder contained on an average 5.129 seeds. So that the flowers fertilized with little pollen yielded rather more capsules and seeds than did those fertilized with an excess; but the difference is too slight to be of any significance. On the other hand, the seeds produced by the flowers with an excess of pollen were a little heavier of the two; for 170 of them weighed 79.67 grains, whilst 170 seeds from the flowers with very little pollen weighed 79.20 grains. Both lots of seeds having been placed on damp sand presented no difference in their rate of germination. We may therefore conclude that my experiments were not affected by any slight difference in the amount of pollen used; a sufficiency having been employed in all cases.

What is the main idea of the passage?

- A. A discussion of the different ways in which flowers can be pollinated.
- B. An evaluation of the confounding factors of the experiment.
- C. An argument over the best ways to germinate different plants.
- D. An assessment of the effect of Thrips on fertilisation of plants.
- E. A description of the methods used to artificially pollinate different plants.

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The confounding factors of the experiment are those which may have had an adverse affect on the result. This passage evaluates different confounding factors and assesses how steps to prevent them were taken or verifies if they would have had a great enough impact on the results for them to be taken into consideration. The third paragraph supports this answer, as it starts “Errors arising from the two causes just named, and from others” suggesting that that is what the author is talking about in the whole passage rather than the specifics of each paragraph.

#### QUESTION 1080

Adapted from The Effects of Cross & Self-Fertilisation in the Vegetable Kingdom by Charles Darwin (1876)

As it is impossible to exclude such minute pollen-carrying insects as Thrips, flowers which it was intended to fertilize with their own pollen may sometimes have been afterwards crossed with pollen brought by these insects from another flower on the same plant; but as we shall hereafter see, a cross of this kind does not produce any effect, or at most only a slight one. When two or more plants were placed near one another under the same net, as was often done, there is some real though not great danger of the flowers which were believed to be self-fertilized being afterwards crossed with pollen brought by Thrips from a distinct plant. I have said that the danger is not great because I have often found that plants which are self-sterile, unless aided by insects, remained sterile when several plants of the same species were placed under the same net. If, however, the flowers which had been presumably self-fertilized by me were in any case afterwards crossed by Thrips with pollen brought from a distinct plant, crossed seedlings would have been included amongst the self-fertilized; but it should be especially observed that this occurrence would tend to diminish and not to increase any superiority in average height, fertility, etc., of the crossed over the self-fertilized plants.

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Kolreuter and Gartner have proved that with some plants several, even as many as from fifty to sixty, pollen-grains are necessary for the fertilization of all the ovules in the ovarium. Naudin also found in the case of *Mirabilis* that if only one or two of its very large pollen-grains were placed on the stigma, the plants raised from such seeds were dwarfed. I was therefore careful to give an amply sufficient supply of pollen, and generally covered the stigma with it; but I did not take any special pains to place exactly the same amount on the stigmas of the self-fertilized and crossed flowers. After having acted in this manner during two seasons, I remembered that Gartner thought, though without any direct evidence, that an excess of pollen was perhaps injurious. It was therefore necessary to ascertain whether the fertility of the flowers was affected by applying a rather small and an extremely large quantity of pollen to the stigma. Accordingly a very small mass of pollen-grains was placed on one side of the large stigma in sixty-four flowers of *Ipomoea purpurea*, and a great mass of pollen over the whole surface of the stigma in sixty-four other flowers. In order to vary the experiment, half the flowers of both lots were on plants produced from self-fertilised seeds, and the other half on plants from crossed seeds. The sixty-four flowers with an excess of pollen yielded sixty-one capsules; and excluding four capsules, each of which contained only a single poor seed, the remainder contained on an average 5.07 seeds per capsule. The sixty-four flowers with only a little pollen placed on one side of the stigma yielded sixty-three capsules, and excluding one from the same cause as before, the remainder contained on an average 5.129 seeds. So that the flowers fertilized with little pollen yielded rather more capsules and seeds than did those fertilized with an excess; but the difference is too slight to be of any significance. On the other hand, the seeds produced by the flowers with an excess of pollen were a little heavier of the two; for 170 of them weighed 79.67 grains, whilst 170 seeds from the flowers with very little pollen weighed 79.20 grains. Both lots of seeds having been placed on damp sand presented no difference in their rate of germination. We may therefore conclude that my experiments were not affected by any slight difference in the amount of pollen used; a sufficiency having been employed in all cases.

One of the main points made in the last paragraph is \_\_\_\_\_.

- A. For heavier seeds, less pollen is required.

- B. The experiment concerning the amount of pollen used to fertilize a flower proved that little or no error had initially been made in the main experiment.
- C. Mirabilis has a high rate of germination.
- D. The results of the experiment proved that the amount of pollen used causes significant variation in the number of seeds produced.
- E. Ipomoea purpurea produce smaller plants when under-pollinated.

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The author states that the purpose of the experiment discussed only in the fourth paragraph was initially to verify if the method of pollination used in the previous two seasons had caused or could cause an anomaly. At the end of the fourth paragraph, the author states that “we may therefore conclude that my experiments were not affected by any slight difference in the amount of pollen used; a sufficiency having been employed in all cases.”

#### QUESTION 1081

Adapted from Essays on Early Ornithology and Kindred Subjects by James R. McClymont (1920)

The voyagers named it the Angra de Santa Elena, and it may have been the bay which is now known as St. Helen's Bay. But it is worthy of note that the G. de Sta. Ellena of the Cantino Chart is laid down in a position which corresponds rather with that of Table Bay than with that of St. Helen's Bay.

The Portuguese came into contact with the inhabitants of the country adjacent to the anchorage. These people had tawny complexions, and carried wooden spears tipped with horn—assagais of a kind—and bows and arrows. They also used foxes' tails attached to short wooden handles. We are not informed for what purposes the foxes' tails were used. Were they used to brush flies away, or were they insignia of authority? The food of the natives was the flesh of whales, seals, and antelopes (gazellas), and the roots of certain plants. Crayfish or 'Cape lobsters' abounded near the anchorage.

The author of the roteiro affirms that the birds of the country resembled the birds in Portugal, and that amongst them were cormorants, larks, turtle-doves, and gulls. The gulls are called "guayvotas," but "guayvotas" is probably another instance of the eccentric orthography of the author and equivalent to "gaivotas."

In December the squadron reached the Angra de São Bràs, which was either Mossel Bay or another bay in close proximity to Mossel Bay. Here penguins and seals were in great abundance. The author of the roteiro calls the penguins "sotelycairos," which is more correctly written "sotilicarios" by subsequent writers. The word is probably related to the Spanish "sotil" and the Latin "subtilis," and may contain an allusion to the supposed cunning of the penguins, which disappear by diving when an enemy approaches.

The sotilicarios, says the chronicler, could not fly because there were no quill-feathers in their wings; in size they were as large as drakes, and their cry resembled the braying of an ass. Castanheda, Goes, and Osorio also mention the sotilicario in their accounts of the first voyage of Vasco da Gama, and compare its flipper to the wing of a bat – a not wholly inept comparison, for the under-surface of the wings of penguins is wholly devoid of feathery covering. Manuel de Mesquita Perestrello, who visited the south coast of Africa in 1575, also describes the Cape penguin. From a manuscript of his Roteiro in the Oporto Library, one learns that the flippers of the sotilicario were covered with minute feathers, as indeed they are on the upper surface and that they dived after fish, upon which they fed, and on which they fed their young, which were hatched in nests constructed of fishbones. There is nothing to cavil at in these statements, unless it be that which asserts that the nests were constructed of fishbones, for this is not in accordance with the observations of contemporary naturalists, who tell us that the nests of the Cape Penguin (*Spheniscus demersus*) are constructed of stones, shells, and debris. It is, therefore, probable that the fishbones which Perestrello saw were the remains of repasts of seals.

Seals, says the roteiro, were in great number at the Angra de São Bràs. On one occasion the number was counted and was found to be three thousand. Some were as large as bears and their roaring was as the roaring of lions. Others, which were very small, bleated like kids. These differences in size and in voice may be explained by differences in the age and in the sex of the seals, for seals of different species do not usually resort to the same locality. The seal which formerly frequented the south coast of Africa – for it is, I believe, no longer a denizen of that region – was that which is known to naturalists as *Arctocephalus delalandii*, and, as adult males sometimes attain eight and a half feet in length, it may well be described as of the size of a bear. Cubs from six to eight months of age measure about two feet and a half in length. The Portuguese caught anchovies in the bay, which they salted to serve as provisions on the voyage. They anchored a second time in the Angra de São Bràs in March, 1499, on their homeward voyage.

Yet one more allusion to the penguins and seals of the Angra de São Bràs is of sufficient historical interest to be mentioned. The first Dutch expedition to Bantam weighed anchor on the 2nd of April, 1595, and on the 4th of August of the same year the vessels anchored in a harbor called "Ague Sambras," in eight or nine fathoms of water, on a sandy bottom. So many of the sailors were sick with scurvy – "thirty or thirty-three," said the narrator, "in one ship" – that it was necessary to find fresh fruit for them. "In this bay," runs the English translation of the narrative, "lieth a small Island wherein are many birds called Pyncuins and sea Wolves that are taken with men's hands." In the original Dutch narrative by

Willem Lodewyckszoon, published in Amsterdam in 1597, the name of the birds appears as "Pinguïjns."

What is the main idea of the first paragraph?

- A. The voyagers showed no interest in the animals they encountered.
- B. The shoreline was meticulously mapped.
- C. There are discrepancies between the names and the places mapped.
- D. The men who named the bay were deeply religious.
- E. The sailors did not know where they were going.

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The purpose of this paragraph is to illustrate the location the text it is concerned with. It says that it is important to note that what was called “Angra de Santa Elena” by the voyagers does not correspond fully to “St. Helen’s Bay.” Instead it is closer to “Table bay” on a certain map or “chart.”

**QUESTION 1082** Adapted from Essays on Early Ornithology and Kindred Subjects by James R. McClymont (1920)

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The sotilicarios, says the chronicler, could not fly because there were no quill-feathers in their wings; in size they were as large as drakes, and their cry resembled the braying of an ass. Castanheda, Goes, and Osorio also mention the sotilicario in their accounts of the first voyage of Vasco da Gama, and compare its flipper to the wing of a bat – a not wholly inept comparison, for the under-surface of the wings of penguins is wholly devoid of feathery covering. Manuel de Mesquita Perestrello, who visited the south coast of Africa in 1575, also describes the Cape penguin. From a manuscript of his Roteiro in the Oporto Library, one learns that the flippers of the sotilicario were covered with minute feathers, as indeed they are on the upper surface and that they dived after fish, upon which they fed, and on which they fed their young, which were hatched in nests constructed of fishbones. There is nothing to cavil at in these statements, unless it be that which asserts that the nests were constructed of fishbones, for this is not in accordance with the observations of contemporary naturalists, who tell us that the nests of the Cape Penguin (*Spheniscus demersus*) are constructed of stones, shells, and debris. It is, therefore, probable that the fishbones which Perestrello saw were the remains of repasts of seals.

Seals, says the roteiro, were in great number at the Angra de São Bràs. On one occasion the number was counted and was found to be three thousand. Some were as large as bears and their roaring was as the roaring of lions. Others, which were very small, bleated like kids. These differences in size and in voice may be explained by differences in the age and in the sex of the seals, for seals of different species do not usually resort to the same locality. The seal which formerly frequented the south coast of Africa – for it is, I believe, no longer a denizen of that region – was that which is known to naturalists as *Arctocephalus delalandii*, and, as adult males sometimes attain eight and a half feet in length, it may well be described as of the size of a bear. Cubs from six to eight months of age measure about two feet and a half in length. The Portuguese caught anchovies in the bay, which they salted to serve as provisions on the voyage. They anchored a second time in the Angra de São Bràs in March, 1499, on their homeward voyage.

Yet one more allusion to the penguins and seals of the Angra de São Bràs is of sufficient historical interest to be mentioned. The first Dutch expedition to Bantam weighed anchor on the 2nd of April, 1595, and on the 4th of August of the same year the vessels anchored in a harbor called "Ague Sambras," in eight or nine fathoms of water, on a sandy bottom. So many of the sailors were sick with scurvy – "thirty or thirty-three," said the narrator, "in one ship" – that it was necessary to find fresh fruit for them. "In this bay," runs the English translation of the narrative, "lieth a small Island wherein are many birds called Pyncuins and sea Wolves that are taken with men’s hands." In the original Dutch narrative by Willem Lodewyckszoon, published in Amsterdam in 1597, the name of the birds appears as "Pinguijns."

One of the main points made in the last paragraph is \_\_\_\_\_.

- A. The expedition had to stop on the coast due to numerous cases of malnutrition aboard.
- B. The seals and penguins seen had flippers like men's hands.
- C. The Dutch narrative of the expedition was printed within a year of the events.
- D. The English translation of the account is incomplete.
- E. The expedition stayed anchored in the bay for four months.

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The expedition had to stop at least once because around thirty-three of the sailors had "scurvy," which is a disease resulting from a deficiency of vitamin C. This was usually prevalent on ships, where sailors' diet was poor that they developed the disease due to malnutrition.

**QUESTION 1083**

Adapted from A Practical Treatise on the Hive and Honey-Bee by Lorenzo Lorraine Langstroth (1857 ed.)

Of all the numerous enemies of the honey-bee, the Bee-Moth (*Tinea mellonella*), in climates of hot summers, is by far the most to be dreaded. So widespread and fatal have been its ravages in this country that thousands have abandoned the cultivation of bees in despair, and in districts which once produced abundant supplies of the purest honey, bee-keeping has gradually dwindled down into a very insignificant pursuit. Contrivances almost without number have been devised to defend the bees against this invidious foe, but still it continues its desolating inroads, almost unchecked, laughing as it were to scorn at all the so-called "moth-proof" hives, and turning many of the ingenious fixtures designed to entrap or exclude it into actual aids and comforts in its nefarious designs.

I should feel but little confidence in being able to reinstate bee-keeping in our country into a certain and profitable pursuit if I could not show the apiarian in what way he can safely bid defiance to the pestiferous assaults of this, his most implacable enemy. I have patiently studied its habits for years, and I am at length able to announce a system of management founded upon the peculiar construction of my hives, which will enable the careful bee-keeper to protect his colonies against the monster. The bee-moth infects our apiaries, just as weeds take possession of a fertile soil. Before explaining the means upon which I rely to circumvent the moth, I will first give a brief description of its habits.

Swammerdam, towards the close of the seventeenth century, gave a very accurate description of this insect, which was then called by the very expressive name of the "bee-wolf." He has furnished good drawings of it, in all its changes, from the worm to the perfect moth, together with the peculiar webs or galleries that it constructs and from which the name of *Tinea galleria* or "gallery moth" has been given to it by some entomologists. He failed, however, to discriminate between the male and female, which, because they differ so much in size and appearance, he supposed to be two different species of the wax-moth. It seems to have been a great pest in his time, and even Virgil speaks of the "dirum tineæ genus," the dreadful offspring of the moth; that is the worm.

This destroyer usually makes its appearance about the hives in April or May, the time of its coming depending upon the warmth of the climate or the forwardness of the season. It is seldom seen on the wing (unless startled from its lurking place about the hive) until towards dark, and is evidently chiefly nocturnal in its habits. In dark cloudy days, however, I have noticed it on the wing long before sunset, and if several such days follow in succession, the female, oppressed with the urgent necessity of laying her eggs, may be seen endeavoring to gain admission to the hives. The female is much larger than the male, and "her color is deeper and more inclining to a darkish gray, with small spots or blackish streaks on the interior edge of her upper wings." The color of the male inclines more to a light gray; they might easily be mistaken for different species of moths. These insects are surprisingly agile, both on foot and on the wing. The motions of a bee are very slow in comparison. "They are," says Reaumur, "the most nimble-footed creatures that I know." "If the approach to the apiary be observed of a moonlight evening, the moths will be found flying or running round the hives, watching an opportunity to enter, whilst the bees that have to guard the entrances against their intrusion will be seen acting as vigilant sentinels, performing continual rounds near this important post, extending their antenna to the utmost, and moving them to the right and left alternately. Woe to the unfortunate moth that comes within their reach!" "It is curious," says Huber, "to observe how artfully the moth knows how to profit, to the disadvantage of the bees, which require much light for seeing objects; and the precautions taken by the latter in reconnoitering and expelling so dangerous an enemy."

What is the main idea of the second paragraph?

- A. The author is uncertain as to the future of bee keeping until a pesticide is created to kill the bee-moth.
- B. The author intends to catch as many bee-moths as possible so that they may be killed or deported to other countries.
- C. The author has come up with a method for stopping some of the destruction of the bee-moth, which he will share later in the book.
- D. Several people have recommended methods to prevent the attacks of the bee-moth and the author will share them.
- E. There is no point trying to devise ways to save bee keeping from the moth and the author thinks that any advice he gives will be of little consequence.

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

In the second paragraph, the author says that he would not feel confident in trying to reinstate the art of bee keeping in his country without giving some good advice as to how to stop the moth in some way, and that he has come up with some methods, which he will describe later in the book. These methods do not appear in the passage apart from the reference to them in the second paragraph.

#### QUESTION 1084

Adapted from "Humming-Birds: As Illustrating the Luxuriance of Tropical Nature" in *Tropical Nature, and Other Essays* by Alfred Russel Wallace (1878)

The food of hummingbirds has been a matter of much controversy. All the early writers down to Buffon believed that they lived solely on the nectar of flowers, but since that time, every close observer of their habits maintains that they feed largely, and in some cases wholly, on insects. Azara observed them on the La Plata in winter taking insects out of the webs of spiders at a time and place where there were no flowers. Bullock, in Mexico, declares that he saw them catch small butterflies, and that he found many kinds of insects in their stomachs. Waterton made a similar statement. Hundreds and perhaps thousands of specimens have since been dissected by collecting naturalists, and in almost every instance their stomachs have been found full of insects, sometimes, but not generally, mixed with a proportion of honey. Many of them in fact may be seen catching gnats and other small insects just like fly-catchers, sitting on a dead twig over water, darting off for a time in the air, and then returning to the twig. Others come out just at dusk, and remain on the wing, now stationary, now darting about with the greatest rapidity, imitating in a limited space the evolutions of the goatsuckers, and evidently for the same end and purpose. Mr. Gosse also remarks, "All the hummingbirds have more or less the habit, when in flight, of pausing in the air and throwing the body and tail into rapid and odd contortions. This is most observable in the *Polytmus*, from the effect that such motions have on the long feathers of the tail. That the object of these quick turns is the capture of insects, I am sure, having watched one thus engaged pretty close to me." The purpose of this passage is \_\_\_\_\_.

- A. to propose a definitive experiment about what hummingbirds eat
- B. to consider the opinions of scientists on what hummingbirds eat
- C. to critique the opinions of other scientists
- D. to explain why one should feed captive hummingbird insects and not flower nectar
- E. to discuss the *Polytmus*' feeding habits

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

When answering questions about a passage's purpose or main idea, it's important to pick an answer choice that is broad enough to encompass the entire passage. For instance, while the *Polytmus*' feeding habits are discussed in the passage, it can't be said to be the purpose of the passage, since it's only mentioned as a small detail. The passage can't be said to critique the opinions of other scientists, because for the most part, the author quotes findings by scientists with whom he does not disagree. A definitive experiment is never proposed, and captive hummingbirds are never discussed. The passage does provide the opinions of scientists on what hummingbirds eat; this accurately captures the intent of the entire passage, not just some of its parts, and doesn't state it too broadly.



**QUESTION 1085**

Adapted from “Darwin’s Predecessors” by J. Arthur Thomson in *Evolution in Modern Thought* (1917 ed.)

In seeking to discover Darwin's relation to his predecessors, it is useful to distinguish the various services which he rendered to the theory of organic evolution. As everyone knows, the general idea of the doctrine of descent is that the plants and animals of the present day are the lineal descendants of ancestors on the whole somewhat simpler, that these again are descended from yet simpler forms, and so on backwards towards the literal "Protozoa" and "Protophyta" about which we unfortunately know nothing. Now no one supposes that Darwin originated this idea, which in rudiment at least is as old as Aristotle. What Darwin did was to make it current intellectual coin. He gave it a form that commended itself to the scientific and public intelligence of the day, and he won widespread conviction by showing with consummate skill that it was an effective formula to work with, a key which no lock refused. In a scholarly, critical, and preeminently fairminded way, admitting difficulties and removing them, foreseeing objections and forestalling them, he showed that the doctrine of descent supplied a modal interpretation of how our present-day fauna and flora have come to be.

In the second place, Darwin applied the evolution-idea to particular problems, such as the descent of man, and showed what a powerful tool it is, introducing order into masses of uncorrelated facts, interpreting enigmas both of structure and function, both bodily and mental, and, best of all, stimulating and guiding further investigation. But here again it cannot be claimed that Darwin was original. The problem of the descent or ascent of man, and other particular cases of evolution, had attracted not a few naturalists before Darwin's day, though no one [except Herbert Spencer in the psychological domain (1855)] had come near him in precision and thoroughness of inquiry.

In the third place, Darwin contributed largely to a knowledge of the factors in the evolution-process, especially by his analysis of what occurs in the case of domestic animals and cultivated plants, and by his elaboration of the theory of natural selection, which Alfred Russel Wallace independently stated at the same time, and of which there had been a few previous suggestions of a more or less vague description. It was here that Darwin's originality was greatest, for he revealed to naturalists the many different forms – often very subtle – which natural selection takes, and with the insight of a disciplined scientific imagination he realized what a mighty engine of progress it has been and is.

What is the overall purpose of this passage?

- A. To praise every aspect of Darwin's account of evolution
- B. To defend Darwin's account of evolution against those who deny its cogency
- C. To list some theories with which Darwin disagreed
- D. To provide comprehensive account of the history of Darwin's thought
- E. None of the other answers

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

In this selection, the main idea is stated in the very first sentence, so long as you pay attention to it: "In seeking to discover Darwin's relation to his predecessors, it is useful to distinguish the various services which he rendered to the theory of organic evolution." The passage is directing our attention not to his predecessors per se. It is presenting "the various services which he rendered to the theory of organic evolution." It lists several such "services" that Darwin rendered in order to show how he helped to develop the theory of evolution in biology. None of the answers state this adequately.

**QUESTION 1086** "Interpreting the Copernican Revolution" by

Matthew Minerd (2014)

The expressions of one discipline can often alter the way that other subjects understand themselves. Among such cases are numbered the investigations of Nicolaus Copernicus. Copernicus is best known for his views concerning heliocentrism, a view which eventually obliterated many aspects of the ancient/medieval worldview, at least from the standpoint of physical science. It had always been the natural view of mankind that the earth stood at the center of the universe, a fixed point in reference to the rest of the visible bodies. The sun, stars, and planets all rotated around the earth.

With time, this viewpoint became one of the major reference points for modern life. It provided a provocative image that was used – and often abused – by many people for various purposes. For those who wished to weaken the control of religion on mankind, it was said that the heliocentric outlook proved man's insignificance. In contrast with earlier geocentrism, heliocentrism was said to show that man is not the center of the universe. He is merely one small being in the midst of a large cosmos. However, others wished to use the “Copernican Revolution” in a very different manner. These thinkers wanted to show that there was another “recentering” that had to happen. Once upon a time, we talked about the world. Now, however, it was necessary to talk of man as the central reference point. Just as the solar system was “centered” on the sun, so too should the sciences be centered on the human person.

However, both of these approaches are fraught with problems. Those who wished to undermine the religious mindset rather misunderstood the former outlook on the solar system. The earlier geocentric mindset did not believe that the earth was the most important body in the heavens. Instead, many ancient and medieval thinkers believed that the highest “sphere” above the earth was the most important being in the physical universe. Likewise, the so-called “Copernican Revolution” in physics was different from the one applied to the human person. Copernicus’ revolution showed that the human point of view was not the center, whereas the later forms of “Copernican revolution” wished to show just the opposite.

Of course, there are many complexities in the history of such important changes in scientific outlook. Nevertheless, it is fascinating to see the wide-reaching effects of such discoveries, even when they have numerous, ambiguous effects.

What can we say, in general, about the interpretations that have been offered for the effects of Copernicus' discoveries?

- A. They have been abused for tyrannical purposes by many parties.
- B. They have been used more according to the disposition of their interpreters than in accord with the reality of the facts.
- C. They have unlocked a number of themes that were long hidden by the powers of religion and authoritarian regimes.
- D. None of the other answers
- E. They have provided the grounds for a fruitful dialogue between religion and science.

**Correct Answer:** B

**Section:** Reading  
**Explanation**

**Explanation/Reference:**

Explanation:

While the passage does catalogue two different worldviews that emerged from Copernicus' findings, it ultimately stresses the point that such outlooks are both limited because of their adherents' biases. Neither of them really reads the history or even the general images correctly. It seems that each one uses the findings as an occasion for strengthening his or her outlook on reality, whatever that might be.

**QUESTION 1087** "Interpreting the Copernican Revolution" by Matthew Minerd (2014)

The expressions of one discipline can often alter the way that other subjects understand themselves. Among such cases are numbered the investigations of Nicolaus Copernicus. Copernicus is best known for his views concerning heliocentrism, a view which eventually obliterated many aspects of the ancient/medieval worldview, at least from the standpoint of physical science. It had always been the natural view of mankind that the earth stood at the center of the universe, a fixed point in reference to the rest of the visible bodies. The sun, stars, and planets all rotated around the earth. With time, this viewpoint became one of the major reference points for modern life. It provided a provocative image that was used – and often abused – by many people for various purposes. For those who wished to weaken the control of religion on mankind, it was said that the heliocentric outlook proved man's insignificance. In contrast with earlier geocentrism, heliocentrism was said to show that man is not the center of the universe. He is merely one small being in the midst of a large cosmos. However, others wished to use the “Copernican Revolution” in a very different manner. These thinkers wanted to show that there was another “recentering” that had to happen. Once upon a time, we talked about the world. Now, however, it was necessary to talk of man as the central reference point. Just as the solar system was “centered” on the sun, so too should the sciences be centered on the human person. However, both of these approaches are fraught with problems. Those who wished to undermine the religious mindset rather misunderstood the former outlook on the solar system. The earlier geocentric mindset did not believe that the earth was the most important body in the heavens. Instead, many ancient and medieval thinkers believed that the highest “sphere” above the earth was the most important being in the physical universe. Likewise, the so-called “Copernican Revolution” in physics was different from the one applied to the human person. Copernicus' revolution showed that the human point of view was not the center, whereas the later forms of “Copernican revolution” wished to show just the opposite. Of course, there are many complexities in the history of such important changes in scientific outlook. Nevertheless, it is fascinating to see the wide-reaching effects of such discoveries, even when they have numerous, ambiguous effects. Why is the "Copernican revolution" of the human sciences contrary to the literal sense of Copernicus' findings?

- A. None of the other answers
- B. Copernicus' findings were scientific in contrast to nebulous humanistic aims.
- C. Copernicus' findings aim only at disproving a former worldview, not finding new data around a new center of experience.
- D. Copernicus' scientific aims immediately prove the fact that the human person is merely a speck on a rock in a large universe.
- E. Copernicus' findings were focused on a new external "center," drawing attention away from the immediate center experienced in day-to-day life.

**Correct Answer:** E

**Section:** Reading  
**Explanation**

**Explanation/Reference:**

Explanation:

The key sentence for this question is: "Copernicus' revolution showed that the human point of view was not the center, whereas the later forms of 'Copernican revolution' wished to show just the opposite." To start looking at the sun as the center requires us to "look outward" in a new way, not paying attention to our particular earth-bound viewpoint. However, the "Copernican revolution" centered on humanity does just the opposite. It turns the gaze "inward," quite different from the literal sense of Copernicus' findings.

**QUESTION 1088** "The Place of Lesion Studies in Neuroscience" by Samantha Winter (2013)

It's easy to forget that the study of neuroscience originated from non-normalized, non-statistically appraised methods like lesion studies. It's equally easy, with the advent of sophisticated technology, to render such a method obsolete. A small group of neuroscientists today make a case for the reinstitution of lesion studies – the study of abnormal brains with damaged regions in order to better understand the brain – into the twenty-first-century cognitive neuroscience realm. Their suggestion is bold, but their argument is justified. Cognitive neuroscientists advocate for the use of convergent methods. Many of them argue that with the limitations of our existing techniques, convergent evidence is imperative for sound research. If this is the case, why ignore a method that has potential for implying causality in a domain dominated by correlational research? Rather than advocating for a single method, neuroscientists should take their own advice and use convergent techniques. Sound research should combine a variety of techniques to examine both causal relationships and overcome the individual shortcomings of each method through the use of many. Lesion studies are also significantly more beneficial now than they were in earlier times. Neuroimaging methods have enhanced our understanding of what contributes to the brain problems most often encountered, and more refined experiments have been developed to confirm the findings from the more unreliable lesion studies. This transformation allows lesion studies to be included alongside the other systems as a mechanism for understanding the human brain.

The primary goal of this passage is \_\_\_\_\_.

- A. To provide the reader with a thorough understanding of the terms “correlational” and “causational”
- B. To present the opinion that lesion studies are valuable and should be used in combination with other techniques
- C. To argue against the use of lesion studies
- D. To discuss the specific limitations of all neuroscience methods

E. To convince readers that lesion studies are more effective than all other neuroscience studies and to present the opinion that lesion studies are valuable and should be used in combination with other techniques

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

While "to convince readers that lesion studies are more effective than all other neuroscience studies and to present the opinion that lesion studies are valuable and should be used in combination with other techniques" may seem correct at first, on close inspection, the passage indicates that lesion studies should be used in convergence with other methods and does not directly discuss the effectiveness of lesion studies in comparison with other methods. "To discuss the specific limitations of all neuroscience methods" is incorrect because no specific limitations are cited. "To provide the reader with a thorough understanding of the terms 'correlational' and 'causational'" may seem like a viable option because the passage does address these concepts, but they are not the core tenet of the passage. "To present the opinion that lesion studies are valuable and should be used in combination with other techniques" is correct because the passage repeatedly comments on the use of convergent techniques, including lesion studies, to better understand the brain.

#### QUESTION 1089

Adapted from Volume Four of The Natural History of Animals: The Animal Life of the World in Its Various Aspects and Relations by James Richard Ainsworth Davis (1903)

The examples of protective resemblance so far quoted are mostly permanent adaptations to one particular sort of surrounding. There are, however, numerous animals which possess the power of adjusting their color more or less rapidly so as to harmonize with a changing environment.

Some of the best known of these cases are found among those mammals and birds that inhabit countries more or less covered with snow during a part of the year. A good instance is afforded by the Irish or variable hare, which is chiefly found in Ireland and Scotland. In summer, this looks very much like an ordinary hare, though rather grayer in tint and smaller in size, but in winter it becomes white with the exception of the black tips to the ears. Investigations that have been made on the closely allied American hare seem to show that the phenomenon is due to the growth of new hairs of white hue.

The common stoat is subject to similar color change in the northern parts of its range. In summer it is of a bright reddish brown color with the exception of the under parts, which are yellowish white, and the end of the tail, which is black. But in winter, the entire coat, save only the tip of the tail, becomes white, and in that conditions the animal is known as an ermine. A similar example is afforded by the weasel. The seasonal change in the vegetarian Irish hare is purely of protective character, but in such an actively carnivorous creature as a stoat or weasel, it is aggressive as well, rendering the animal inconspicuous to its prey.

Which of the following best expresses the main idea of the passage?

- A. Increased defense is the only reason for an animal to change its fur color.
- B. All animals that live in a changing environment change color.
- C. The Scottish hare changes its fur color.
- D. Animals like the stoat, the weasel, and the Irish hare are better adapted to changing environments than to unchanging ones.
- E. Certain animals change their fur color to be better predators or better at hiding.



**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

When answering questions about the main idea of a passage, it's important to pick out an answer choice to which each paragraph relates, but one that isn't too broad. Some of the answer choices to this question are too specific: "The Scottish hare changes its fur color" is, and we can tell because the first paragraph doesn't say anything about the Scottish hare, and the third paragraph only mentions it in its last line. "Increased defense is the only reason for an animal to change its fur color" should get your attention due to its use of the word "only" – did we hear anything in the passage about color-changing adaptations being used "only" for defense? No, we heard the opposite, in the passage's last line: "The seasonal change in the vegetarian Irish hare is purely of protective character, but in such an actively carnivorous creature as a stoat or weasel, it is aggressive as well, rendering the animal inconspicuous to its prey." The language may be a bit dense here, but what the passage is saying is that the hare uses its color-changing adaptation for defense, but stoats and weasels use it for being better predators and sneaking up on their prey – definitely not a defensive use. Similarly, "All animals that live in a changing environment change color" is making a strong statement due to its use of the word "all." The passage gives us a few examples of animals that change that live in a changing environment and change their color, but this isn't enough for us to assume that all animals that live in changing environments act this way.

#### QUESTION 1090

Adapted from Volume Four of The Natural History of Animals: The Animal Life of the World in Its Various Aspects and Relations by James Richard Ainsworth Davis (1903)

The examples of protective resemblance so far quoted are mostly permanent adaptations to one particular sort of surrounding. There are, however, numerous animals which possess the power of adjusting their color more or less rapidly so as to harmonize with a changing environment.

Some of the best known of these cases are found among those mammals and birds that inhabit countries more or less covered with snow during a part of the year. A good instance is afforded by the Irish or variable hare, which is chiefly found in Ireland and Scotland. In summer, this looks very much like an ordinary hare, though rather grayer in tint and smaller in size, but in winter it becomes white with the exception of the black tips to the ears. Investigations that have been made on the closely allied American hare seem to show that the phenomenon is due to the growth of new hairs of white hue.



The common stoat is subject to similar color change in the northern parts of its range. In summer it is of a bright reddish brown color with the exception of the under parts, which are yellowish white, and the end of the tail, which is black. But in winter, the entire coat, save only the tip of the tail, becomes white, and in that conditions the animal is known as an ermine. A similar example is afforded by the weasel. The seasonal change in the vegetarian Irish hare is purely of protective character, but in such an actively carnivorous creature as a stoat or weasel, it is aggressive as well, rendering the animal inconspicuous to its prey.

The purpose of the passage's third paragraph is \_\_\_\_\_.

- A. to describe the appearance of a stoat in summer
- B. to describe an animal that has adapted to an unchanging environment
- C. to provide an example color-change in animals that is both aggressive and defensive
- D. to describe why stoats and weasels have a hard time hunting Irish hares in winter
- E. to provide an example of an animal that goes by two different names depending on its appearance

**Correct Answer: C**

**Section: Reading**

**Explanation**

**Explanation/Reference:**

Explanation:

When answering questions about a paragraph's purpose, it's helpful to consider how it relates to the rest of the passage as a whole, and to consider what each of the other paragraphs do in the context of the passage. For instance, in this passage, the first paragraph transitions from discussing animal adaptations in unchanging environments to discussing animal adaptations in changing environments. The second paragraph talks about Irish hares as an example of animals that change their fur color. So, what is the point of the third paragraph? While it does "provide an example of an animal that goes by two different names depending on its appearance" and "describe the appearance of a stoat in summer," neither of these is its main point; these are details, and neither seems to relate that much to the points of the previous paragraphs. Stoats and weasels are not described as specifically hunting Irish hares, and the passage describes how their changing fur color helps them be better hunters, not why they have such a hard time hunting, so "to describe why stoats and weasels have a hard time hunting Irish hares in winter" cannot be the correct answer either. The point of the paragraph cannot be "to describe an animal that has adapted to an unchanging environment" either, because it describes stoats and weasels, animals that adapt to changing environments. This leaves us with one answer, the correct one: "to provide an example color-change in animals that is both aggressive and defensive." The examples of stoats and weasels both fall into this category, which is contrasted with the purely defensive function of color-change in hares in the passage's last sentence.

#### QUESTION 1091

Adapted from "Feathers of Sea Birds and Wild Fowl for Bedding" from The Utility of Birds by Edward Forbush (ed. 1922)

In the colder countries of the world, the feathers and down of waterfowl have been in great demand for centuries as filling for beds and pillows. Such feathers are perfect non-conductors of heat, and beds, pillows, or coverlets filled with them represent the acme of comfort and durability. The early settlers of New England saved for such purposes the feathers and down from the thousands of wild-fowl which they killed, but as the population increased in numbers, the quantity thus furnished was insufficient, and the people sought a larger supply in the vast colonies of ducks and geese along the Labrador coast.

The manner in which the feathers and down were obtained, unlike the method practiced in Iceland, did not tend to conserve and protect the source of supply. In Iceland, the people have continued to receive for many years a considerable income by collecting eider down, but there they do not "kill the goose that lays the golden eggs." Ducks line their nests with down plucked from their own breasts and that of the eider is particularly valuable for bedding. In Iceland, these birds are so carefully protected that they have become as tame and unsuspicious as domestic fowls in North America. Where they are constantly hunted they often conceal their nests in the midst of weeds or bushes, but in Iceland, they make their nests and deposit their eggs in holes dug for them in the sod. A supply of the ducks is maintained so that the people derive from them an annual income.

In North America, quite a different policy was pursued. The demand for feathers became so great in the New England colonies about the middle of the eighteenth century that vessels were fitted out there for the coast of Labrador for the express purpose of securing the feathers and down of wild fowl. Eider down having become valuable and these ducks being in the habit of congregating by thousands on barren islands of the Labrador coast, the birds became the victims of the ships' crews. As the ducks molt all their primary feathers at once in July or August and are then quite incapable of flight and the young birds are unable to fly until well grown, the hunters were able to surround the helpless birds, drive them together, and kill them with clubs. Otis says that millions of wildfowl were thus destroyed and that in a few years their haunts were so broken up by this wholesale slaughter and their numbers were so diminished that feather voyages became unprofitable and were given up.

This practice, followed by the almost continual eggging, clubbing, shooting, etc. by Labrador fishermen, may have been a chief factor in the extinction of the Labrador duck, that species of supposed restricted breeding range. No doubt had the eider duck been restricted in its breeding range to the islands of Labrador, it also would have been exterminated long ago.

Which of the following best states the main idea of this passage?

- A. The Icelandic people collect eider down in an efficient and reasonable way.
- B. The North American and Icelandic methods of collecting eider down have had vastly different consequences.
- C. Natural resources are precious.
- D. The extinction of the Labrador duck can be traced to a definite cause.
- E. Eider down is valuable as a source of bedding, leading to its collection from ducks.

**Correct Answer: B**

**Section: Reading**

**Explanation**

**Explanation/Reference:**

Explanation:

Questions that ask about a passage's main idea need to encompass each of the topics it discusses while not describing them in a way that is too broad. We can ignore any answer choices that only describe parts of the passage – here, “Eider down is valuable as a source of bedding, leading to its collection from ducks,” “The extinction of the Labrador duck can be traced to a definite cause,” and “The Icelandic people collect eider down in an efficient and reasonable way.” This leaves us with “Natural resources are precious,” which is far too broad to accurately describe the passage's main idea, and the correct answer, “The North American and Icelandic methods of collecting eider down have had vastly different consequences.”

#### QUESTION 1092

Adapted from "Recent Views as to Direct Action of Light on the Colors of Flowers and Fruits" in Tropical Nature, and Other Essays by Alfred Russel Wallace (1878)

The theory that the brilliant colors of flowers and fruits is due to the direct action of light has been supported by a recent writer by examples taken from the arctic instead of from the tropical flora. In the arctic regions, vegetation is excessively rapid during the short summer, and this is held to be due to the continuous action of light throughout the long summer days. “The further we advance towards the north, the more the leaves of plants increase in size as if to absorb a greater proportion of the solar rays. M. Grisebach says that during a journey in Norway he observed that the majority of deciduous trees had already, at the 60th degree of latitude, larger leaves than in Germany, while M. Ch. Martins has made a similar observation as regards the leguminous plants cultivated in Lapland.” The same writer goes on to say that all the seeds of cultivated plants acquire a deeper color the further north they are grown, white haricots becoming brown or black, and white wheat becoming brown, while the green color of all vegetation becomes more intense. The flowers also are similarly changed: those which are white or yellow in central Europe becoming red or orange in Norway. This is what occurs in the Alpine flora, and the cause is said to be the same in both – the greater intensity of the sunlight. In the one the light is more persistent, in the other more intense because it traverses a less thickness of atmosphere.

Admitting the facts as above stated to be in themselves correct, they do not by any means establish the theory founded on them; and it is curious that Grisebach, who has been quoted by this writer for the fact of the increased size of the foliage, gives a totally different explanation of the more vivid colors of Arctic flowers. He says, “We see flowers become larger and more richly colored in proportion as, by the increasing length of winter, insects become rarer, and their cooperation in the act of fecundation is exposed to more uncertain chances.” (Vegetation du Globe, col. i. p. 61 – French translation.) This is the theory here adopted to explain the colors of Alpine plants, and we believe there are many facts that will show it to be the preferable one. The statement that the white and yellow flowers of temperate Europe become red or golden in the Arctic regions must we think be incorrect. By roughly tabulating the colors of the plants given by Sir Joseph Hooker as permanently Arctic, we find among fifty species with more or less conspicuous flowers, twenty-five white, twelve yellow, eight purple or blue, three lilac, and two red or pink; showing a very similar proportion of white and yellow flowers to what obtains further south.

The purpose of this passage is \_\_\_\_\_.

- A. to attack a scientist for his faulty methodology
- B. to propose a definitive experiment
- C. to describe new research
- D. to discuss several interpretations of a phenomenon
- E. to cast doubt on a widely accepted scientific law

**Correct Answer:** D

**Section:** Reading

**Explanation**



**Explanation/Reference:**

Explanation:

Throughout this passage, the author describes several theories explaining "the brilliant colors of flowers and fruits." In the first paragraph, he describes the ideas of "a recent writer," who quotes observations made by "M. Grisebach" and "M. Ch. Martins." In the second paragraph, the author disagrees with the theory of the "recent writer" and agrees with Grisebach, who turns out to have a opinion distinct from that of the "recent writer." Nowhere in the passage does the author "cast doubt on a widely accepted scientific law," as the theory of the "recent writer" is a theory, not a scientific law; similarly, nowhere does the author "propose a definitive experiment," "attack a scientist for his faulty methodology." While the writer does describe research, his doing so is not the main purpose of the passage. He only describes research in order to bring data into his discussion of one of the various theories mentioned in the passage.

#### QUESTION 1093

Adapted from "Recent Views as to Direct Action of Light on the Colors of Flowers and Fruits" in Tropical Nature, and Other Essays by Alfred Russel Wallace (1878)

The theory that the brilliant colors of flowers and fruits is due to the direct action of light has been supported by a recent writer by examples taken from the arctic instead of from the tropical flora. In the arctic regions, vegetation is excessively rapid during the short summer, and this is held to be due to the continuous action of light throughout the long summer days. “The further we advance towards the north, the more the leaves of plants increase in size as if to absorb a greater proportion of the solar rays. M. Grisebach says that during a journey in Norway he observed that the majority of deciduous trees had already, at the 60th degree of latitude, larger leaves than in Germany, while M. Ch. Martins has made a similar observation as regards the leguminous plants cultivated in Lapland.” The same writer goes on to say that all the seeds of cultivated plants acquire a deeper color the further north they are grown, white haricots becoming brown or black, and white wheat becoming brown, while the green color of all vegetation becomes more intense. The flowers also are similarly changed: those which are white or yellow in central Europe becoming red or orange in Norway. This is what occurs in the Alpine flora, and the cause is said to be the same in both – the greater intensity of the sunlight. In the one the light is more persistent, in the other more intense because it traverses a less thickness of atmosphere.

Admitting the facts as above stated to be in themselves correct, they do not by any means establish the theory founded on them; and it is curious that Grisebach, who has been quoted by this writer for the fact of the increased size of the foliage, gives a totally different explanation of the more vivid colors of Arctic flowers. He says, “We see flowers become larger and more richly colored in proportion as, by the increasing length of winter, insects become rarer, and their cooperation in the act of fecundation is exposed to more uncertain chances.” (Vegetation du Globe, col. i. p. 61 – French translation.) This is the theory here adopted to explain the colors of Alpine plants, and we believe there are many facts that will show it to be the preferable one. The statement that the white and yellow flowers of temperate Europe become red or golden in the Arctic regions must we think be incorrect. By roughly tabulating the colors of the plants given by Sir Joseph Hooker as permanently Arctic, we find among fifty species with more or less conspicuous flowers, twenty-five white, twelve yellow, eight purple or blue, three lilac, and two red or pink; showing a very similar proportion of white and yellow flowers to what obtains further south.

The author's critique of the theory presented in the first paragraph is that \_\_\_\_\_.

- A. only some of the facts are true, casting doubt on the reliability of the theory as a whole

- B. the facts supporting the theory are false, so the theory is also false
- C. the facts were gathered in an unscientific manner and are thus not reliable, making the theory doubtful
- D. they are true, but do not support the theory established based on them
- E. The author does not critique the theory presented in the first paragraph; he wholeheartedly agrees with its claims.

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

At the start of the second paragraph, the author says, "Admitting the facts as above stated to be in themselves correct, they do not by any means establish the theory founded on them." So, the correct answer is that "[the facts] are true, but do not support the theory established based on them."

#### QUESTION 1094

Adapted from "Taking a Second Look: An Analysis of Genetic Markers in Species Relatedness" by Joseph Ritchie (2014)

Phylogenetics is the study of genetic composition in various species and is used by evolutionary biologists to investigate similarities in the molecular sequences of proteins in varying organisms. The amino acid sequences that build proteins are used to construct mathematical matrices that aid in determining evolutionary ties through the investigation of percentage similarities. The study of these matrices helps to expose evolutionary relationships between species that may not have the same overt characteristics.

Species adapt and evolve based on the pressures that exist in their environment. Climate, food source, and habitat availability are only a few factors that act on species adaptation. These stressors can alter the physical characteristics of organisms. This divergence in evolution has made it difficult to determine the interrelatedness of organisms by analyzing their physical characteristics alone. For instance, looking only at physical characteristics, the ghost bat resembles a pigeon more than a spider monkey; however, phylogenetics has found that the amino acid sequences that construct the beta hemoglobin molecules of bats are twenty percent more similar to those of mammalian primates than those of birds. This helps reject the assumption that common physical characteristics between species are all that is needed to determine relatedness.

The differences produced by divergent evolution observed in the forest-dwelling, arboreal spider monkey and the nocturnal, airborne ghost bat can be reconciled through homology. Homologous characteristics are anatomical traits that are similar in two or more different species. For instance, the bone structure of a spider monkey's wrist and fingers greatly resembles that of a bat's wing or even a whale's fin. These similarities are reinforced by phylogenetic evidence that supports the idea that physically dissimilar species can be evolutionarily related through anatomical and genetic similarities.

The central idea of this passage is best described by which of the following statements?

- A. Despite differences in physical appearance, genetic similarities can aid in determining species relatedness and evolutionary histories.
- B. Understanding divergent evolution is necessary for understanding species relatedness.
- C. Phylogenetics is a relatively new area of study and has yet to yield supported conclusions on evolutionary histories.
- D. Genetic analysis is the only method of studying evolutionary ties and species relatedness.

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

This is the correct answer because it is the only statement that is supported by the passage. The passage introduces the field of phylogenetics and the need to explore evolution beyond simple examination of physical characteristics. It does not state which field of study is better or correct. It simply states that they compliment the same cause: the study of relatedness. The other choices are unsupported opinions. The answer choice about divergent evolution is incorrect because while the passage's fourth paragraph is about divergent evolution, the entire passage encompasses many more topics.

**QUESTION 1095** Adapted from Ice-Caves of France and Switzerland by George Forrest Browne (1865)

This account states that the cave is in the county of Thorn, among the lowest spurs of the Carpathians. The entrance, which faces the north, and is exposed to the cold winds from the snowy part of the Carpathian range, is eighteen fathoms high and nine broad; and the cave spreads out laterally, and descends to a point fifty fathoms below the entrance, where it is twenty-six fathoms in breadth, and of irregular height. Beyond this no one had at that time penetrated, on account of the unsafe footing, although many distant echoes were returned by the farther recesses of the cave; indeed, to get even so far as this, much step-cutting was necessary.

When the external frost of winter comes on, the account proceeds, the effect in the cave is the same as if fires had been lighted there: the ice melts, and swarms of flies and bats and hares take refuge in the interior from the severity of the winter. As soon as spring arrives, the warmth of winter disappears from the interior, water exudes from the roof and is converted into ice, while the more abundant supplies which pour down on to the sandy floor are speedily frozen there. In the dog-days, the frost is so intense that a small icicle becomes in one day a huge mass of ice; but a cool day promptly brings a thaw, and the cave is looked upon as a barometer, not merely feeling, but also presaging, the changes of weather. The people of the neighborhood, when employed in field-work, arrange their labour so that the mid-day meal may be taken near the cave, when they either ice the water they have brought with them, or drink the melted ice, which they consider very good for the stomach. It had been calculated that six hundred weekly carts would not be sufficient to keep the cavern free from ice. The ground above the cave is peculiarly rich in grass.

In explanation of these phenomena, Bell threw out the following suggestions, which need no comment. The earth being of itself cold and damp, the external heat of the atmosphere, by partially penetrating into the ground, drives in this native cold to the inner parts of the earth, and makes the cold there more dense. On the other hand, when the external air is cold, it draws forth towards the surface the heat there may be in the inner part of the earth, and thus makes caverns warm.

In support and illustration of this view, he states that in the hotter parts of Hungary, when the people wish to cool their wine, they dig a hole two feet deep, and place in it the flagon of wine, and, after filling up the hole again, light a blazing fire upon the surface, which cools the wine as if the flagon had been laid in ice. He also suggests that possibly the cold winds from the Carpathians bring with them imperceptible particles of snow, which reach the water of the cave, and convert it into ice. Further, the rocks of the Carpathians abound in salts, nitre, alum, etc., which may, perhaps, mingle with such snowy particles, and produce the ordinary effect of the snow and salt in the artificial production of ice.

The passage states that which of the following is true?

- A. The ice taken from the cave is sold.
- B. Snow solely converts the water in the cave to ice.
- C. The cave is used for accommodation at times.
- D. Hungarians drink warmed wine.
- E. The deposits of minerals may affect the temperature of the cave.

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The last line of the last paragraph states that “Further, the rocks of the Carpathians abound in salts, nitre, alum, etc., which may, perhaps, mingle with such snowy particles, and produce the ordinary effect of the snow and salt in the artificial production of ice.” This suggests that the mineral salts in the rocks have the effect of cooling the cave by mixing with snow.

**QUESTION 1096** Adapted from Ice-Caves of France and Switzerland by George Forrest Browne (1865)

This account states that the cave is in the county of Thorn, among the lowest spurs of the Carpathians. The entrance, which faces the north, and is exposed to the cold winds from the snowy part of the Carpathian range, is eighteen fathoms high and nine broad; and the cave spreads out laterally, and descends to a point fifty fathoms below the entrance, where it is twenty-six fathoms in breadth, and of irregular height. Beyond this no one had at that time penetrated, on account of the unsafe footing, although many distant echoes were returned by the farther recesses of the cave; indeed, to get even so far as this, much step-cutting was necessary.

When the external frost of winter comes on, the account proceeds, the effect in the cave is the same as if fires had been lighted there: the ice melts, and swarms of flies and bats and hares take refuge in the interior from the severity of the winter. As soon as spring arrives, the warmth of winter disappears from the interior, water exudes from the roof and is converted into ice, while the more abundant supplies which pour down on to the sandy floor are speedily frozen there. In the dog-days, the frost is so intense that a small icicle becomes in one day a huge mass of ice; but a cool day promptly brings a thaw, and the cave is looked upon as a barometer, not merely feeling, but also presaging, the changes of weather. The people of the neighborhood, when employed in field-work, arrange their labour so that the mid-day meal may be taken near the cave, when they either ice the water they have brought with them, or drink the melted ice, which they consider very good for the stomach. It had been calculated that six hundred weekly carts would not be sufficient to keep the cavern free from ice. The ground above the cave is peculiarly rich in grass.

In explanation of these phenomena, Bell threw out the following suggestions, which need no comment. The earth being of itself cold and damp, the external heat of the atmosphere, by partially penetrating into the ground, drives in this native cold to the inner parts of the earth, and makes the cold there more dense. On the other hand, when the external air is cold, it draws forth towards the surface the heat there may be in the inner part of the earth, and thus makes caverns warm. In support and illustration of this view, he states that in the hotter parts of Hungary, when the people wish to cool their wine, they dig a hole two feet deep, and place in it the flagon of wine, and, after filling up the hole again, light a blazing fire upon the surface, which cools the wine as if the flagon had been laid in ice. He also suggests that possibly the cold winds from the Carpathians bring with them imperceptible particles of snow, which reach the water of the cave, and convert it into ice. Further, the rocks of the Carpathians abound in salts, nitre, alum, etc., which may, perhaps, mingle with such snowy particles, and produce the ordinary effect of the snow and salt in the artificial production of ice.

The second paragraph establishes all of the following EXCEPT \_\_\_\_\_.

- A. icicles grow rapidly in high summer
- B. animals shelter in the cave in winter
- C. the area above the cave is verdant
- D. the cave is warm when it is cold outside and vice versa
- E. cutting steps into the cave was necessary

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The correct answer is established in the first, not the second, paragraph. The second paragraph states that the temperature in the cave is contrary to that outside it. It also states that animals take shelter in it in winter and that the ground above it is grassy, or “verdant.” In the latter half of the paragraph, the author states that in the “dog-days” or high summer, the icicles become huge masses of ice over a short time.

**QUESTION 1097**

Adapted from A Practical Treatise on the Hive and Honey-Bee by Lorenzo Lorraine Langstroth (1857 ed.)



Of all the numerous enemies of the honey-bee, the Bee-Moth (*Tinea mellonella*), in climates of hot summers, is by far the most to be dreaded. So widespread and fatal have been its ravages in this country that thousands have abandoned the cultivation of bees in despair, and in districts which once produced abundant supplies of the purest honey, bee-keeping has gradually dwindled down into a very insignificant pursuit. Contrivances almost without number have been devised to defend the bees against this invidious foe, but still it continues its desolating inroads, almost unchecked, laughing as it were to scorn at all the so-called "moth-proof" hives, and turning many of the ingenious fixtures designed to entrap or exclude it into actual aids and comforts in its nefarious designs.

I should feel but little confidence in being able to reinstate bee-keeping in our country into a certain and profitable pursuit if I could not show the apiarian in what way he can safely bid defiance to the pestiferous assaults of this, his most implacable enemy. I have patiently studied its habits for years, and I am at length able to announce a system of management founded upon the peculiar construction of my hives, which will enable the careful bee-keeper to protect his colonies against the monster. The bee-moth infects our apiaries, just as weeds take possession of a fertile soil. Before explaining the means upon which I rely to circumvent the moth, I will first give a brief description of its habits.

Swammerdam, towards the close of the seventeenth century, gave a very accurate description of this insect, which was then called by the very expressive name of the "bee-wolf." He has furnished good drawings of it, in all its changes, from the worm to the perfect moth, together with the peculiar webs or galleries that it constructs and from which the name of *Tinea galleria* or "gallery moth" has been given to it by some entomologists. He failed, however, to discriminate between the male and female, which, because they differ so much in size and appearance, he supposed to be two different species of the wax-moth. It seems to have been a great pest in his time, and even Virgil speaks of the "dirum tineæ genus," the dreadful offspring of the moth; that is the worm.

This destroyer usually makes its appearance about the hives in April or May, the time of its coming depending upon the warmth of the climate or the forwardness of the season. It is seldom seen on the wing (unless startled from its lurking place about the hive) until towards dark, and is evidently chiefly nocturnal in its habits. In dark cloudy days, however, I have noticed it on the wing long before sunset, and if several such days follow in succession, the female, oppressed with the urgent necessity of laying her eggs, may be seen endeavoring to gain admission to the hives. The female is much larger than the male, and "her color is deeper and more inclining to a darkish gray, with small spots or blackish streaks on the interior edge of her upper wings." The color of the male inclines more to a light gray; they might easily be mistaken for different species of moths. These insects are surprisingly agile, both on foot and on the wing. The motions of a bee are very slow in comparison. "They are," says Reaumur, "the most nimble-footed creatures that I know." "If the approach to the apiary be observed of a moonlight evening, the moths will be found flying or running round the hives, watching an opportunity to enter, whilst the bees that have to guard the entrances against their intrusion will be seen acting as vigilant sentinels, performing continual rounds near this important post, extending their antenna to the utmost, and moving them to the right and left alternately. Woe to the unfortunate moth that comes within their reach!" "It is curious," says Huber, "to observe how artfully the moth knows how to profit, to the disadvantage of the bees, which require much light for seeing objects; and the precautions taken by the latter in reconnoitering and expelling so dangerous an enemy."

The first paragraph establishes all of the following EXCEPT \_\_\_\_\_.

- A. in hot summers the bee-moth is the worst enemy of the honey bee
- B. bee keeping has, in some areas, become a trifling hobby
- C. many contraptions have been invented to try to stop the bee-moth
- D. the ravages of the bee-moth have dissuaded many from continuing bee keeping
- E. the author has faith in the devices used to stop the bee-moth

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The author does not believe the devices created to stop the bee-moth work, as he states in the first paragraph, "Contrivances almost without number, have been devised, to defend the bees against this invidious foe, but still it continues its desolating inroads, almost unchecked, laughing as it were to scorn, at all the so-called 'moth-proof' hives, and turning many of the ingenious fixtures designed to entrap or exclude it, into actual aids and comforts in its nefarious designs." So, instead of being kept out of the beehives or killed by the traps or preventative measures, the moth instead uses them to get to the hive.

#### QUESTION 1098

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I should feel but little confidence in being able to reinstate bee-keeping in our country into a certain and profitable pursuit if I could not show the apiarian in what way he can safely bid defiance to the pestiferous assaults of this, his most implacable enemy. I have patiently studied its habits for years, and I am at length able to announce a system of management founded upon the peculiar construction of my hives, which will enable the careful bee-keeper to protect his colonies against the monster. The bee-moth infects our apiaries, just as weeds take possession of a fertile soil. Before explaining the means upon which I rely to circumvent the moth, I will first give a brief description of its habits.

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One of the main points made in the last section of the last paragraph is \_\_\_\_\_.

- A. the author thinks that Huber is wrong in his assertions
- B. a critic has stated that the bee-moth takes advantage of the bee's inability to see at night
- C. the female bee-moth is a light gray in color
- D. Huber believes that the bee-moths would be more successful if they entered the hive during the dayE. it is not curious that bees defend against the bee-moth

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The end of the last paragraph tells us that Huber has said that the bee-moth and the bees are curious in their behavior, as the moths seem to know that the bee cannot see well at night and the bees are quite determined to expel the moths from their nests.

#### QUESTION 1099

Adapted from "Darwin's Predecessors" by J. Arthur Thomson in *Evolution in Modern Thought* (1917 ed.)

In seeking to discover Darwin's relation to his predecessors, it is useful to distinguish the various services which he rendered to the theory of organic evolution.

As everyone knows, the general idea of the doctrine of descent is that the plants and animals of the present day are the lineal descendants of ancestors on the whole somewhat simpler, that these again are descended from yet simpler forms, and so on backwards towards the literal "Protozoa" and "Protophyta" about which we unfortunately know nothing. Now no one supposes that Darwin originated this idea, which in rudiment at least is as old as Aristotle. What Darwin did was to make it current intellectual coin. He gave it a form that commended itself to the scientific and public intelligence of the day, and he won widespread conviction by showing with consummate skill that it was an effective formula to work with, a key which no lock refused. In a scholarly, critical, and preeminently fair-minded way, admitting difficulties and removing them, foreseeing objections and forestalling them, he showed that the doctrine of descent supplied a modal interpretation of how our present-day fauna and flora have come to be.

In the second place, Darwin applied the evolution-idea to particular problems, such as the descent of man, and showed what a powerful tool it is, introducing order into masses of uncorrelated facts, interpreting enigmas both of structure and function, both bodily and mental, and, best of all, stimulating and guiding further investigation. But here again it cannot be claimed that Darwin was original. The problem of the descent or ascent of man, and other particular cases of evolution, had attracted not a few naturalists before Darwin's day, though no one [except Herbert Spencer in the psychological domain (1855)] had come near him in precision and thoroughness of inquiry.

In the third place, Darwin contributed largely to a knowledge of the factors in the evolution-process, especially by his analysis of what occurs in the case of domestic animals and cultivated plants, and by his elaboration of the theory of natural selection, which Alfred Russel Wallace independently stated at the same time, and of which there had been a few previous suggestions of a more or less vague description. It was here that Darwin's originality was greatest, for he revealed to naturalists the many different forms – often very subtle – which natural selection takes, and with the insight of a disciplined scientific imagination he realized what a mighty engine of progress it has been and is.

Which of the following is a reason for how Darwin's ideas provided a powerful tool?

- A. They provided the complete history of life on earth.
- B. They helped to reorganize the sciences along historical lines.
- C. None of the other answers
- D. They gave the most details about how the human species differs from apes.
- E. They enabled scientists to see certain groups of data as single, intelligible wholes.

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The key phrase in the passage for this question is "introducing order into masses of uncorrelated facts." The idea is that Darwin's theories provide a tool by enabling this sort of process of data gathering. Uncorrelated facts are ones that have no order (no co-relation to each other). The idea here is that Darwin's insights helped to provide context to such data, helping to organize them. This made the insights into a powerful tool for science (because inquiry is difficult where there is no order at all).

**QUESTION 1100** "Interpreting the Copernican Revolution" by  
Matthew Minerd (2014)

The expressions of one discipline can often alter the way that other subjects understand themselves. Among such cases are numbered the investigations of Nicolaus Copernicus. Copernicus is best known for his views concerning heliocentrism, a view which eventually obliterated many aspects of the ancient/medieval worldview, at least from the standpoint of physical science. It had always been the natural view of mankind that the earth stood at the center of the universe, a fixed point in reference to the rest of the visible bodies. The sun, stars, and planets all rotated around the earth.

With time, this viewpoint became one of the major reference points for modern life. It provided a provocative image that was used – and often abused – by many people for various purposes. For those who wished to weaken the control of religion on mankind, it was said that the heliocentric outlook proved man’s insignificance. In contrast with earlier geocentrism, heliocentrism was said to show that man is not the center of the universe. He is merely one small being in the midst of a large cosmos. However, others wished to use the “Copernican Revolution” in a very different manner. These thinkers wanted to show that there was another “recentering” that had to happen. Once upon a time, we talked about the world. Now, however, it was necessary to talk of man as the central reference point. Just as the solar system was “centered” on the sun, so too should the sciences be centered on the human person.

However, both of these approaches are fraught with problems. Those who wished to undermine the religious mindset rather misunderstood the former outlook on the solar system. The earlier geocentric mindset did not believe that the earth was the most important body in the heavens. Instead, many ancient and medieval thinkers believed that the highest “sphere” above the earth was the most important being in the physical universe. Likewise, the so-called “Copernican Revolution” in physics was different from the one applied to the human person. Copernicus’ revolution showed that the human point of view was not the center, whereas the later forms of “Copernican revolution” wished to show just the opposite.

Of course, there are many complexities in the history of such important changes in scientific outlook. Nevertheless, it is fascinating to see the wide-reaching effects of such discoveries, even when they have numerous, ambiguous effects.

Which of the following could classify the type of people described in the underlined sentence?

- A. Academic
- B. Humanitarian
- C. Humanistic
- D. Hubristic
- E. Scientific

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The people mentioned in this sentence took a very different view from those who thought that the new science showed the "smallness" of the human person. They wanted to say, instead, that it was necessary to have another "recentering," placing the human person at the center of the sciences. Humanism is such a task – though, humanitarianism is not. The latter represents providing aid to help human beings (as in humanitarian action after a major natural disaster).

#### QUESTION 1101

"The Place of Lesion Studies in Neuroscience" by Samantha Winter (2013)

It’s easy to forget that the study of neuroscience originated from non-normalized, non-statistically appraised methods like lesion studies. It’s equally easy, with the advent of sophisticated technology, to render such a method obsolete. A small group of neuroscientists today make a case for the reinstitution of lesion studies – the study of abnormal brains with damaged regions in order to better understand the brain – into the twenty-first-century cognitive neuroscience realm. Their suggestion is bold, but their argument is justified.

Cognitive neuroscientists advocate for the use of convergent methods. Many of them argue that with the limitations of our existing techniques, convergent evidence is imperative for sound research. If this is the case, why ignore a method that has potential for implying causality in a domain dominated by correlational research? Rather than advocating for a single method, neuroscientists should take their own advice and use convergent techniques. Sound research should combine a variety of techniques to examine both causal relationships and overcome the individual shortcomings of each method through the use of many.

Lesion studies are also significantly more beneficial now than they were in earlier times. Neuroimaging methods have enhanced our understanding of what contributes to the brain problems most often encountered, and more refined experiments have been developed to confirm the findings from the more unreliable lesion studies. This transformation allows lesion studies to be included alongside the other systems as a mechanism for understanding the human brain.

This essay is an example of \_\_\_\_\_.

- A. a narrative
- B. a persuasive essay
- C. a research paper
- D. a biography
- E. a summary of a book

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The answer is "a persuasive essay" because although this paper is about research, it does not cite or include any information coming directly from literature, but rather advocates for the use of a method and supports the assertion with some examples. It is neither a biography nor a narrative because it neither an account on someone’s life nor a fictional story.

#### QUESTION 1102

Adapted from Volume Four of The Natural History of Animals: The Animal Life of the World in Its Various Aspects and Relations by James Richard Ainsworth Davis (1903)



The examples of protective resemblance so far quoted are mostly permanent adaptations to one particular sort of surrounding. There are, however, numerous animals which possess the power of adjusting their color more or less rapidly so as to harmonize with a changing environment.

Some of the best known of these cases are found among those mammals and birds that inhabit countries more or less covered with snow during a part of the year. A good instance is afforded by the Irish or variable hare, which is chiefly found in Ireland and Scotland. In summer, this looks very much like an ordinary hare, though rather grayer in tint and smaller in size, but in winter it becomes white with the exception of the black tips to the ears. Investigations that have been made on the closely allied American hare seem to show that the phenomenon is due to the growth of new hairs of white hue.

The common stoat is subject to similar color change in the northern parts of its range. In summer it is of a bright reddish brown color with the exception of the under parts, which are yellowish white, and the end of the tail, which is black. But in winter, the entire coat, save only the tip of the tail, becomes white, and in that conditions the animal is known as an ermine. A similar example is afforded by the weasel. The seasonal change in the vegetarian Irish hare is purely of protective character, but in such an actively carnivorous creature as a stoat or weasel, it is aggressive as well, rendering the animal inconspicuous to its prey.

In which of the following would you most expect to find this passage reprinted?

- A. An article in a biology magazine
- B. A scholarly report about weasels
- C. A physics textbook
- D. A how-to manual
- E. A cookbook

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Where would one most likely find this article reprinted? Well, we wouldn't be likely to find it in "a how-to manual" as it doesn't explain how to do anything; it conveys information about certain types of animals. Similarly, since it doesn't discuss physics or have anything to do with cooking, we can ignore the answers "A physics textbook" and "A cookbook." This leaves us with "A scholarly report about weasels" and "An article in a biology magazine." At this point we have to consider how the weasel is discussed in the passage – it is discussed very little, only in the context of being compared to the stoat or providing an example of carnivorous animals that change their fur color, along with the stoat. Given that the weasel isn't the main subject of the passage, "An article in a biology magazine" is the best answer choice.

#### QUESTION 1103

Adapted from The Effects of Cross & Self-Fertilization in the Vegetable Kingdom by Charles Darwin (1876)

As it is impossible to exclude such minute pollen-carrying insects as Thrips, flowers which it was intended to fertilize with their own pollen may sometimes have been afterwards crossed with pollen brought by these insects from another flower on the same plant; but as we shall hereafter see, a cross of this kind does not produce any effect, or at most only a slight one. When two or more plants were placed near one another under the same net, as was often done, there is some real though not great danger of the flowers which were believed to be self-fertilized being afterwards crossed with pollen brought by Thrips from a distinct plant. I have said that the danger is not great because I have often found that plants which are self-sterile, unless aided by insects, remained sterile when several plants of the same species were placed under the same net. If, however, the flowers which had been presumably self-fertilized by me were in any case afterwards crossed by Thrips with pollen brought from a distinct plant, crossed seedlings would have been included amongst the self-fertilized; but it should be especially observed that this occurrence would tend to diminish and not to increase any superiority in average height, fertility, etc., of the crossed over the self-fertilized plants.

As the flowers which were crossed were never castrated, it is probable or even almost certain that I sometimes failed to cross-fertilize them effectually, and that they were afterwards spontaneously self-fertilized. This would have been most likely to occur with dichogamous species, for without much care it is not easy to perceive whether their stigmas are ready to be fertilized when the anthers open. But in all cases, as the flowers were protected from wind, rain, and the access of insects, any pollen placed by me on the stigmatic surface whilst it was immature, would generally have remained there until the stigma was mature; and the flowers would then have been crossed as was intended. Nevertheless, it is highly probable that self-fertilized seedlings have sometimes by this means got included amongst the crossed seedlings. The effect would be, as in the former case, not to exaggerate but to diminish any average superiority of the crossed over the self-fertilized plants.

Errors arising from the two causes just named, and from others, – such as some of the seeds not having been thoroughly ripened, though care was taken to avoid this error – the sickness or unperceived injury of any of the plants, – will have been to a large extent eliminated, in those cases in which many crossed and self-fertilized plants were measured and an average struck. Some of these causes of error will also have been eliminated by the seeds having been allowed to germinate on bare damp sand, and being planted in pairs; for it is not likely that ill-matured and well-matured, or diseased and healthy seeds, would germinate at exactly the same time. The same result will have been gained in the several cases in which only a few of the tallest, finest, and healthiest plants on each side of the pots were measured.

Kolreuter and Gartner have proved that with some plants several, even as many as from fifty to sixty, pollen-grains are necessary for the fertilization of all the ovules in the ovarium. Naudin also found in the case of *Mirabilis* that if only one or two of its very large pollen-grains were placed on the stigma, the plants raised from such seeds were dwarfed. I was therefore careful to give an amply sufficient supply of pollen, and generally covered the stigma with it; but I did not take any special pains to place exactly the same amount on the stigmas of the self-fertilized and crossed flowers. After having acted in this manner during two seasons, I remembered that Gartner thought, though without any direct evidence, that an excess of pollen was perhaps injurious. It was therefore necessary to ascertain whether the fertility of the flowers was affected by applying a rather small and an extremely large quantity of pollen to the stigma. Accordingly a very small mass of pollen-grains was placed on one side of the large stigma in sixty-four flowers of *Ipomoea purpurea*, and a great mass of pollen over the whole surface of the stigma in sixty-four other flowers. In order to vary the experiment, half the flowers of both lots were on plants produced from self-fertilized seeds, and the other half on plants from crossed seeds. The sixty-four flowers with an excess of pollen yielded sixty-one capsules; and excluding four capsules, each of which contained only a single poor seed, the remainder contained on an average 5.07 seeds per capsule. The sixty-four flowers with only a little pollen placed on one side of the stigma yielded sixty-three capsules, and excluding one from the same cause as before, the remainder contained on an average 5.129 seeds. So that the flowers fertilized with little pollen yielded rather more capsules and seeds than did those fertilized with an excess; but the difference is too slight to be of any significance. On the other hand, the seeds produced by the flowers with an excess of pollen were a little heavier of the two; for 170 of them weighed 79.67 grains, whilst 170 seeds from the flowers with very little pollen weighed 79.20 grains. Both lots of seeds having been placed on damp sand presented no difference in their rate of germination. We may therefore conclude that my experiments were not affected by any slight difference in the amount of pollen used; a sufficiency having been employed in all cases.

The passage states that which of the following is true?

- A. The seeds were allowed to germinate on the top of soil.

- B. Darwin only considered the large but unmeasured amount of pollen he was placing on each flower's stigma to be a potential variable in his experiment after two seasons.
- C. It was impossible to eliminate many of the occurring errors.
- D. Self-sterile plants often become fertilized when placed in close proximity with one another.
- E. The interference of Thrips causes a great effect on the results of the experiment.

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

In the final paragraph, Darwin writes, "I was therefore careful to give an amply sufficient supply of pollen, and generally covered the stigma with it; but I did not take any special pains to place exactly the same amount on the stigmas of the self-fertilized and crossed flowers. After having acted in this manner during two seasons, I remembered that Gartner thought, though without any direct evidence, that an excess of pollen was perhaps injurious." So, Darwin only considered the large but unmeasured amount of pollen that he placed on flowers' stigmas to be a potential variable in his experiment "after having acted in this manner during two seasons." If you chose the answer "The seeds were allowed to germinate on the top of soil," then it is important to note that the seeds were germinated on sand, not earth or soil, as it says in the third and fourth paragraphs near the end of each.

#### QUESTION 1104

Adapted from The Effects of Cross & Self-Fertilisation in the Vegetable Kingdom by Charles Darwin (1876)

As it is impossible to exclude such minute pollen-carrying insects as Thrips, flowers which it was intended to fertilize with their own pollen may sometimes have been afterwards crossed with pollen brought by these insects from another flower on the same plant; but as we shall hereafter see, a cross of this kind does not produce any effect, or at most only a slight one. When two or more plants were placed near one another under the same net, as was often done, there is some real though not great danger of the flowers which were believed to be self-fertilized being afterwards crossed with pollen brought by Thrips from a distinct plant. I have said that the danger is not great because I have often found that plants which are self-sterile, unless aided by insects, remained sterile when several plants of the same species were placed under the same net. If, however, the flowers which had been presumably self-fertilized by me were in any case afterwards crossed by Thrips with pollen brought from a distinct plant, crossed seedlings would have been included amongst the self-fertilized; but it should be especially observed that this occurrence would tend to diminish and not to increase any superiority in average height, fertility, etc., of the crossed over the self-fertilized plants.

As the flowers which were crossed were never castrated, it is probable or even almost certain that I sometimes failed to cross-fertilize them effectually, and that they were afterwards spontaneously self-fertilized. This would have been most likely to occur with dichogamous species, for without much care it is not easy to perceive whether their stigmas are ready to be fertilized when the anthers open. But in all cases, as the flowers were protected from wind, rain, and the access of insects, any pollen placed by me on the stigmatic surface whilst it was immature, would generally have remained there until the stigma was mature; and the flowers would then have been crossed as was intended. Nevertheless, it is highly probable that self-fertilized seedlings have sometimes by this means got included amongst the crossed seedlings. The effect would be, as in the former case, not to exaggerate but to diminish any average superiority of the crossed over the self-fertilized plants.

Errors arising from the two causes just named, and from others, – such as some of the seeds not having been thoroughly ripened, though care was taken to avoid this error – the sickness or unperceived injury of any of the plants, – will have been to a large extent eliminated, in those cases in which many crossed and self-fertilized plants were measured and an average struck. Some of these causes of error will also have been eliminated by the seeds having been allowed to germinate on bare damp sand, and being planted in pairs; for it is not likely that ill-matured and well-matured, or diseased and healthy seeds, would germinate at exactly the same time. The same result will have been gained in the several cases in which only a few of the tallest, finest, and healthiest plants on each side of the pots were measured.

Kolreuter and Gartner have proved that with some plants several, even as many as from fifty to sixty, pollen-grains are necessary for the fertilization of all the ovules in the ovarium. Naudin also found in the case of *Mirabilis* that if only one or two of its very large pollen-grains were placed on the stigma, the plants raised from such seeds were dwarfed. I was therefore careful to give an amply sufficient supply of pollen, and generally covered the stigma with it; but I did not take any special pains to place exactly the same amount on the stigmas of the self-fertilized and crossed flowers. After having acted in this manner during two seasons, I remembered that Gartner thought, though without any direct evidence, that an excess of pollen was perhaps injurious. It was therefore necessary to ascertain whether the fertility of the flowers was affected by applying a rather small and an extremely large quantity of pollen to the stigma. Accordingly a very small mass of pollen-grains was placed on one side of the large stigma in sixty-four flowers of *Ipomoea purpurea*, and a great mass of pollen over the whole surface of the stigma in sixty-four other flowers. In order to vary the experiment, half the flowers of both lots were on plants produced from self-fertilized seeds, and the other half on plants from crossed seeds. The sixty-four flowers with an excess of pollen yielded sixty-one capsules; and excluding four capsules, each of which contained only a single poor seed, the remainder contained on an average 5.07 seeds per capsule. The sixty-four flowers with only a little pollen placed on one side of the stigma yielded sixty-three capsules, and excluding one from the same cause as before, the remainder contained on an average 5.129 seeds. So that the flowers fertilized with little pollen yielded rather more capsules and seeds than did those fertilized with an excess; but the difference is too slight to be of any significance. On the other hand, the seeds produced by the flowers with an excess of pollen were a little heavier of the two; for 170 of them weighed 79.67 grains, whilst 170 seeds from the flowers with very little pollen weighed 79.20 grains. Both lots of seeds having been placed on damp sand presented no difference in their rate of germination. We may therefore conclude that my experiments were not affected by any slight difference in the amount of pollen used; a sufficiency having been employed in all cases.

The last paragraph establishes all of the following EXCEPT \_\_\_\_\_.

- A. The under-pollinated flowers yielded more capsules.
- B. Gartner believed that more pollen was harmful to fertilization without cause.
- C. Experiments were conducted to verify variables.
- D. For two seasons, the author neglected to give exactly equal amounts of pollen to the flowers.
- E. Overall, the over-pollinated seeds produced sixty five capsules.

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The author states that overall the sixty-four flowers which were given more pollen produced sixty-one capsules, of which four were not used in the calculation of averages due to their contents being of poor quality.

**QUESTION 1105**

Adapted from The Effects of Cross & Self-Fertilisation in the Vegetable Kingdom by Charles Darwin (1876)

As it is impossible to exclude such minute pollen-carrying insects as Thrips, flowers which it was intended to fertilize with their own pollen may sometimes have been afterwards crossed with pollen brought by these insects from another flower on the same plant; but as we shall hereafter see, a cross of this kind does not produce any effect, or at most only a slight one. When two or more plants were placed near one another under the same net, as was often done, there is some real though not great danger of the flowers which were believed to be self-fertilized being afterwards crossed with pollen brought by Thrips from a distinct plant. I have said that the danger is not great because I have often found that plants which are self-sterile, unless aided by insects, remained sterile when several plants of the same species were placed under the same net. If, however, the flowers which had been presumably self-fertilized by me were in any case afterwards crossed by Thrips with pollen brought from a distinct plant, crossed seedlings would have been included amongst the self-fertilized; but it should be especially observed that this occurrence would tend to diminish and not to increase any superiority in average height, fertility, etc., of the crossed over the self-fertilized plants.

As the flowers which were crossed were never castrated, it is probable or even almost certain that I sometimes failed to cross-fertilize them effectually, and that they were afterwards spontaneously self-fertilized. This would have been most likely to occur with dichogamous species, for without much care it is not easy to perceive whether their stigmas are ready to be fertilized when the anthers open. But in all cases, as the flowers were protected from wind, rain, and the access of insects, any pollen placed by me on the stigmatic surface whilst it was immature, would generally have remained there until the stigma was mature; and the flowers would then have been crossed as was intended. Nevertheless, it is highly probable that self-fertilized seedlings have sometimes by this means got included amongst the crossed seedlings. The effect would be, as in the former case, not to exaggerate but to diminish any average superiority of the crossed over the self-fertilized plants.

Errors arising from the two causes just named, and from others, – such as some of the seeds not having been thoroughly ripened, though care was taken to avoid this error – the sickness or unperceived injury of any of the plants, – will have been to a large extent eliminated, in those cases in which many crossed and self-fertilized plants were measured and an average struck. Some of these causes of error will also have been eliminated by the seeds having been allowed to germinate on bare damp sand, and being planted in pairs; for it is not likely that ill-matured and well-matured, or diseased and healthy seeds, would germinate at exactly the same time. The same result will have been gained in the several cases in which only a few of the tallest, finest, and healthiest plants on each side of the pots were measured.

Kolreuter and Gartner have proved that with some plants several, even as many as from fifty to sixty, pollen-grains are necessary for the fertilization of all the ovules in the ovarium. Naudin also found in the case of *Mirabilis* that if only one or two of its very large pollen-grains were placed on the stigma, the plants raised from such seeds were dwarfed. I was therefore careful to give an amply sufficient supply of pollen, and generally covered the stigma with it; but I did not take any special pains to place exactly the same amount on the stigmas of the self-fertilized and crossed flowers. After having acted in this manner during two seasons, I remembered that Gartner thought, though without any direct evidence, that an excess of pollen was perhaps injurious. It was therefore necessary to ascertain whether the fertility of the flowers was affected by applying a rather small and an extremely large quantity of pollen to the stigma. Accordingly a very small mass of pollen-grains was placed on one side of the large stigma in sixty-four flowers of *Ipomoea purpurea*, and a great mass of pollen over the whole surface of the stigma in sixty-four other flowers. In order to vary the experiment, half the flowers of both lots were on plants produced from self-fertilized seeds, and the other half on plants from crossed seeds. The sixty-four flowers with an excess of pollen yielded sixty-one capsules; and excluding four capsules, each of which contained only a single poor seed, the remainder contained on an average 5.07 seeds per capsule. The sixty-four flowers with only a little pollen placed on one side of the stigma yielded sixty-three capsules, and excluding one from the same cause as before, the remainder contained on an average 5.129 seeds. So that the flowers fertilized with little pollen yielded rather more capsules and seeds than did those fertilized with an excess; but the difference is too slight to be of any significance. On the other hand, the seeds produced by the flowers with an excess of pollen were a little heavier of the two; for 170 of them weighed 79.67 grains, whilst 170 seeds from the flowers with very little pollen weighed 79.20 grains. Both lots of seeds having been placed on damp sand presented no difference in their rate of germination. We may therefore conclude that my experiments were not affected by any slight difference in the amount of pollen used; a sufficiency having been employed in all cases.

Which of the following statements about the plants is supported by the passage?

- A. To protect the plants, they were placed in greenhouses.
- B. Meshes were used during the growing period.
- C. In each experiment, the plants were all variants of the same species.
- D. The plants were recommended by another scientist.
- E. The plants were raised by choice in proximity to insects.

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

During the discussion of Thrips in the first paragraph, the author mentions the use of nets, which can be interpreted as protective meshes, to protect the plants: “several plants of the same species were placed under the same net.” There is no mention in the text of the use of variants.

**QUESTION 1106**

Adapted from The Effects of Cross & Self-Fertilization in the Vegetable Kingdom by Charles Darwin (1876)

As it is impossible to exclude such minute pollen-carrying insects as Thrips, flowers which it was intended to fertilize with their own pollen may sometimes have been afterwards crossed with pollen brought by these insects from another flower on the same plant; but as we shall hereafter see, a cross of this kind does not produce any effect, or at most only a slight one. When two or more plants were placed near one another under the same net, as was often done, there is some real though not great danger of the flowers which were believed to be self-fertilized being afterwards crossed with pollen brought by Thrips from a distinct plant. I have said that the danger is not great because I have often found that plants which are self-sterile, unless aided by insects, remained sterile when several plants of the same species were placed under the same net. If, however, the flowers which had been presumably self-fertilized by me were in any case afterwards crossed

by Thrips with pollen brought from a distinct plant, crossed seedlings would have been included amongst the self-fertilized; but it should be especially observed that this occurrence would tend to diminish and not to increase any superiority in average height, fertility, etc., of the crossed over the self-fertilized plants.

As the flowers which were crossed were never castrated, it is probable or even almost certain that I sometimes failed to cross-fertilize them effectually, and that they were afterwards spontaneously self-fertilized. This would have been most likely to occur with dichogamous species, for without much care it is not easy to perceive whether their stigmas are ready to be fertilized when the anthers open. But in all cases, as the flowers were protected from wind, rain, and the access of insects, any pollen placed by me on the stigmatic surface whilst it was immature, would generally have remained there until the stigma was mature; and the flowers would then have been crossed as was intended. Nevertheless, it is highly probable that self-fertilized seedlings have sometimes by this means got included amongst the crossed seedlings. The effect would be, as in the former case, not to exaggerate but to diminish any average superiority of the crossed over the self-fertilized plants.

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Which of the following most fully lists errors named by the author in the third paragraph?

- A. Cross-pollination by bugs, pollination by physical contact, pollination by air, and defects in seeds
- B. Immature seeds, illness, and unnoticed trauma
- C. Thrips, cross-pollination, imperfect seeds, and unhealthy plants
- D. None of the other answers
- E. Insects, unripe seeds, and physical defects



**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The third paragraph cross-references the previous two paragraphs, but does not mention the errors discussed in those paragraphs by name. The errors named in the paragraph are “the seeds not having been thoroughly ripened” and “the sickness or unperceived injury of any of the plants.” The rest of the paragraph is concerned with how these errors were avoided.

**QUESTION 1107** Adapted from *Essays on Early Ornithology and Kindred Subjects* by James R. McClymont (1920)

The voyagers named it the Angra de Santa Elena, and it may have been the bay which is now known as St. Helen's Bay. But it is worthy of note that the G. de Sta. Ellena of the Cantino Chart is laid down in a position which corresponds rather with that of Table Bay than with that of St. Helen's Bay.

The Portuguese came into contact with the inhabitants of the country adjacent to the anchorage. These people had tawny complexions, and carried wooden spears tipped with horn—assagais of a kind—and bows and arrows. They also used foxes' tails attached to short wooden handles. We are not informed for what purposes the foxes' tails were used. Were they used to brush flies away, or were they insignia of authority? The food of the natives was the flesh of whales, seals, and antelopes (gazellas), and the roots of certain plants. Crayfish or 'Cape lobsters' abounded near the anchorage.

The author of the *roteiro* affirms that the birds of the country resembled the birds in Portugal, and that amongst them were cormorants, larks, turtle-doves, and gulls. The gulls are called "guayvotas," but "guayvotas" is probably another instance of the eccentric orthography of the author and equivalent to "gaivotas."

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Castanheda, Goes, and Osorio also mention the sotilicario in their accounts of the first voyage of Vasco da Gama, and compare its flipper to the wing of a bat – a not wholly inept comparison, for the under-surface of the wings of penguins is wholly devoid of feathery covering. Manuel de Mesquita Perestrello, who visited the south coast of Africa in 1575, also describes the Cape penguin. From a manuscript of his *Roteiro* in the Oporto Library, one learns that the flippers of the sotilicario were covered with minute feathers, as indeed they are on the upper surface and that they dived after fish, upon which they fed, and on which they fed their young, which were hatched in nests constructed of fishbones. There is nothing to cavil at in these statements, unless it be that which asserts that the nests were constructed of fishbones, for this is not in accordance with the observations of contemporary naturalists, who tell us that the nests of the Cape Penguin (*Spheniscus demersus*) are constructed of stones, shells, and debris. It is, therefore, probable that the fishbones which Perestrello saw were the remains of repasts of seals.

Seals, says the *roteiro*, were in great number at the Angra de São Brás. On one occasion the number was counted and was found to be three thousand. Some were as large as bears and their roaring was as the roaring of lions. Others, which were very small, bleated like kids. These differences in size and in voice may be explained by differences in the age and in the sex of the seals, for seals of different species do not usually resort to the same locality. The seal which formerly



frequented the south coast of Africa – for it is, I believe, no longer a denizen of that region – was that which is known to naturalists as *Arctocephalus delalandii*, and, as adult males sometimes attain eight and a half feet in length, it may well be described as of the size of a bear. Cubs from six to eight months of age measure about two feet and a half in length. The Portuguese caught anchovies in the bay, which they salted to serve as provisions on the voyage. They anchored a second time in the Angra de São Bràs in March, 1499, on their homeward voyage.

Yet one more allusion to the penguins and seals of the Angra de São Bràs is of sufficient historical interest to be mentioned. The first Dutch expedition to Bantam weighed anchor on the 2nd of April, 1595, and on the 4th of August of the same year the vessels anchored in a harbor called "Ague Sambras," in eight or nine fathoms of water, on a sandy bottom. So many of the sailors were sick with scurvy – "thirty or thirty-three," said the narrator, "in one ship" – that it was necessary to find fresh fruit for them. "In this bay," runs the English translation of the narrative, "lieth a small Island wherein are many birds called Pyncuins and sea Wolves that are taken with men's hands." In the original Dutch narrative by Willem Lodewyckszoon, published in Amsterdam in 1597, the name of the birds appears as "Pinguïjns."

The passage states that which of the following is true?

- A. The small seals made a sound like that of baby goats, or kids.
- B. The tops of penguins' wings lack a feathery covering.
- C. The animals provided the nourishment to treat scurvy.
- D. There was more than one species of seal on the coast.
- E. Perestrello mistook fish bones for the bodies of dead seals.

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

In the sixth paragraph, the author recounts the roteiro that says that of the large amount of seals there was a great variety of size and character. The larger ones were said to be the size of bears and "[roar] like lions" whilst the smaller "bleated like kids." A baby goat is called a "kid."

**QUESTION 1108** Adapted from *Essays on Early Ornithology and Kindred Subjects* by James R. McClymont (1920)

The voyagers named it the Angra de Santa Elena, and it may have been the bay which is now known as St. Helen's Bay. But it is worthy of note that the G. de Sta. Ellena of the Cantino Chart is laid down in a position which corresponds rather with that of Table Bay than with that of St. Helen's Bay.

The Portuguese came into contact with the inhabitants of the country adjacent to the anchorage. These people had tawny complexions, and carried wooden spears tipped with horn—assagais of a kindan—d bows and arrows. They also used foxes' tails attached to short wooden handles. We are not informed for what purposes the foxes' tails were used. Were they used to brush flies away, or were they insignia of authority? The food of the natives was the flesh of whales, seals, and antelopes (gazellas), and the roots of certain plants. Crayfish or 'Cape lobsters' abounded near the anchorage.

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Which of the following statements about the people described in the second paragraph is supported by the passage?

- A. They lived a considerable distance inland.
- B. Their diet did not vary greatly.
- C. They most certainly used foxes tails for flags.

- D. They used bones for the points on their weapons.  
E. They ate whale, seal, and antelope meat, as well as certain roots.

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The second paragraph says, "The food of the natives was the flesh of whales, seals, and antelopes (gazellas), and the roots of certain plants." The other statements, although close to the truth, each vary from the information given in the text. We know, for instance, that their spears were tipped with horn, not bone.

**QUESTION 1109** Adapted from Essays on Early Ornithology and Kindred Subjects by James R. McClymont (1920)

The voyagers named it the Angra de Santa Elena, and it may have been the bay which is now known as St. Helen's Bay. But it is worthy of note that the G. de Sta. Ellena of the Cantino Chart is laid down in a position which corresponds rather with that of Table Bay than with that of St. Helen's Bay.

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The fifth paragraph establishes all of the following EXCEPT \_\_\_\_\_.

- A. One scholar maintained that penguins could not fly because of a lack of quill-feathers.  
B. One of the sources for the information used was found in Oporto.  
C. The author cites six people who described the penguins in this paragraph.  
D. The author partially supports the comparison of a penguin's wing to a bat's wing.  
E. The noise of penguins has been likened to that of a donkey.

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The author cites four people in the paragraph by name: Castanheda, Goes, Osorio and Manuel de Mesquita Perestrello. The first three were on the voyage of Vasco da Gama. The author also continues his citation of a source from the previous paragraph, but including this citation, there are still only five, unless Vasco da Gama was miscounted.

**QUESTION 1110**

Adapted from Taking a Second Look: An Analysis of Genetic Markers in Species Relatedness by Joseph Ritchie (2014)

Phylogenetics is the study of genetic composition in various species and is used by evolutionary biologists to investigate similarities in the molecular sequences of proteins in varying organisms. The amino acid sequences that build proteins are used to construct mathematical matrices that aid in determining evolutionary ties through the investigation of percentage similarities. The study of these matrices helps to expose evolutionary relationships between species that may not have the same existential characteristics.

Species adapt and evolve based on the pressures that exist in their environment. Climate, food source, and habitat availability are only a few factors that act on species adaptation. These stressors can alter the physical characteristics of organisms. This divergence in evolution has made it difficult to determine the interrelatedness of organisms by analyzing their physical characteristics alone.

For instance, looking only at physical characteristics, the ghost bat resembles a pigeon more than a spider monkey; however, phylogenetics has found that the amino acid sequences that construct the beta hemoglobin molecules of bats are 20% more similar to those of mammalian primates than those of birds. This helps reject the assumption that common physical characteristics between species is all that is needed to determine relatedness.

Divergent evolution that produces the differences observed in the forest-dwelling, arboreal spider monkey and the nocturnal, airborne ghost bat can be reconciled through homology. Homologous characteristics are anatomical traits that are similar in two or more different species. For instance, the bone structure of a spider monkey's wrist and fingers greatly resembles that of a bat's wing or even a whale's fin. These similarities are reinforced by phylogenetic evidence that supports the idea that physically dissimilar species can be evolutionarily related through anatomical and genetic similarities.

Phylogenetics traditionally investigates which molecular structures?

- A. Phospholipids
- B. Amino acid sequences
- C. DNA's alpha and beta helices
- D. Carbonyl functional groups on molecular chains

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The first paragraph states that phylogenetics studies amino acid sequences of proteins. This is the only choice supported by the passage.

**QUESTION 1111**

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What mathematical tool is used in phylogenetics to study species interrelatedness?

- A. Matrices
- B. Calculus
- C. Complex algorithms
- D. Equations

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Paragraph one states that phylogenetics uses mathematical matrices in order to determine the percent similarities of species.



**QUESTION 1112** Adapted from Ice-Caves of France and Switzerland by George Forrest Browne (1865)

This account states that the cave is in the county of Thorn, among the lowest spurs of the Carpathians. The entrance, which faces the north, and is exposed to the cold winds from the snowy part of the Carpathian range, is eighteen fathoms high and nine broad; and the cave spreads out laterally, and descends to a point fifty fathoms below the entrance, where it is twenty-six fathoms in breadth, and of irregular height. Beyond this no one had at that time penetrated, on account of the unsafe footing, although many distant echoes were returned by the farther recesses of the cave; indeed, to get even so far as this, much step-cutting was necessary.

When the external frost of winter comes on, the account proceeds, the effect in the cave is the same as if fires had been lighted there: the ice melts, and swarms of flies and bats and hares take refuge in the interior from the severity of the winter. As soon as spring arrives, the warmth of winter disappears from the interior, water exudes from the roof and is converted into ice, while the more abundant supplies which pour down on to the sandy floor are speedily frozen there. In the dog-days, the frost is so intense that a small icicle becomes in one day a huge mass of ice; but a cool day promptly brings a thaw, and the cave is looked upon as a barometer, not merely feeling, but also presaging, the changes of weather. The people of the neighborhood, when employed in field-work, arrange their labour so that the mid-day meal may be taken near the cave, when they either ice the water they have brought with them, or drink the melted ice, which they consider very good for the stomach. It had been calculated that six hundred weekly carts would not be sufficient to keep the cavern free from ice. The ground above the cave is peculiarly rich in grass.

In explanation of these phenomena, Bell threw out the following suggestions, which need no comment. The earth being of itself cold and damp, the external heat of the atmosphere, by partially penetrating into the ground, drives in this native cold to the inner parts of the earth, and makes the cold there more dense. On the other hand, when the external air is cold, it draws forth towards the surface the heat there may be in the inner part of the earth, and thus makes caverns warm. In support and illustration of this view, he states that in the hotter parts of Hungary, when the people wish to cool their wine, they dig a hole two feet deep, and place in it the flagon of wine, and, after filling up the hole again, light a blazing fire upon the surface, which cools the wine as if the flagon had been laid in ice. He also suggests that possibly the cold winds from the Carpathians bring with them imperceptible particles of snow, which reach the water of the cave, and convert it into ice. Further, the rocks of the Carpathians abound in salts, nitre, alum, etc., which may, perhaps, mingle with such snowy particles, and produce the ordinary effect of the snow and salt in the artificial production of ice.

Based on the passage, the primary reason for the lack of full exploration of the cave was that \_\_\_\_\_.

- A. previous explorers had not returned
- B. the cave was too big to explore
- C. there were dangerous animals inside
- D. the ground was precarious
- E. the cave was too dark

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:



In the first paragraph, the author states that "Beyond [the immediate entrance to the cave] no one had at that time penetrated, on account of the unsafe footing," suggesting that the ground was too dangerous or "precarious" to proceed and explore far into the cave.

**QUESTION 1113** Adapted from Essays on Early Ornithology and Kindred Subjects by James R. McClymont (1920)

The voyagers named it the Angra de Santa Elena, and it may have been the bay which is now known as St. Helen's Bay. But it is worthy of note that the G. de Sta. Ellena of the Cantino Chart is laid down in a position which corresponds rather with that of Table Bay than with that of St. Helen's Bay.

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It can reasonably be inferred from the passage that which of the following is true?

- A. The Portuguese explored the coast before the Dutch.
- B. The natives were afraid of water.
- C. The penguins were inquisitive.
- D. The penguins were smaller than ducks.
- E. The extinction of the seals was caused by human interference.

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation: The last paragraph mentions the first Dutch exploration, which took place in 1595. From the information presented in the last line of the previous paragraph, we know that the Portuguese stopped on the coast in 1499 on a return voyage, so it is safe to assume they explored the coast before the Dutch.

#### QUESTION 1114

Adapted from A Practical Treatise on the Hive and Honey-Bee by Lorenzo Lorraine Langstroth (1857 ed.)

Of all the numerous enemies of the honey-bee, the Bee-Moth (*Tinea mellonella*), in climates of hot summers, is by far the most to be dreaded. So widespread and fatal have been its ravages in this country that thousands have abandoned the cultivation of bees in despair, and in districts which once produced abundant supplies of the purest honey, bee-keeping has gradually dwindled down into a very insignificant pursuit. Contrivances almost without number have been devised to defend the bees against this invidious foe, but still it continues its desolating inroads, almost unchecked, laughing as it were to scorn at all the so-called "moth-proof" hives, and turning many of the ingenious fixtures designed to entrap or exclude it into actual aids and comforts in its nefarious designs.

I should feel but little confidence in being able to reinstate bee-keeping in our country into a certain and profitable pursuit if I could not show the apiarian in what way he can safely bid defiance to the pestiferous assaults of this, his most implacable enemy. I have patiently studied its habits for years, and I am at length able to announce a system of management founded upon the peculiar construction of my hives, which will enable the careful bee-keeper to protect his colonies against the monster. The bee-moth infects our apiaries, just as weeds take possession of a fertile soil. Before explaining the means upon which I rely to circumvent the moth, I will first give a brief description of its habits.

Swammerdam, towards the close of the seventeenth century, gave a very accurate description of this insect, which was then called by the very expressive name of the "bee-wolf." He has furnished good drawings of it, in all its changes, from the worm to the perfect moth, together with the peculiar webs or galleries that it constructs and from which the name of *Tinea galleria* or "gallery moth" has been given to it by some entomologists. He failed, however, to discriminate between the male and female, which, because they differ so much in size and appearance, he supposed to be two different species of the wax-moth. It seems to have been a great pest in his time, and even Virgil speaks of the "dirum tineæ genus," the dreadful offspring of the moth; that is the worm.

This destroyer usually makes its appearance about the hives in April or May, the time of its coming depending upon the warmth of the climate or the forwardness of the season. It is seldom seen on the wing (unless startled from its lurking place about the hive) until towards dark, and is evidently chiefly nocturnal in its habits. In dark cloudy days, however, I have noticed it on the wing long before sunset, and if several such days follow in succession, the female, oppressed with the urgent necessity of laying her eggs, may be seen endeavoring to gain admission to the hives. The female is much larger than the male, and "her color is deeper and more inclining to a darkish gray, with small spots or blackish streaks on the interior edge of her upper wings." The color of the male inclines more to a light gray; they might easily be mistaken for different species of moths. These insects are surprisingly agile, both on foot and on the wing. The motions of a bee are very slow in comparison. "They are," says Reaumur, "the most nimble-footed creatures that I know." "If the approach to the apiary be observed of a moonlight evening, the moths will be found flying or running round the hives, watching an opportunity to enter, whilst the bees that have to guard the entrances against their intrusion will be seen acting as vigilant sentinels, performing continual rounds near this important post, extending their antenna to the utmost, and moving them to the right and left alternately. Woe to the unfortunate moth that comes within their reach!" "It is curious," says Huber, "to observe how artfully the moth knows how to profit, to the disadvantage of the bees, which require much light for seeing objects; and the precautions taken by the latter in reconnoitering and expelling so dangerous an enemy."

The passage states that which of the following is true?

- A. The author refuses to describe the habits of the moth.
- B. Bee-moths are diurnal.
- C. Even ancient civilizations were familiar with the bee-moth's offspring.
- D. The bee-moth was not a great pest in the seventeenth century.
- E. The bee-moth appears before April and May.

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The author states that “It seems to have been a great pest in [Swammerdam's] time; and even Virgil speaks of the "dirum tineæ genus," the dreadful offspring of the moth; that is the worm.” Virgil was a famous writer in Roman times, and if he spoke of the bee-moth, then it suggests that ancient civilizations were familiar with its young. We can also figure out the correct answer by identifying the other statements as false. We know the moths are nocturnal, as the author says they appear mostly at night near the beginning of the fourth paragraph. According to the beginning of this paragraph, the moth appears in May or April, not before. We also know from the above quotation that in Swammerdam's time, the seventeenth century, the moth was a great pest.

#### QUESTION 1115

Adapted from A Practical Treatise on the Hive and Honey-Bee by Lorenzo Lorraine Langstroth (1857 ed.)

Of all the numerous enemies of the honey-bee, the Bee-Moth (*Tinea mellonella*), in climates of hot summers, is by far the most to be dreaded. So widespread and fatal have been its ravages in this country that thousands have abandoned the cultivation of bees in despair, and in districts which once produced abundant supplies of the purest honey, bee-keeping has gradually dwindled down into a very insignificant pursuit. Contrivances almost without number have been devised to defend the bees against this invidious foe, but still it continues its desolating inroads, almost unchecked, laughing as it were to scorn at all the so-called "moth-proof" hives, and turning many of the ingenious fixtures designed to entrap or exclude it into actual aids and comforts in its nefarious designs.

I should feel but little confidence in being able to reinstate bee-keeping in our country into a certain and profitable pursuit if I could not show the apiarian in what way he can safely bid defiance to the pestiferous assaults of this, his most implacable enemy. I have patiently studied its habits for years, and I am at length able to announce a system of management founded upon the peculiar construction of my hives, which will enable the careful bee-keeper to protect his colonies against the monster. The bee-moth infects our apiaries, just as weeds take possession of a fertile soil. Before explaining the means upon which I rely to circumvent the moth, I will first give a brief description of its habits.

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Which of the following statements about bees is supported by the passage?

- A. They will guard the entrance to their hives.
- B. They allow the bee-moth to enter their nests.
- C. They are lithe.
- D. They do not keep their hives in good condition.
- E. They are poor at caring for their young.



**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The third paragraph supports this answer where it says, “the bees that have to guard the entrances against their intrusion, will be seen acting as vigilant sentinels, performing continual rounds near this important post, extending their antenna to the utmost, and moving them to the right and left alternately. Woe to the unfortunate moth that comes within their reach!” This tells us that bees guard the entrance to their hives.

**QUESTION 1116** "Darwinism's Effect on Science" by

Matthew Minerd (2014)

For much of the history of human thought, the sciences have studied subjects that seemed to be eternal and unchanging. Even the basic laws of the Nile's flooding were investigated in the hopes of finding never-altering laws. Similarly, the scientific investigations of the ancient Near East and Greece into the regular laws of the stars ultimately looked for constant patterns. This overall pattern of scientific reasoning has left deep marks on the minds of almost all thinkers and found its apotheosis in modern physics. From the time of the early renaissance to the nineteenth century, physics represented the ultimate expression of scientific investigation for almost all thinkers. Its static laws appeared to be the unchanging principles of all motion and life on earth. By the nineteenth century, it had appeared that only a few details had to be “cleared up” before all science was basically known.

In many ways, this situation changed dramatically with the arrival of Darwinism. It would change even more dramatically in early twentieth-century physics as well. Darwin's theories of evolution challenged many aspects of the “static” worldview. Even those who did not believe that a divine being created an unchanging world were shaken by the new vistas opened up to science by his studies. It had been a long-accepted inheritance of Western culture to believe that the species of living organisms were unchanging in nature. Though there might be many different kinds of creatures, the kinds themselves were not believed to change. The thesis of a universal morphing of types shattered this cosmology, replacing the old world-view with a totally new one. Among the things that had to change in light of Darwin's work was the very view of science held by most people.

According to the passage, what is the source of modern science?

- A. Renaissance scientists

- B. Egyptian mathematics
- C. Greek astronomy
- D. Renaissance humanists
- E. None of the other answers

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

This passage does not really provide a direct history of the "rise of science" and its history. It does provide examples of a certain outlook, using Egypt, the Near East, and Greece as examples. However, none of these are claimed to be the primary ancestors of science.

**QUESTION 1117** "Darwinism's Effect on Science" by Matthew Minerd (2014)

For much of the history of human thought, the sciences have studied subjects that seemed to be eternal and unchanging. Even the basic laws of the Nile's flooding were investigated in the hopes of finding never-altering laws. Similarly, the scientific investigations of the ancient Near East and Greece into the regular laws of the stars ultimately looked for constant patterns. This overall pattern of scientific reasoning has left deep marks on the minds of almost all thinkers and found its apotheosis in modern physics. From the time of the early renaissance to the nineteenth century, physics represented the ultimate expression of scientific investigation for almost all thinkers. Its static laws appeared to be the unchanging principles of all motion and life on earth. By the nineteenth century, it had appeared that only a few details had to be "cleared up" before all science was basically known.

In many ways, this situation changed dramatically with the arrival of Darwinism. It would change even more dramatically in early twentieth-century physics as well. Darwin's theories of evolution challenged many aspects of the "static" worldview. Even those who did not believe that a divine being created an unchanging world were shaken by the new vistas opened up to science by his studies. It had been a long-accepted inheritance of Western culture to believe that the species of living organisms were unchanging in nature. Though there might be many different kinds of creatures, the kinds themselves were not believed to change. The thesis of a universal morphing of types shattered this cosmology, replacing the old world-view with a totally new one. Among the things that had to change in light of Darwin's work was the very view of science held by most people.

Which of the following gives the best example of the "static worldview" discussed in the second paragraph?

- A. "Though there might be many different kinds of creatures, the kinds themselves were not believed to change."
- B. "Even those who did not believe that a divine being created an unchanging world were shaken by the new vistas opened up to science by his studies."
- C. "The thesis of a universal morphing of types shattered this cosmology, replacing the old world-view with a totally new one."
- D. "Among the things that had to change in light of Darwin's work was the very view of science held by most people."E. "In many ways, this situation changed dramatically with the arrival of Darwinism."

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Among the answer choices provided, only one implies an example of the static worldview that preceded Darwin. The answer states that the kinds of creatures were believed not change. This is an example of an outlook that believes things to be unchanging.

**QUESTION 1118** "Interpreting the Copernican Revolution" by Matthew Minerd (2014)

The expressions of one discipline can often alter the way that other subjects understand themselves. Among such cases are numbered the investigations of Nicolaus Copernicus. Copernicus is best known for his views concerning heliocentrism, a view which eventually obliterated many aspects of the ancient/medieval worldview, at least from the standpoint of physical science. It had always been the natural view of mankind that the earth stood at the center of the universe, a fixed point in reference to the rest of the visible bodies. The sun, stars, and planets all rotated around the earth.

With time, this viewpoint became one of the major reference points for modern life. It provided a provocative image that was used and often abused by many people for various purposes. For those who wished to weaken the control of religion on mankind, it was said that the heliocentric outlook proved man's insignificance. In contrast with earlier geocentrism, heliocentrism was said to show that man is not the center of the universe. He is merely one small being in the midst of a large cosmos. However, others wished to use the "Copernican Revolution" in a very different manner. These thinkers wanted to show that there was another "recentering" that had to happen. Once upon a time, we talked about the world. Now, however, it was necessary to talk of man as the central reference point. Just as the solar system was "centered" on the sun, so too should the sciences be centered on the human person.

However, both of these approaches are fraught with problems. Those who wished to undermine the religious mindset rather misunderstood the former outlook on the solar system. The earlier geocentric mindset did not believe that the earth was the most important body in the heavens. Instead, many ancient and medieval thinkers believed that the highest "sphere" above the earth was the most important being in the physical universe. Likewise, the so-called "Copernican Revolution" in physics was different from the one applied to the human person. Copernicus' revolution showed that the human point of view was not the center, whereas the later forms of "Copernican revolution" wished to show just the opposite.

Of course, there are many complexities in the history of such important changes in scientific outlook. Nevertheless, it is fascinating to see the wide-reaching effects of such discoveries, even when they have numerous, ambiguous effects.

Which of the following would be a direct consequence of belief in geocentrism?



- A. That the sun is stationary
- B. That even the stars in space move
- C. That the earth does not move
- D. That all bodies in space have independent orbits
- E. That the universe is finite in size

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The theory of geocentrism held that the earth was the center of the solar system (indeed of all things) and that it was fixed in its location. This means that the earth presumably did not move at all. It was "a fixed point in reference to the rest of the visible bodies." They all rotated around it.

#### QUESTION 1119

Adapted from "Humming-Birds: As Illustrating the Luxuriance of Tropical Nature" in Tropical Nature, and Other Essays by Alfred Russel Wallace (1878)

The food of hummingbirds has been a matter of much controversy. All the early writers down to Buffon believed that they lived solely on the nectar of flowers, but since that time, every close observer of their habits maintains that they feed largely, and in some cases wholly, on insects. Azara observed them on the La Plata in winter taking insects out of the webs of spiders at a time and place where there were no flowers. Bullock, in Mexico, declares that he saw them catch small butterflies, and that he found many kinds of insects in their stomachs. Waterton made a similar statement. Hundreds and perhaps thousands of specimens have since been dissected by collecting naturalists, and in almost every instance their stomachs have been found full of insects, sometimes, but not generally, mixed with a proportion of honey. Many of them in fact may be seen catching gnats and other small insects just like fly-catchers, sitting on a dead twig over water, darting off for a time in the air, and then returning to the twig. Others come out just at dusk, and remain on the wing, now stationary, now darting about with the greatest rapidity, imitating in a limited space the evolutions of the goatsuckers, and evidently for the same end and purpose. Mr. Gosse also remarks, "All the hummingbirds have more or less the habit, when in flight, of pausing in the air and throwing the body and tail into rapid and odd contortions. This is most observable in the Polytmus, from the effect that such motions have on the long feathers of the tail. That the object of these quick turns is the capture of insects, I am sure, having watched one thus engaged pretty close to me." What evidence does Mr. Gosse have to support the claim that hummingbirds eat insects?

- A. He read in a reputable scientific journal that they eat insects.
- B. He observed one flailing around in the air and concluded that it was eating insects.
- C. He examined the contents of a hummingbird's stomach and found many insects in it.
- D. A hummingbird got into his collection of live insects, and soon after, all of his insects were missing.
- E. He surmised that they must eat insects because he has never seen one eating flower nectar.



**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

To answer this question, we have to consider the quotation attributed to Mr. Gosse found at the end of the passage: "Mr. Gosse also remarks, 'All the hummingbirds have more or less the habit, when in flight, of pausing in the air and throwing the body and tail into rapid and odd contortions. This is most observable in the Polytmus, from the effect that such motions have on the long feathers of the tail. That the object of these quick turns is the capture of insects, I am sure, having watched one thus engaged pretty close to me.'"

He doesn't mention anything about having a collection of live insects, getting his information from a scientific journal, or dissecting a hummingbird's stomach, so we can ignore those answer choices. He actively observes a hummingbird and surmises that they eat insects because of that, so the correct answer is "He observed one flailing around in the air and concluded that it was eating insects."

**QUESTION 1120** Adapted from An Introduction to Astronomy by Forest Ray Moulton (1916 ed.)

It is doubtful if any important scientific idea ever sprang suddenly into the mind of a single man. The great intellectual movements in the world have had long periods of preparation, and often many men were groping for the same truth, without exactly seizing it, before it was fully comprehended.

The foundation on which all science rests is the principle that the universe is orderly, and that all phenomena succeed one another in harmony with invariable laws. Consequently, science was impossible until the truth of this principle was perceived, at least as applied to a limited part of nature.

The phenomena of ordinary observation, as, for example, the weather, depend on such a multitude of factors that it was not easy for men in their primitive state to discover that they occur in harmony with fixed laws. This was the age of superstition, when nature was supposed to be controlled by a great number of capricious gods whose favor could be won by childish ceremonies. Enormous experience was required to dispel such errors and to convince men that the universe is one vast organization whose changes take place in conformity with laws which they can in no way alter.

The actual dawn of science was in prehistoric times, probably in the civilizations that flourished in the valleys of the Nile and the Euphrates. In the very earliest records of these people that have come down to modern times it is found that they were acquainted with many astronomical phenomena and had coherent ideas with respect to the motions of the sun, moon, planets, and stars. It is perfectly clear from their writings that it was from their observations of the heavenly bodies that

they first obtained the idea that the universe is not a chaos. Day and night were seen to succeed each other regularly, the moon was found to pass through its phases systematically, the seasons followed one another in order, and in fact the more conspicuous celestial phenomena were observed to occur in an orderly sequence. It is to the glory of astronomy that it first led men to the conclusion that law reigns in the universe.

According to this passage, why were astronomical bodies so important to the emergence of science?

- A. Their beauty encouraged continuous speculation.
- B. Being above the earth's surface, they seem to encompass the whole of the world.
- C. None of the other answers
- D. They exhibit a great deal of regularity.
- E. They were once believed to be gods, but by showing that they were not such, humanity was able to believe in scientific thought.

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The key sentence for this question is, "It is perfectly clear from their writings that it was from their observations of the heavenly bodies that they first obtained the idea that the universe is not a chaos." The idea is that for prehistoric humanity, the stars and planets likely provided the first example of regularity in our day-to-day experience. Though many of our experiences seem random, the stars do indeed continue in their courses and the sun has its own repeating path. Hence, they began to see that the world had regular patterns – not all is chaos.

#### QUESTION 1121

Adapted from "Darwin's Predecessors" by J. Arthur Thomson in *Evolution in Modern Thought* (1917 ed.)

In seeking to discover Darwin's relation to his predecessors, it is useful to distinguish the various services which he rendered to the theory of organic evolution.

As everyone knows, the general idea of the doctrine of descent is that the plants and animals of the present day are the lineal descendants of ancestors on the whole somewhat simpler, that these again are descended from yet simpler forms, and so on backwards towards the literal "Protozoa" and "Protophyta" about which we unfortunately know nothing. Now no one supposes that Darwin originated this idea, which in rudiment at least is as old as Aristotle. What Darwin did was to make it current intellectual coin. He gave it a form that commended itself to the scientific and public intelligence of the day, and he won widespread conviction by showing with consummate skill that it was an effective formula to work with, a key which no lock refused. In a scholarly, critical, and preeminently fair-minded way, admitting difficulties and removing them, foreseeing objections and forestalling them, he showed that the doctrine of descent supplied a modal interpretation of how our present-day fauna and flora have come to be.

In the second place, Darwin applied the evolution-idea to particular problems, such as the descent of man, and showed what a powerful tool it is, introducing order into masses of uncorrelated facts, interpreting enigmas both of structure and function, both bodily and mental, and, best of all, stimulating and guiding further investigation. But here again it cannot be claimed that Darwin was original. The problem of the descent or ascent of man, and other particular cases of evolution, had attracted not a few naturalists before Darwin's day, though no one [except Herbert Spencer in the psychological domain (1855)] had come near him in precision and thoroughness of inquiry.

In the third place, Darwin contributed largely to a knowledge of the factors in the evolution-process, especially by his analysis of what occurs in the case of domestic animals and cultivated plants, and by his elaboration of the theory of natural selection, which Alfred Russel Wallace independently stated at the same time, and of which there had been a few previous suggestions of a more or less vague description. It was here that Darwin's originality was greatest, for he revealed to naturalists the many different forms – often very subtle – which natural selection takes, and with the insight of a disciplined scientific imagination he realized what a mighty engine of progress it has been and is.

Based on this passage, what was the role of Herbert Spencer in the history of evolutionary doctrine?

- A. His thought had aspects related to evolution as a theme in certain social sciences.
- B. His thought had no major relation to thought pertaining to evolution.
- C. He was the only real source from which Darwin drew his thought.
- D. In many ways, his thought presaged that of Darwin's, predicting several major aspects of Darwin's theories.
- E. None of the other answers

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

In the passage, it is said that few naturalists focused on evolution or the descent/ascent of man before Darwin's day. "Naturalists" would be "natural scientists." The parenthetical remark about Spencer makes sure that the reader knows, however, that Spencer did pay attention to it in the psychological domain." Some argue that he was influential to Darwin, but that is not discussed here. However, we can say that his thought did contain aspects that applied the idea of evolution to certain branches of the social sciences.

#### QUESTION 1122

Adapted from "Introduced Species That Have Become Pests" in *Our Vanishing Wild Life, Its Extermination and Protection* by William Temple Hornaday (1913)

The man who successfully transplants or "introduces" into a new habitat any persistent species of living thing assumes a very grave responsibility. Every introduced species is doubtful gravel until panned out. The enormous losses that have been inflicted upon the world through the perpetuation of follies with wild vertebrates and insects would, if added together, be enough to purchase a principality. The most aggravating feature of these follies in transplantation is that never yet have they been made severely punishable. We are just as careless and easygoing on this point as we were about the government of the Yellowstone Park in the days when Howell and other poachers destroyed our first national bison herd, and when caught red-handed – as Howell was, skinning seven Park bison cows – could not be punished for it, because there was no penalty prescribed by any law. Today, there is a way in which any revengeful person could inflict enormous damage on the entire South, at no cost to himself, involve those states in enormous losses and the expenditure of vast sums of money, yet go absolutely unpunished!

The gypsy moth is a case in point. This winged calamity was imported at Maiden, Massachusetts, near Boston, by a French entomologist, Mr. Leopold Trouvelot, in 1868 or 69. History records the fact that the man of science did not purposely set free the pest. He was endeavoring with live specimens to find a moth that would produce a cocoon of commercial value to America, and a sudden gust of wind blew out of his study, through an open window, his living and breeding specimens of the gypsy moth. The moth itself is not bad to look at, but its larvae is a great, overgrown brute with an appetite like a hog. Immediately Mr. Trouvelot sought to recover his specimens, and when he failed to find them all, like a man of real honor, he notified the State authorities of the accident. Every effort was made to recover all the specimens, but enough escaped to produce progeny that soon became a scourge to the trees of Massachusetts. The method of the big, nasty-looking mottled-brown caterpillar was very simple. It devoured the entire foliage of every tree that grew in its sphere of influence.

The gypsy moth spread with alarming rapidity and persistence. In course of time, the state authorities of Massachusetts were forced to begin a relentless war upon it, by poisonous sprays and by fire. It was awful! Up to this date (1912) the New England states and the United States Government service have expended in fighting this pest about \$7,680,000!

The spread of this pest has been retarded, but the gypsy moth never will be wholly stamped out. Today it exists in Rhode Island, Connecticut, and New Hampshire, and it is due to reach New York at an early date. It is steadily spreading in three directions from Boston, its original point of departure, and when it strikes the State of New York, we, too, will begin to pay dearly for the Trouvelot experiment.

Why did Mr. Trouvelot bring gypsy moths to Boston?

- A. He wanted to use them combat other insect pests that were ruining his crops.
- B. He wanted to feed them to the birds he kept in his aviary.
- C. He was trying to find a moth that would make cocoons he could sell.
- D. Mr. Trouvelot did not bring gypsy moths to Boston; he brought them to Yellowstone National Park.
- E. He wanted to release them as a scientific experiment.

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation: The second paragraph of the passage tells the story of how Mr. Trouvelot released the gypsy moths, so we should look there for our answer. In it, the author writes that the gypsy moth "was imported at Maiden, Massachusetts, near Boston, by a French entomologist, Mr. Leopold Trouvelot, in 1868 or 69"; this allows us to eliminate the answer "Mr. Trouvelot did not bring gypsy moths to Boston; he brought them to Yellowstone National Park." The author then explains that Trouvelot "was endeavoring with live specimens to find a moth that would produce a cocoon of commercial value to America." Therefore, the correct answer is "He was trying to find a moth that would make a cocoon he could sell."

#### QUESTION 1123

Adapted from "Introduced Species That Have Become Pests" in Our Vanishing Wild Life, Its Extermination and Protection by William Temple Hornaday (1913)

The man who successfully transplants or "introduces" into a new habitat any persistent species of living thing assumes a very grave responsibility. Every introduced species is doubtful gravel until panned out. The enormous losses that have been inflicted upon the world through the perpetuation of follies with wild vertebrates and insects would, if added together, be enough to purchase a principality. The most aggravating feature of these follies in transplantation is that never yet have they been made severely punishable. We are just as careless and easygoing on this point as we were about the government of the Yellowstone Park in the days when Howell and other poachers destroyed our first national bison herd, and when caught red-handed – as Howell was, skinning seven Park bison cows – could not be punished for it, because there was no penalty prescribed by any law. Today, there is a way in which any revengeful person could inflict enormous damage on the entire South, at no cost to himself, involve those states in enormous losses and the expenditure of vast sums of money, yet go absolutely unpunished!

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At the time the passage was written, in which of the following states was the gypsy moth NOT found?

- A. Connecticut
- B. New York
- C. Rhode Island
- D. Massachusetts
- E. New Hampshire



**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The part of the passage most relevant to this question is found in the last paragraph: "The spread of this pest has been retarded, but the gypsy moth never will be wholly stamped out. Today it exists in Rhode Island, Connecticut, and New Hampshire, and it is due to reach New York at an early date." We can tell that "New York" is the answer based on this quotation, but one state remains unaccounted for: Massachusetts. Earlier in the passage, we are told that the gypsy moth "was imported at Maiden, Massachusetts, near Boston," and that "enough escaped to produce progeny that soon became a scourge to the trees of Massachusetts." We can infer that the gypsy moth is found in Massachusetts at the time the passage was written, especially given that the author writes, "In course of time, the state authorities of Massachusetts were forced to begin a relentless war upon it, by poisonous sprays and by fire. It was awful! Up to this date (1912) the New England states and the United States Government service have expended in fighting this pest about \$7,680,000!" This quotation – especially the author's use of the transition "Up to this date" – suggests that the gypsy moth remained a problem in Massachusetts at the time the author was writing.

**QUESTION 1124** "Interpreting the Copernican Revolution" by Matthew Minerd (2014)

The expressions of one discipline can often alter the way that other subjects understand themselves. Among such cases are numbered the investigations of Nicolaus Copernicus. Copernicus is best known for his views concerning heliocentrism, a view which eventually obliterated many aspects of the ancient/medieval worldview, at least from the standpoint of physical science. It had always been the natural view of mankind that the earth stood at the center of the universe, a fixed point in reference to the rest of the visible bodies. The sun, stars, and planets all rotated around the earth.

With time, this viewpoint became one of the major reference points for modern life. It provided a provocative image that was used – and often abused – by many people for various purposes. For those who wished to weaken the control of religion on mankind, it was said that the heliocentric outlook proved man's insignificance. In contrast with earlier geocentrism, heliocentrism was said to show that man is not the center of the universe. He is merely one small being in the midst of a large cosmos. However, others wished to use the "Copernican Revolution" in a very different manner. These thinkers wanted to show that there was another "recentering" that had to happen. Once upon a time, we talked about the world. Now, however, it was necessary to talk of man as the central reference point. Just as the solar system was "centered" on the sun, so too should the sciences be centered on the human person.

However, both of these approaches are fraught with problems. Those who wished to undermine the religious mindset rather misunderstood the former outlook on the solar system. The earlier geocentric mindset did not believe that the earth was the most important body in the heavens. Instead, many ancient and medieval thinkers believed that the highest "sphere" above the earth was the most important being in the physical universe. Likewise, the so-called "Copernican Revolution" in physics was different from the one applied to the human person. Copernicus' revolution showed that the human point of view was not the center, whereas the later forms of "Copernican revolution" wished to show just the opposite.

Of course, there are many complexities in the history of such important changes in scientific outlook. Nevertheless, it is fascinating to see the wide-reaching effects of such discoveries, even when they have numerous, ambiguous effects.

How was the underlined view about geocentrism incorrect?

- A. Religions gladly accepted the point and moved on.
- B. Many earlier thinkers actually thought the earth was rather insignificant compared with the other celestial bodies.
- C. None of the other answers
- D. The view is actually reflective of the history of thought and does not contradict it.
- E. Religion had always despised human existence anyway, so this is not much of a change.

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

For this question, the key two sentences are: "The earlier geocentric mindset did not believe that the earth was the most important body in the heavens. Instead, many ancient and medieval thinkers believed that the highest 'sphere' above the earth was the most important being in the physical universe." These state that geocentric thinkers in the ancient and medieval period actually believed that the higher "spheres" of heaven were more important than earth.

**QUESTION 1125** "The Cell Cycle" by Joseph Ritchie (2014)

The process by which cells divide and multiply is known as the cell cycle. This cycle consists of two main phases: interphase and mitosis. Each phase consists of a series of clearly defined and observable steps. At the conclusion of the cycle, each parent cell produces two genetically identical daughter cells that may also replicate by proceeding through the cell cycle.

Roughly ninety percent of the cell cycle is spent in interphase. Interphase is comprised of three main steps: the first gap phase, the synthesis phase (also called "S phase"), and the second gap phase. The initial gap phase is a period of cellular preparation in which the cell increases in size and readies itself for DNA synthesis. In the synthesis phase, or S phase, DNA replication occurs, so that when the cell divides, each daughter cell will have the DNA necessary to function properly. In the second gap phase, the cell grows in size and prepares for cellular division in the mitotic phase. At the end of each gap phase, the cell has to pass a regulatory checkpoint to ensure that nothing is going wrong. If anything has gone wrong, the checkpoints stop the cell from proceeding through the cell cycle any further.

The next part of the cell cycle is mitosis. Mitosis is a form of cell division and is broken down into five distinct phases. During prophase, the genetic material contained in the cell's chromatin condenses into distinct chromosomes.

Prometaphase is marked by the breakdown of the cell's nuclear envelope and the formation of centrosomes at the poles of the cell. During metaphase, the cell's chromosomes are moved to the center of the cell. A checkpoint ensures that the chromosomes are properly aligned on the center and halts the cell cycle if any errors have occurred. In anaphase, chromosomes break apart at their center, or centromere, and sister chromatids move to opposite ends of the cell. Lastly,

telophase and cytokinesis occur as nuclear membranes form to physically divide the cell into two new daughter cells. Chromosomes also unwind into loose chromatin during this part of mitosis. Cytokinesis is defined as the division of the each cell's cytoplasm and organelles. At the conclusion of the cell cycle, two genetically identical daughter cells have formed. The cell cycle operates by a series of checkpoints and external cues. This system of checks enables the cell to enter a state of dormancy known as the gap zero phase when conditions or other factors inhibit the cell cycle. Conversely, unregulated and uncontrolled cellular division can occur under certain circumstances. A cell in a state of uncontrolled division is known to be cancerous. Lastly, cells have the ability to mediate their own death by way of apoptosis if certain genetic or physical abnormalities exist. The cell cycle is a complex process that enables cells to replicate and proliferate under a stringent set of checks and balances that produce healthy and viable daughter cells that are each able to perform the process in the future.

To where are chromosomes moved in the cell during metaphase?

- A. The poles of the cell
- B. The center of the cell
- C. The edges of the cell
- D. Outside of the cell

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Chromosomes are moved to the center of the cell during metaphase. This is supported by the passage in the third paragraph, when it states, "During metaphase, the cell's chromosomes are moved to the center of the cell."

**QUESTION 1126** "The Cell Cycle" by  
Joseph Ritchie (2014)

The process by which cells divide and multiply is known as the cell cycle. This cycle consists of two main phases: interphase and mitosis. Each phase consists of a series of clearly defined and observable steps. At the conclusion of the cycle, each parent cell produces two genetically identical daughter cells that may also replicate by proceeding through the cell cycle.

Roughly ninety percent of the cell cycle is spent in interphase. Interphase is comprised of three main steps: the first gap phase, the synthesis phase (also called "S phase"), and the second gap phase. The initial gap phase is a period of cellular preparation in which the cell increases in size and readies itself for DNA synthesis. In the synthesis phase, or S phase, DNA replication occurs, so that when the cell divides, each daughter cell will have the DNA necessary to function properly. In the second gap phase, the cell grows in size and prepares for cellular division in the mitotic phase. At the end of each gap phase, the cell has to pass a regulatory checkpoint to ensure that nothing is going wrong. If anything has gone wrong, the checkpoints stop the cell from proceeding through the cell cycle any further.

The next part of the cell cycle is mitosis. Mitosis is a form of cell division and is broken down into five distinct phases. During prophase, the genetic material contained in the cell's chromatin condenses into distinct chromosomes.

Prometaphase is marked by the breakdown of the cell's nuclear envelope and the formation of centrosomes at the poles of the cell. During metaphase, the cell's chromosomes are moved to the center of the cell. A checkpoint ensures that the chromosomes are properly aligned on the center and halts the cell cycle if any errors have occurred. In anaphase, chromosomes break apart at their center, or centromere, and sister chromatids move to opposite ends of the cell. Lastly, telophase and cytokinesis occur as nuclear membranes form to physically divide the cell into two new daughter cells. Chromosomes also unwind into loose chromatin during this part of mitosis. Cytokinesis is defined as the division of the each cell's cytoplasm and organelles. At the conclusion of the cell cycle, two genetically identical daughter cells have formed.

The cell cycle operates by a series of checkpoints and external cues. This system of checks enables the cell to enter a state of dormancy known as the gap zero phase when conditions or other factors inhibit the cell cycle. Conversely, unregulated and uncontrolled cellular division can occur under certain circumstances. A cell in a state of uncontrolled division is known to be cancerous. Lastly, cells have the ability to mediate their own death by way of apoptosis if certain genetic or physical abnormalities exist. The cell cycle is a complex process that enables cells to replicate and proliferate under a stringent set of checks and balances that produce healthy and viable daughter cells that are each able to perform the process in the future.

How many checkpoints are present in the cell cycle?

- A. Three
- B. Two
- C. Five
- D. Four

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

There are three checkpoints in the cell cycle. Two are located in interphase, as the passage says in paragraph two: "At the end of each gap phase the cell has to pass two regulatory checkpoints to ensure proper cell growth and environmental conditions." Another checkpoint is present in mitosis, according to paragraph three: "A checkpoint ensures that the chromosomes are aligned on the center and halts the cycle if an error occurs."

**QUESTION 1127** "The Cell Cycle" by  
Joseph Ritchie (2014)

The process by which cells divide and multiply is known as the cell cycle. This cycle consists of two main phases: interphase and mitosis. Each phase consists of a series of clearly defined and observable steps. At the conclusion of the cycle, each parent cell produces two genetically identical daughter cells that may also replicate by proceeding through the cell cycle.

Roughly ninety percent of the cell cycle is spent in interphase. Interphase is comprised of three main steps: the first gap phase, the synthesis phase, and the second gap phase. The initial gap phase is a period of cellular preparation in which the cell increases in size and readies itself for DNA synthesis. In the synthesis phase, DNA replication occurs, so that when the cell divides, each daughter cell will have the DNA necessary to function properly. In the second gap phase, the cell grows in size and prepares for cellular division in the mitotic phase. At the end of each gap phase, the cell has to pass a regulatory checkpoint to ensure that nothing is going wrong. If anything has gone wrong, the checkpoints stop the cell from proceeding through the cell cycle any further.

The next part of the cell cycle is mitosis. Mitosis is a form of cell division and is broken down into five distinct phases. During prophase, the genetic material contained in the cell's chromatin condenses into distinct chromosomes.

Prometaphase is marked by the breakdown of the cell's nuclear envelope and the formation of centrosomes at the poles of the cell. During metaphase, the cell's chromosomes are moved to the center of the cell. A checkpoint ensures that the chromosomes are properly aligned on the center and halts the cell cycle if any errors have occurred. In anaphase, chromosomes break apart at their center, or centromere, and sister chromatids move to opposite ends of the cell. Lastly, telophase and cytokinesis occur as nuclear membranes form to physically divide the cell into two new daughter cells. Chromosomes also unwind into loose chromatin during this part of mitosis. Cytokinesis is defined as the division of the each cell's cytoplasm and organelles. At the conclusion of the cell cycle, two genetically identical daughter cells have formed.

The cell cycle operates by a series of checkpoints and external cues. This system of checks enables the cell to enter a state of dormancy known as the gap zero phase when conditions or other factors inhibit the cell cycle. Conversely, unregulated and uncontrolled cellular division can occur under certain circumstances. A cell in a state of uncontrolled division is known to be cancerous. Lastly, cells have the ability to mediate their own death by way of apoptosis if certain genetic or physical abnormalities exist. The cell cycle is a complex process that enables cells to replicate and proliferate under a stringent set of checks and balances that produce healthy and viable daughter cells that are each able to perform the process in the future.

Which of the following is a characteristic of a cancerous cell?

- A. It prevents other cells from moving past the checkpoints in the cell cycle.
- B. It divides uncontrollably.
- C. It spends much more time in interphase than do other cells.
- D. Its chromatin does not condense into chromosomes.

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:



Cancerous cells divide uncontrollably. This information is conveyed in the last paragraph, when the passage says, "The cell cycle operates by a series of checkpoints and external cues. This system of checks enables the cell to enter a state of dormancy known as the gap zero phase when conditions or other factors inhibit the cell cycle. Conversely, unregulated and uncontrolled cellular division can occur under certain circumstances. A cell in a state of uncontrolled division is known to be cancerous." From this part of the passage, we can tell that a cell "in a state of uncontrolled division" is cancerous.

**QUESTION 1128** "The Cell Cycle" by  
Joseph Ritchie (2014)

The process by which cells divide and multiply is known as the cell cycle. This cycle consists of two main phases: interphase and mitosis. Each phase consists of a series of clearly defined and observable steps. At the conclusion of the cycle, each parent cell produces two genetically identical daughter cells that may also replicate by proceeding through the cell cycle.

Roughly ninety percent of the cell cycle is spent in interphase. Interphase is comprised of three main steps: the first gap phase, the synthesis phase (also called "S phase"), and the second gap phase. The initial gap phase is a period of cellular preparation in which the cell increases in size and readies itself for DNA synthesis. In the synthesis phase, or S phase, DNA replication occurs, so that when the cell divides, each daughter cell will have the DNA necessary to function properly. In the second gap phase, the cell grows in size and prepares for cellular division in the mitotic phase. At the end of each gap phase, the cell has to pass a regulatory checkpoint to ensure that nothing is going wrong. If anything has gone wrong, the checkpoints stop the cell from proceeding through the cell cycle any further.

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Prometaphase is marked by the breakdown of the cell's nuclear envelope and the formation of centrosomes at the poles of the cell. During metaphase, the cell's chromosomes are moved to the center of the cell. A checkpoint ensures that the chromosomes are properly aligned on the center and halts the cell cycle if any errors have occurred. In anaphase, chromosomes break apart at their center, or centromere, and sister chromatids move to opposite ends of the cell. Lastly, telophase and cytokinesis occur as nuclear membranes form to physically divide the cell into two new daughter cells. Chromosomes also unwind into loose chromatin during this part of mitosis. Cytokinesis is defined as the division of the each cell's cytoplasm and organelles. At the conclusion of the cell cycle, two genetically identical daughter cells have formed.

The cell cycle operates by a series of checkpoints and external cues. This system of checks enables the cell to enter a state of dormancy known as the gap zero phase when conditions or other factors inhibit the cell cycle. Conversely, unregulated and uncontrolled cellular division can occur under certain circumstances. A cell in a state of uncontrolled division is known to be cancerous. Lastly, cells have the ability to mediate their own death by way of apoptosis if certain genetic or physical abnormalities exist. The cell cycle is a complex process that enables cells to replicate and proliferate under a stringent set of checks and balances that produce healthy and viable daughter cells that are each able to perform the process in the future.

During anaphase, chromosomes break apart into \_\_\_\_\_.

- A. Sister chromatids
- B. Nuclear membranes

- C. Chromatin
- D. Centromeres

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

In the third paragraph, the passage states, "In anaphase, chromosomes break apart at their center, or centromere, and sister chromatids move to opposite ends of the cell," so chromosomes break apart into sister chromatids.

**QUESTION 1129** "The Cell Cycle" by Joseph Ritchie (2014)

The process by which cells divide and multiply is known as the cell cycle. This cycle consists of two main phases: interphase and mitosis. Each phase consists of a series of clearly defined and observable steps. At the conclusion of the cycle, each parent cell produces two genetically identical daughter cells that may also replicate by proceeding through the cell cycle.

Roughly ninety percent of the cell cycle is spent in interphase. Interphase is comprised of three main steps: the first gap phase, the synthesis phase (also called "S phase"), and the second gap phase. The initial gap phase is a period of cellular preparation in which the cell increases in size and readies itself for DNA synthesis. In the synthesis phase, or S phase, DNA replication occurs, so that when the cell divides, each daughter cell will have the DNA necessary to function properly. In the second gap phase, the cell grows in size and prepares for cellular division in the mitotic phase. At the end of each gap phase, the cell has to pass a regulatory checkpoint to ensure that nothing is going wrong. If anything has gone wrong, the checkpoints stop the cell from proceeding through the cell cycle any further.

The next part of the cell cycle is mitosis. Mitosis is a form of cell division and is broken down into five distinct phases. During prophase, the genetic material contained in the cell's chromatin condenses into distinct chromosomes.

Prometaphase is marked by the breakdown of the cell's nuclear envelope and the formation of centrosomes at the poles of the cell. During metaphase, the cell's chromosomes are moved to the center of the cell. A checkpoint ensures that the chromosomes are properly aligned on the center and halts the cell cycle if any errors have occurred. In anaphase, chromosomes break apart at their center, or centromere, and sister chromatids move to opposite ends of the cell. Lastly, telophase and cytokinesis occur as nuclear membranes form to physically divide the cell into two new daughter cells. Chromosomes also unwind into loose chromatin during this part of mitosis. Cytokinesis is defined as the division of the each cell's cytoplasm and organelles. At the conclusion of the cell cycle, two genetically identical daughter cells have formed.

The cell cycle operates by a series of checkpoints and external cues. This system of checks enables the cell to enter a state of dormancy known as the gap zero phase when conditions or other factors inhibit the cell cycle. Conversely, unregulated and uncontrolled cellular division can occur under certain circumstances. A cell in a state of uncontrolled division is known to be cancerous. Lastly, cells have the ability to mediate their own death by way of apoptosis if certain genetic or physical abnormalities exist. The cell cycle is a complex process that enables cells to replicate and proliferate under a stringent set of checks and balances that produce healthy and viable daughter cells that are each able to perform the process in the future.

What are the products of interphase and mitosis?

- A. Four genetically similar gametes
- B. Four genetically identical gametes
- C. Two genetically identical daughter cells
- D. Two genetically different daughter cells

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The passage states multiple times that the products of the cell cycle are two genetically identical daughter cells. Gametes are sex cells generated in a different cellular process called meiosis; they are not mentioned in the passage and the answer choices that refer to them are each incorrect.

**QUESTION 1130**

"The Cell Cycle" by Joseph Ritchie (2014)

The process by which cells divide and multiply is known as the cell cycle. This cycle consists of two main phases: interphase and mitosis. Each phase consists of a series of clearly defined and observable steps. At the conclusion of the cycle, each parent cell produces two genetically identical daughter cells that may also replicate by proceeding through the cell cycle.

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telophase and cytokinesis occur as nuclear membranes form to physically divide the cell into two new daughter cells. Chromosomes also unwind into loose chromatin during this part of mitosis. Cytokinesis is defined as the division of the each cell's cytoplasm and organelles. At the conclusion of the cell cycle, two genetically identical daughter cells have formed. The cell cycle operates by a series of checkpoints and external cues. This system of checks enables the cell to enter a state of dormancy known as the gap zero phase when conditions or other factors inhibit the cell cycle. Conversely, unregulated and uncontrolled cellular division can occur under certain circumstances. A cell in a state of uncontrolled division is known to be cancerous. Lastly, cells have the ability to mediate their own death by way of apoptosis if certain genetic or physical abnormalities exist. The cell cycle is a complex process that enables cells to replicate and proliferate under a stringent set of checks and balances that produce healthy and viable daughter cells that are each able to perform the process in the future.

When will a cell enter the gap zero phase?

- A. When conditions or other factors inhibit the cell cycle
- B. Cells are always in gap zero phase
- C. Only when it is about to go through apoptosis
- D. When it needs to move through the cell cycle more quickly

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The last paragraph begins, "The cell cycle operates by a series of checkpoints and external cues. This system of checks enables the cell to enter a state of dormancy known as the gap zero phase when conditions or other factors inhibit the cell cycle." So, the correct answer is "when conditions or other factors inhibit the cell cycle."

**QUESTION 1131** "The Cell Cycle" by Joseph Ritchie (2014)

The process by which cells divide and multiply is known as the cell cycle. This cycle consists of two main phases: interphase and mitosis. Each phase consists of a series of clearly defined and observable steps. At the conclusion of the cycle, each parent cell produces two genetically identical daughter cells that may also replicate by proceeding through the cell cycle.

Roughly ninety percent of the cell cycle is spent in interphase. Interphase is comprised of three main steps: the first gap phase, the synthesis phase (also called "S phase"), and the second gap phase. The initial gap phase is a period of cellular preparation in which the cell increases in size and readies itself for DNA synthesis. In the synthesis phase, or S phase, DNA replication occurs, so that when the cell divides, each daughter cell will have the DNA necessary to function properly. In the second gap phase, the cell grows in size and prepares for cellular division in the mitotic phase. At the end of each gap phase, the cell has to pass a regulatory checkpoint to ensure that nothing is going wrong. If anything has gone wrong, the checkpoints stop the cell from proceeding through the cell cycle any further.

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The cell cycle operates by a series of checkpoints and external cues. This system of checks enables the cell to enter a state of dormancy known as the gap zero phase when conditions or other factors inhibit the cell cycle. Conversely, unregulated and uncontrolled cellular division can occur under certain circumstances. A cell in a state of uncontrolled division is known to be cancerous. Lastly, cells have the ability to mediate their own death by way of apoptosis if certain genetic or physical abnormalities exist. The cell cycle is a complex process that enables cells to replicate and proliferate under a stringent set of checks and balances that produce healthy and viable daughter cells that are each able to perform the process in the future.

What is the purpose of interphase?

- A. The purpose of interphase is to prepare and check environmental conditions to ensure successful cellular division.
- B. All of the choices are correct.
- C. The purpose of interphase is to promote cellular growth and preparation for division.
- D. The purpose of interphase is to produce replicated and synthesized DNA for cell division.

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Interphase is the stage of the cell cycle that prepares the cell for mitosis, produces replicated and synthesized DNA for cell division, and checks the environment for a successful division. The second paragraph explains this in detail. Ninety percent of the cycle is spent in interphase because it is very important in order to determine the success of division. Interphase does all these things and more.



**QUESTION 1132**

Adapted from Volume Four of The Natural History of Animals: The Animal Life of the World in Its Various Aspects and Relations by James Richard Ainsworth Davis (1903)

The examples of protective resemblance so far quoted are mostly permanent adaptations to one particular sort of surrounding. There are, however, numerous animals which possess the power of adjusting their color more or less rapidly so as to harmonize with a changing environment.

Some of the best known of these cases are found among those mammals and birds that inhabit countries more or less covered with snow during a part of the year. A good instance is afforded by the Irish or variable hare, which is chiefly found in Ireland and Scotland. In summer, this looks very much like an ordinary hare, though rather grayer in tint and smaller in size, but in winter it becomes white with the exception of the black tips to the ears. Investigations that have been made on the closely allied American hare seem to show that the phenomenon is due to the growth of new hairs of white hue.

The common stoat is subject to similar color change in the northern parts of its range. In summer it is of a bright reddish brown color with the exception of the under parts, which are yellowish white, and the end of the tail, which is black. But in winter, the entire coat, save only the tip of the tail, becomes white, and in that conditions the animal is known as an ermine. A similar example is afforded by the weasel. The seasonal change in the vegetarian Irish hare is purely of protective character, but in such an actively carnivorous creature as a stoat or weasel, it is aggressive as well, rendering the animal inconspicuous to its prey.

A stoat might also be called \_\_\_\_\_.

- A. an ermine, depending on its fur color
- B. an ermine, depending on where it lives
- C. a weasel, depending on where it lives
- D. a weasel, depending on its fur color
- E. a weasel, depending on what it eats

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The passage's last paragraph provides the information we need to answer this question. The paragraph begins by describing "the common stoat." Eventually, it says, "But in winter, the entire coat, save only the tip of the tail, becomes white, and in that conditions the animal is known as an ermine." While this sentence is followed by "A similar example is afforded by the weasel," this means that the weasel is another example of an animal that changes its fur color, not that a stoat can be called a weasel. It means that a weasel is a distinct type of animal. The correct answer is that a stoat might also be called "an ermine, depending on its fur color."

**QUESTION 1133**

Adapted from "Feathers of Sea Birds and Wild Fowl for Bedding" from The Utility of Birds by Edward Forbush (ed. 1922)

In the colder countries of the world, the feathers and down of waterfowl have been in great demand for centuries as filling for beds and pillows. Such feathers are perfect non-conductors of heat, and beds, pillows, or coverlets filled with them represent the acme of comfort and durability. The early settlers of New England saved for such purposes the feathers and down from the thousands of wild-fowl which they killed, but as the population increased in numbers, the quantity thus furnished was insufficient, and the people sought a larger supply in the vast colonies of ducks and geese along the Labrador coast.

The manner in which the feathers and down were obtained, unlike the method practiced in Iceland, did not tend to conserve and protect the source of supply. In Iceland, the people have continued to receive for many years a considerable income by collecting eider down, but there they do not "kill the goose that lays the golden eggs." Ducks line their nests with down plucked from their own breasts and that of the eider is particularly valuable for bedding. In Iceland, these birds are so carefully protected that they have become as tame and unsuspicious as domestic fowls In North America. Where they are constantly hunted they often conceal their nests in the midst of weeds or bushes, but in Iceland, they make their nests and deposit their eggs in holes dug for them in the sod. A supply of the ducks is maintained so that the people derive from them an annual income.

In North America, quite a different policy was pursued. The demand for feathers became so great in the New England colonies about the middle of the eighteenth century that vessels were fitted out there for the coast of Labrador for the express purpose of securing the feathers and down of wild fowl. Eider down having become valuable and these ducks being in the habit of congregating by thousands on barren islands of the Labrador coast, the birds became the victims of the ships' crews. As the ducks molt all their primary feathers at once in July or August and are then quite incapable of flight and the young birds are unable to fly until well grown, the hunters were able to surround the helpless birds, drive them together, and kill them with clubs. Otis says that millions of wildfowl were thus destroyed and that in a few years their haunts were so broken up by this wholesale slaughter and their numbers were so diminished that feather voyages became unprofitable and were given up.

This practice, followed by the almost continual eggging, clubbing, shooting, etc. by Labrador fishermen, may have been a chief factor in the extinction of the Labrador duck, that species of supposed restricted breeding range. No doubt had the eider duck been restricted in its breeding range to the islands of Labrador, it also would have been exterminated long ago.

What caused the Labrador feather voyages to cease?

- A. The ducks changed their migration pattern significantly.
- B. The ducks began producing feathers of significantly lower quality.
- C. The island's ecosystem shifted to support a larger population of bears, making the voyages too dangerous to be worthwhile.
- D. The ducks relocated to an inaccessible island.
- E. So many ducks were killed that the voyages became unprofitable.

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

This question is answered by a sentence at the end of the passage's third paragraph: "Otis says that millions of wildfowl were thus destroyed and that in a few years their haunts were so broken up by this wholesale slaughter and their numbers were so diminished that feather voyages became unprofitable and were given up." The correct answer is thus "So many ducks were killed that the voyages became unprofitable."

**QUESTION 1134**

Adapted from "Recent Views as to Direct Action of Light on the Colors of Flowers and Fruits" in Tropical Nature, and Other Essays by Alfred Russel Wallace (1878)

The theory that the brilliant colors of flowers and fruits is due to the direct action of light has been supported by a recent writer by examples taken from the arctic instead of from the tropical flora. In the arctic regions, vegetation is excessively rapid during the short summer, and this is held to be due to the continuous action of light throughout the long summer days. "The further we advance towards the north, the more the leaves of plants increase in size as if to absorb a greater proportion of the solar rays. M. Grisebach says that during a journey in Norway he observed that the majority of deciduous trees had already, at the 60th degree of latitude, larger leaves than in Germany, while M. Ch. Martins has made a similar observation as regards the leguminous plants cultivated in Lapland." The same writer goes on to say that all the seeds of cultivated plants acquire a deeper color the further north they are grown, white haricots becoming brown or black, and white wheat becoming brown, while the green color of all vegetation becomes more intense. The flowers also are similarly changed: those which are white or yellow in central Europe becoming red or orange in Norway. This is what occurs in the Alpine flora, and the cause is said to be the same in both – the greater intensity of the sunlight. In the one the light is more persistent, in the other more intense because it traverses a less thickness of atmosphere.

Admitting the facts as above stated to be in themselves correct, they do not by any means establish the theory founded on them; and it is curious that Grisebach, who has been quoted by this writer for the fact of the increased size of the foliage, gives a totally different explanation of the more vivid colors of Arctic flowers. He says, "We see flowers become larger and more richly colored in proportion as, by the increasing length of winter, insects become rarer, and their cooperation in the act of fecundation is exposed to more uncertain chances." (Vegetation du Globe, col. i. p. 61 – French translation.) This is the theory here adopted to explain the colors of Alpine plants, and we believe there are many facts that will show it to be the preferable one. The statement that the white and yellow flowers of temperate Europe become red or golden in the Arctic regions must we think be incorrect. By roughly tabulating the colors of the plants given by Sir Joseph Hooker as permanently Arctic, we find among fifty species with more or less conspicuous flowers, twenty-five white, twelve yellow, eight purple or blue, three lilac, and two red or pink; showing a very similar proportion of white and yellow flowers to what obtains further south.

According to the "recent writer" quoted in the first paragraph, what are the two factors that affect light intensity?

- A. Cloud cover and persistence
- B. Temperature and moisture levels
- C. Thickness of atmosphere and cloud cover
- D. Persistence and thickness of atmosphere
- E. Opacity of medium the light is passing through and temperature

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The answer to this question is provided in the last two sentences of the first paragraph, where the "recent writer" is being quoted as stating, "This is what occurs in the Alpine flora, and the cause is said to be the same in both – the greater intensity of the sunlight. In the one the light is more persistent, in the other more intense because it traverses a less thickness of atmosphere." So, the correct answer is "persistence and thickness of atmosphere." While many of the other answer choices may sound plausible, it is important to rely on what is presented in the passage when answering questions like this.

**QUESTION 1135**

Adapted from "Recent Views as to Direct Action of Light on the Colors of Flowers and Fruits" in Tropical Nature, and Other Essays by Alfred Russel Wallace (1878)

The theory that the brilliant colors of flowers and fruits is due to the direct action of light has been supported by a recent writer by examples taken from the arctic instead of from the tropical flora. In the arctic regions, vegetation is excessively rapid during the short summer, and this is held to be due to the continuous action of light throughout the long summer days. "The further we advance towards the north, the more the leaves of plants increase in size as if to absorb a greater proportion of the solar rays. M. Grisebach says that during a journey in Norway he observed that the majority of deciduous trees had already, at the 60th degree of latitude, larger leaves than in Germany, while M. Ch. Martins has made a similar observation as regards the leguminous plants cultivated in Lapland." The same writer goes on to say that all the seeds of cultivated plants acquire a deeper color the further north they are grown, white haricots becoming brown or black, and white wheat becoming brown, while the green color of all vegetation becomes more intense. The flowers also are similarly changed: those which are white or yellow in central Europe becoming red or orange in Norway. This is what occurs in the Alpine flora, and the cause is said to be the same in both – the greater intensity of the sunlight. In the one the light is more persistent, in the other more intense because it traverses a less thickness of atmosphere.

Admitting the facts as above stated to be in themselves correct, they do not by any means establish the theory founded on them; and it is curious that Grisebach, who has been quoted by this writer for the fact of the increased size of the foliage, gives a totally different explanation of the more vivid colors of Arctic flowers. He says, "We see flowers become larger and more richly colored in proportion as, by the increasing length of winter, insects become rarer, and their cooperation in the act of fecundation is exposed to more uncertain chances." (Vegetation du Globe, col. i. p. 61–French translation.) This is the theory here adopted to explain the colors of Alpine plants, and we believe there are many facts that will show it to be the preferable one. The statement that the white and yellow flowers of temperate Europe become red or golden in the Arctic regions must we think be incorrect. By roughly tabulating the colors of the plants given by Sir Joseph Hooker as permanently Arctic, we find among fifty species with more or less conspicuous flowers, twenty-five white, twelve yellow, eight purple or blue, three lilac, and two red or pink; showing a very similar proportion of white and yellow flowers to what obtains further south.

The "recent writer" quoted in the first paragraph believes that \_\_\_\_\_.

- A. light is less persistent in the north than in the south



- B. because light continuously shines on arctic plants during the summer, they grow very quickly
- C. M. Ch. Martins' theory is incorrect
- D. the green color of plants becomes more intense in the south
- E. cultivated flowers have lighter colors in the south and darker colors in the north

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Answering this question requires you to read the first paragraph very closely and to go back and figure out what exactly the "recent writer" is asserting, whether or not the author of the passage agrees with those assertions. Let's consider each of the answer choices one by one:

"M. Ch. Martins' theory is incorrect" – This cannot be the correct answer, as the "recent writer" is quoted as mentioning M. Ch. Martins to bolster his own assertion about leaf size and latitude.

"light is less persistent in the north than in the south" – This cannot be the correct answer because the author, in referring to the "recent writer," says that "the same writer goes on to say that all the seeds of cultivated plants acquire a deeper color the further north they are grown . . . This is what occurs in the Alpine flora, and the cause is said to be the same in both – the greater intensity of the sunlight."

"the green color of plants becomes more intense in the south" – This answer choice cannot be correct because the author, in discussing the "recent writer," says, "The same writer goes on to say that all the seeds of cultivated plants acquire a deeper color the further north they are grown, white haricots becoming brown or black, and white wheat becoming brown, while the green color of all vegetation becomes more intense."

"because light continuously shines on arctic plants during the summer, they grow very quickly" – The author states, "In the arctic regions, vegetation is excessively rapid during the short summer, and this is held to be due to the continuous action of light throughout the long summer days." Note that this isn't presented as a belief of the "recent writer," but instead as a statement of fact, so this answer choice couldn't be correct for that reason also.

"cultivated flowers have lighter colors in the south and darker colors in the north" – This is the correct answer! We can find evidence supporting it in that the author says (discussing the "recent writer") "The same writer goes on to say that all the seeds of cultivated plants acquire a deeper color the further north they are grown, white haricots becoming brown or black, and white wheat becoming brown, while the green color of all vegetation becomes more intense."

#### QUESTION 1136

Adapted from "Taking a Second Look: An Analysis of Genetic Markers in Species Relatedness" by Joseph Ritchie (2014)

Phylogenetics is the study of genetic composition in various species and is used by evolutionary biologists to investigate similarities in the molecular sequences of proteins in varying organisms. The amino acid sequences that build proteins are used to construct mathematical matrices that aid in determining evolutionary ties through the investigation of percentage similarities. The study of these matrices helps to expose evolutionary relationships between species that may not have the same overt characteristics.

Species adapt and evolve based on the pressures that exist in their environment. Climate, food source, and habitat availability are only a few factors that act on species adaptation. These stressors can alter the physical characteristics of organisms. This divergence in evolution has made it difficult to determine the interrelatedness of organisms by analyzing their physical characteristics alone.

For instance, looking only at physical characteristics, the ghost bat resembles a pigeon more than a spider monkey; however, phylogenetics has found that the amino acid sequences that construct the beta hemoglobin molecules of bats are twenty percent more similar to those of mammalian primates than those of birds. This helps reject the assumption that common physical characteristics between species are all that is needed to determine relatedness.

The differences produced by divergent evolution observed in the forest-dwelling, arboreal spider monkey and the nocturnal, airborne ghost bat can be reconciled through homology. Homologous characteristics are anatomical traits that are similar in two or more different species. For instance, the bone structure of a spider monkey's wrist and fingers greatly resembles that of a bat's wing or even a whale's fin. These similarities are reinforced by phylogenetic evidence that supports the idea that physically dissimilar species can be evolutionarily related through anatomical and genetic similarities.

Which of the following choices represents the primary difficulty encountered in studies of interrelatedness based on physical features?

- A. Physical fitness
- B. Lack of fossil evidence
- C. Climatic conditions
- D. Divergent evolution
- E. Complexity of beta hemoglobin

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Divergent evolution is stated as the primary reason that physical appearances can change between species while genetic structure remains markedly similar. The passage states that this is an issue for those who study species evolution because some species may appear to be dissimilar in appearance but contain genetic commonalities.

#### QUESTION 1137

Adapted from "Taking a Second Look: An Analysis of Genetic Markers in Species Relatedness" by Joseph Ritchie (2014)

Phylogenetics is the study of genetic composition in various species and is used by evolutionary biologists to investigate similarities in the molecular sequences of proteins in varying organisms. The amino acid sequences that build proteins are used to construct mathematical matrices that aid in determining evolutionary ties through the investigation of percentage similarities. The study of these matrices helps to expose evolutionary relationships between species that may not have the same overt characteristics.

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The anatomical similarities between a horse's legs and a seal's flippers are best explained by which of the following?

- A. Evolutionary adaptation
- B. Homology
- C. Coincidence
- D. Collusion

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Paragraph four states that homology explains the anatomical similarities between a bat's wing and a whale's flipper. It would be reasonable to assume that homology could also explain the anatomical similarities between a horse's legs and a seal's flippers.

#### QUESTION 1138

Adapted from "Taking a Second Look: An Analysis of Genetic Markers in Species Relatedness" by Joseph Ritchie (2014)

Phylogenetics is the study of genetic composition in various species and is used by evolutionary biologists to investigate similarities in the molecular sequences of proteins in varying organisms. The amino acid sequences that build proteins are used to construct mathematical matrices that aid in determining evolutionary ties through the investigation of percentage similarities. The study of these matrices helps to expose evolutionary relationships between species that may not have the same overt characteristics.

Species adapt and evolve based on the pressures that exist in their environment. Climate, food source, and habitat availability are only a few factors that act on species adaptation. These stressors can alter the physical characteristics of organisms. This divergence in evolution has made it difficult to determine the interrelatedness of organisms by analyzing their physical characteristics alone.

For instance, looking only at physical characteristics, the ghost bat resembles a pigeon more than a spider monkey; however, phylogenetics has found that the amino acid sequences that construct the beta hemoglobin molecules of bats are twenty percent more similar to those of mammalian primates than those of birds. This helps reject the assumption that common physical characteristics between species are all that is needed to determine relatedness.

The differences produced by divergent evolution observed in the forest-dwelling, arboreal spider monkey and the nocturnal, airborne ghost bat can be reconciled through homology. Homologous characteristics are anatomical traits that are similar in two or more different species. For instance, the bone structure of a spider monkey's wrist and fingers greatly resembles that of a bat's wing or even a whale's fin. These similarities are reinforced by phylogenetic evidence that supports the idea that physically dissimilar species can be evolutionarily related through anatomical and genetic similarities.

According to the passage, which of the following is an environmental pressure that can result in species adaptation and evolution?

- A. Physical characteristics
- B. Climate
- C. Predation
- D. Competition

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

"Climate" is the only answer choice supported by the passage. The passage states that "climate," "food source," and "habitat availability" are environmental pressures that may cause adaptations. The choice "physical characteristics" is incorrect because they change as a result to these pressures.

#### QUESTION 1139

Adapted from "Taking a Second Look: An Analysis of Genetic Markers in Species Relatedness" by Joseph Ritchie (2014)

Phylogenetics is the study of genetic composition in various species and is used by evolutionary biologists to investigate similarities in the molecular sequences of proteins in varying organisms. The amino acid sequences that build proteins are used to construct mathematical matrices that aid in determining evolutionary ties through the investigation of percentage similarities. The study of these matrices helps to expose evolutionary relationships between species that may not have the same overt characteristics.

Species adapt and evolve based on the pressures that exist in their environment. Climate, food source, and habitat availability are only a few factors that act on species adaptation. These stressors can alter the physical characteristics of organisms. This divergence in evolution has made it difficult to determine the interrelatedness of organisms by analyzing their physical characteristics alone.

For instance, looking only at physical characteristics, the ghost bat resembles a pigeon more than a spider monkey; however, phylogenetics has found that the amino acid sequences that construct the beta hemoglobin molecules of bats are twenty percent more similar to those of mammalian primates than those of birds. This helps reject the assumption that common physical characteristics between species are all that is needed to determine relatedness.

The differences produced by divergent evolution observed in the forest-dwelling, arboreal spider monkey and the nocturnal, airborne ghost bat can be reconciled through homology. Homologous characteristics are anatomical traits that are similar in two or more different species. For instance, the bone structure of a spider monkey's wrist and fingers greatly resembles that of a bat's wing or even a whale's fin. These similarities are reinforced by phylogenetic evidence that supports the idea that physically dissimilar species can be evolutionarily related through anatomical and genetic similarities.

According to the passage, which of the following does a bat most physically resemble?

- A. Whale
- B. Spider monkey
- C. Owl
- D. Pigeon

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

According to paragraph three, the ghost bat most physically resembles a pigeon. This content of the passage seeks to disprove this observation, as a bat is genetically more closely related to a monkey or whale than a winged bird.

#### QUESTION 1140

Adapted from The Effects of Cross & Self-Fertilisation in the Vegetable Kingdom by Charles Darwin (1876)

As it is impossible to exclude such minute pollen-carrying insects as Thrips, flowers which it was intended to fertilize with their own pollen may sometimes have been afterwards crossed with pollen brought by these insects from another flower on the same plant; but as we shall hereafter see, a cross of this kind does not produce any effect, or at most only a slight one. When two or more plants were placed near one another under the same net, as was often done, there is some real though not great danger of the flowers which were believed to be self-fertilized being afterwards crossed with pollen brought by Thrips from a distinct plant. I have said that the danger is not great because I have often found that plants which are self-sterile, unless aided by insects, remained sterile when several plants of the same species were placed under the same net. If, however, the flowers which had been presumably self-fertilized by me were in any case afterwards crossed by Thrips with pollen brought from a distinct plant, crossed seedlings would have been included amongst the self-fertilized; but it should be especially observed that this occurrence would tend to diminish and not to increase any superiority in average height, fertility, etc., of the crossed over the self-fertilized plants.

As the flowers which were crossed were never castrated, it is probable or even almost certain that I sometimes failed to cross-fertilize them effectually, and that they were afterwards spontaneously self-fertilized. This would have been most likely to occur with dichogamous species, for without much care it is not easy to perceive whether their stigmas are ready to be fertilized when the anthers open. But in all cases, as the flowers were protected from wind, rain, and the access of insects, any pollen placed by me on the stigmatic surface whilst it was immature, would generally have remained there until the stigma was mature; and the flowers would then have been crossed as was intended. Nevertheless, it is highly probable that self-fertilized seedlings have sometimes by this means got included amongst the crossed seedlings. The effect would be, as in the former case, not to exaggerate but to diminish any average superiority of the crossed over the self-fertilized plants.

Errors arising from the two causes just named, and from others, – such as some of the seeds not having been thoroughly ripened, though care was taken to avoid this error – the sickness or unperceived injury of any of the plants, – will have been to a large extent eliminated, in those cases in which many crossed and self-fertilized plants were measured and an average struck. Some of these causes of error will also have been eliminated by the seeds having been allowed to germinate on bare damp sand, and being planted in pairs; for it is not likely that ill-matured and well-matured, or diseased and healthy seeds, would germinate at exactly the same time. The same result will have been gained in the several cases in which only a few of the tallest, finest, and healthiest plants on each side of the pots were measured.

Kolreuter and Gartner have proved that with some plants several, even as many as from fifty to sixty, pollen-grains are necessary for the fertilization of all the ovules in the ovary. Naudin also found in the case of *Mirabilis* that if only one or two of its very large pollen-grains were placed on the stigma, the plants raised from such seeds were dwarfed. I was therefore careful to give an amply sufficient supply of pollen, and generally covered the stigma with it; but I did not take any special pains to place exactly the same amount on the stigmas of the self-fertilized and crossed flowers. After having acted in this manner during two seasons, I remembered that Gartner thought, though without any direct evidence, that an excess of pollen was perhaps injurious. It was therefore necessary to ascertain whether the fertility of the flowers was affected by applying a rather small and an extremely large quantity of pollen to the stigma. Accordingly a very small mass of pollen-grains was placed on one side of the large stigma in sixty-four flowers of *Ipomoea purpurea*, and a great mass of pollen over the whole surface of the stigma in sixty-four other flowers. In order to vary the experiment, half the flowers of both lots were on plants produced from self-fertilized seeds, and the other half on plants from crossed seeds. The sixty-four flowers with an excess of pollen yielded sixty-one capsules; and excluding four capsules, each of which contained only a single poor seed, the remainder contained on an average 5.07 seeds per capsule. The sixty-four flowers with only a little pollen placed on one side of the stigma yielded sixty-three capsules, and excluding one from the same cause as before, the remainder contained on an average 5.129 seeds. So that the flowers fertilized with little pollen yielded rather more capsules and seeds than did those fertilized with an excess; but the difference is too slight to be of any significance. On the other hand, the seeds produced by the flowers with an excess of pollen were a little heavier of the two; for 170 of them weighed 79.67 grains, whilst 170 seeds from the flowers with very little pollen weighed 79.20 grains. Both lots of seeds having been placed on damp sand presented no difference in their rate of germination. We may therefore conclude that my experiments were not affected by any slight difference in the amount of pollen used; a sufficiency having been employed in all cases.

Based on the passage, a purpose for the damp sand was to \_\_\_\_\_.

- A. allow thorough drainage for the seedlings
- B. give the author the ability to see the pairs of seeds during germination

- C. allow healthy seeds to avoid diseased ones
- D. ward off insects such as Thrips
- E. eliminate errors which occur during germination

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

In the third paragraph, the line “Some of these causes of error will also have been eliminated by the seeds having been allowed to germinate on bare damp sand” suggests that one potential purpose of using bare damp sand instead of soil was to protect against some of the errors which could have otherwise occurred.

**QUESTION 1141** "Interpreting the Copernican Revolution" by  
Matthew Minerd (2014)

The expressions of one discipline can often alter the way that other subjects understand themselves. Among such cases are numbered the investigations of Nicolaus Copernicus. Copernicus is best known for his views concerning heliocentrism, a view which eventually obliterated many aspects of the ancient/medieval worldview, at least from the standpoint of physical science. It had always been the natural view of mankind that the earth stood at the center of the universe, a fixed point in reference to the rest of the visible bodies. The sun, stars, and planets all rotated around the earth.

With time, this viewpoint became one of the major reference points for modern life. It provided a provocative image that was used – and often abused – by many people for various purposes. For those who wished to weaken the control of religion on mankind, it was said that the heliocentric outlook proved man’s insignificance. In contrast with earlier geocentrism, heliocentrism was said to show that man is not the center of the universe. He is merely one small being in the midst of a large cosmos. However, others wished to use the “Copernican Revolution” in a very different manner. These thinkers wanted to show that there was another “recentering” that had to happen. Once upon a time, we talked about the world. Now, however, it was necessary to talk of man as the central reference point. Just as the solar system was “centered” on the sun, so too should the sciences be centered on the human person.

However, both of these approaches are fraught with problems. Those who wished to undermine the religious mindset rather misunderstood the former outlook on the solar system. The earlier geocentric mindset did not believe that the earth was the most important body in the heavens. Instead, many ancient and medieval thinkers believed that the highest “sphere” above the earth was the most important being in the physical universe. Likewise, the so-called “Copernican Revolution” in physics was different from the one applied to the human person. Copernicus’ revolution showed that the human point of view was not the center, whereas the later forms of “Copernican revolution” wished to show just the opposite.

Of course, there are many complexities in the history of such important changes in scientific outlook. Nevertheless, it is fascinating to see the wide-reaching effects of such discoveries, even when they have numerous, ambiguous effects.

What can we say of the effects of Copernicus’ discoveries on the reigning medieval way of looking at the world?

- A. It only affected the ideas concerning the human person in comparison with the vast universe.
- B. It required significant changes in its natural science and its manner of considering the human person.
- C. It questioned every received authority with detailed critiques.
- D. It had little effect in the final analysis.
- E. It completely discredited everything from the Middle Ages.

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Clearly, the theories of Copernicus had significant effects on the medieval mindset. Although the passage does not indicate that it required complete revision on every point, it does imply that it had an effect both on the medieval conception of the human person as well as its scientific conceptions of the world.

**QUESTION 1142** "Darwinism's Effect on Science" by  
Matthew Minerd (2014)

For much of the history of human thought, the sciences have studied subjects that seemed to be eternal and unchanging. Even the basic laws of the Nile’s flooding were investigated in the hopes of finding never-altering laws. Similarly, the scientific investigations of the ancient Near East and Greece into the regular laws of the stars ultimately looked for constant patterns. This overall pattern of scientific reasoning has left deep marks on the minds of almost all thinkers and found its apotheosis in modern physics. From the time of the early renaissance to the nineteenth century, physics represented the ultimate expression of scientific investigation for almost all thinkers. Its static laws appeared to be the unchanging principles of all motion and life on earth. By the nineteenth century, it had appeared that only a few details had to be “cleared up” before all science was basically known.

In many ways, this situation changed dramatically with the arrival of Darwinism. It would change even more dramatically in early twentieth-century physics as well. Darwin’s theories of evolution challenged many aspects of the “static” worldview. Even those who did not believe that a divine being created an unchanging world were shaken by the new vistas opened up to science by his studies. It had been a long-accepted inheritance of Western culture to believe that the species of living organisms were unchanging in nature. Though there might be many different kinds of creatures, the kinds themselves were not believed to change. The thesis of a universal morphing of types shattered this cosmology, replacing the old world-view with a totally new one. Among the things that had to change in light of Darwin’s work was the very view of science held by most people.

Consider the underlined sentence. What was the new “cosmology” that arose after Darwin’s day?

- A. A completely areligious outlook on life.
- B. The belief that history was an important but secondary aspect of scientific studies.
- C. The view of the world as a changing reality with its own historical nature.
- D. The view of the world as an unchanging whole to be investigated by science.
- E. None of the other answers

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Throughout the second paragraph, the passage discusses again the "static" nature of the former scientific outlook. The new worldview was quite different. You can guess at the meaning of "cosmology" by noticing the contrast between it and "universal morphing of types." A "cosmology" is a particular outlook on the world or reality as a whole. The passage implies that Darwin's work made it necessary to see the world as a changing whole with its own history.

**QUESTION 1143** Adapted from An Introduction to Astronomy by Forest Ray Moulton (1916 ed.)

It is doubtful if any important scientific idea ever sprang suddenly into the mind of a single man. The great intellectual movements in the world have had long periods of preparation, and often many men were groping for the same truth, without exactly seizing it, before it was fully comprehended.

The foundation on which all science rests is the principle that the universe is orderly, and that all phenomena succeed one another in harmony with invariable laws. Consequently, science was impossible until the truth of this principle was perceived, at least as applied to a limited part of nature.

The phenomena of ordinary observation, as, for example, the weather, depend on such a multitude of factors that it was not easy for men in their primitive state to discover that they occur in harmony with fixed laws. This was the age of superstition, when nature was supposed to be controlled by a great number of capricious gods whose favor could be won by childish ceremonies. Enormous experience was required to dispel such errors and to convince men that the universe is one vast organization whose changes take place in conformity with laws which they can in no way alter.

The actual dawn of science was in prehistoric times, probably in the civilizations that flourished in the valleys of the Nile and the Euphrates. In the very earliest records of these people that have come down to modern times it is found that they were acquainted with many astronomical phenomena and had coherent ideas with respect to the motions of the sun, moon, planets, and stars. It is perfectly clear from their writings that it was from their observations of the heavenly bodies that they first obtained the idea that the universe is not a chaos. Day and night were seen to succeed each other regularly, the moon was found to pass through its phases systematically, the seasons followed one another in order, and in fact the more conspicuous celestial phenomena were observed to occur in an orderly sequence. It is to the glory of astronomy that it first led men to the conclusion that law reigns in the universe.

What does this passage imply to be the effect of not understanding the causes of events?

- A. It is one of the greatest sources of ill in societal development.
- B. It was caused by mythology, which distracted people from reality.
- C. None of the other answers
- D. It led to mythological beliefs in other supernatural causes.
- E. It was only overcome by overthrowing all religion in favor of scientific reasoning.

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

In the passage, the author discusses the fact that sometimes cause and effect relationships are difficult to elaborate, particularly when many causes come together to make an effect occur. This often causes people to attribute such complex events to the gods. Although mythology might encourage people to remain ignorant, the passage does not really state that.

**QUESTION 1144** "Comparing Technologies: A Difficult Endeavor" by Matthew Minerd (2014)

Comparisons of technology are often difficult to make, not only because of the rapid pace of improvements but also because of the many new applications that are available as time progresses. If we were to consider the contemporary graphing calculator and the calculation capacities of computing machines from fifty years ago, there would be astounding improvements between these two devices. However, the improvements are not reduced merely to speed improvements. A graphing calculator also has numerous output capacities that far exceed those available much older computers, none of which had the ability to represent their output in any manner even closely resembling that of contemporary devices. Merely consider the display capacities of such a device. These enable users to input many new kinds of information, enabling design engineers to design new hardware functions to match the new means of collecting user input.

The situation is even more obvious when one considers the numerous functions performed by a modern “smartphone.” These devices are equipped with a panoply of features. With all of these new functions come many new types of computational capabilities as well. In order to process images quickly, specialized hardware must be designed and software written for it in order to ensure that there are few issues with the phone's operation. Indeed, the whole “real time”



nature of telecommunications has exerted numerous pressures on the designers of computing devices. Layers of complexity, at all levels of production and development, are required to ensure that the phone can function in a synchronous manner. Gone are the days of asynchronous processing, when the computer user entered data into a mainframe, only to wait for a period of time before the processing results were provided. Today, even the smallest of digital devices must provide seamless service for users. The effects of this requirement are almost beyond number.

What is the effect of the features found on modern “smartphones”?

- A. They wear out old equipment, requiring newer, faster processors.
- B. None of the other answers
- C. They require increased memory capacities to accommodate their advancements.
- D. They overwhelm the customer with options all on one screen.
- E. They require many new types of technological advancements to accommodate them.

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Although the whole of the second paragraph helps to answer this question, a key sentence is, "With all of these new functions come many new types of computational capabilities as well." The effect of the new capabilities is to require many different kinds of new capabilities for the software and hardware of phones. That is, many new technological advances are required in order to make them possible and more efficient.

**QUESTION 1145** "Interpreting the Copernican Revolution" by  
Matthew Minerd (2014)

The expressions of one discipline can often alter the way that other subjects understand themselves. Among such cases are numbered the investigations of Nicolaus Copernicus. Copernicus is best known for his views concerning heliocentrism, a view which eventually obliterated many aspects of the ancient/medieval worldview, at least from the standpoint of physical science. It had always been the natural view of mankind that the earth stood at the center of the universe, a fixed point in reference to the rest of the visible bodies. The sun, stars, and planets all rotated around the earth.

With time, this viewpoint became one of the major reference points for modern life. It provided a provocative image that was used and often abused by many people for various purposes. For those who wished to weaken the control of religion on mankind, it was said that the heliocentric outlook proved man's insignificance. In contrast with earlier geocentrism, heliocentrism was said to show that man is not the center of the universe. He is merely one small being in the midst of a large cosmos. However, others wished to use the “Copernican Revolution” in a very different manner. These thinkers wanted to show that there was another “recentering” that had to happen. Once upon a time, we talked about the world. Now, however, it was necessary to talk of man as the central reference point. Just as the solar system was “centered” on the sun, so too should the sciences be centered on the human person.

However, both of these approaches are fraught with problems. Those who wished to undermine the religious mindset rather misunderstood the former outlook on the solar system. The earlier geocentric mindset did not believe that the earth was the most important body in the heavens. Instead, many ancient and medieval thinkers believed that the highest “sphere” above the earth was the most important being in the physical universe. Likewise, the so-called “Copernican Revolution” in physics was different from the one applied to the human person. Copernicus’ revolution showed that the human point of view was not the center, whereas the later forms of “Copernican revolution” wished to show just the opposite.

Of course, there are many complexities in the history of such important changes in scientific outlook. Nevertheless, it is fascinating to see the wide-reaching effects of such discoveries, even when they have numerous, ambiguous effects.

What does the passage say was the overall effect of the scientific revolution implied in Copernicus' discoveries?

- A. It eliminated the need for former modes of calculating celestial movements.
- B. It had broad implications for the outlooks taken by people in many disciplines.
- C. It forever destroyed the religious outlook on the world.
- D. None of the other answers
- E. It altered scientific reasoning significantly.

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Although Copernicus' discoveries had specific scientific effects, these are not the focus of this passage. From the very beginning of the selection, the passage is discussing the effects that it had on the outlook had by many people particularly as regards the position of the human person in the cosmos. As always, stay as close to the passage as you can, otherwise you will convince yourself that another answer is possible.

**QUESTION 1146**

The large dragon did not notice that its pile of coins was undergoing \_\_\_\_\_ right from under it as the pile dwindled from the steady taking of gold by the town thieves.

- A. looting

- B. burglary
- C. larceny
- D. destruction
- E. diminution

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The key word is “dwindled,” which describes the pile as shrinking. When something shrinks in size, it is said to “diminish” or to undergo “diminution.” These words are likewise related to English words having the prefix “mini” such as “miniature,” “minute,” and “minimal.”

**QUESTION 1147** Because of his impeccable enunciation and vocal tone, Thomas was often asked to be the \_\_\_\_\_ at the town’s yearly reading of the classic Christmas tale.

- A. announcer
- B. mascot
- C. Santa
- D. crier
- E. lector

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Do not be fooled by the “Santa” or “mascot” options, which really have little to do with the description of Thomas’ enunciation and vocal tone. The most tempting trap answer is likely “announcer,” but one does not usually read a tale in the manner of being an announcer. (That type of proclamation more appropriately describes either an introduction to some other thing or the type of speaking done by one conveying some information at an event like a sports match.) The word “lector” literally means “reader.” While it is often used to describe one who reads scriptures in a church service, it does have the more general meaning of “reading.” It is derived from the Latin for “to read” and is related to English words like “legible,” “lectern,” and “lecture.”

**QUESTION 1148**

The children stayed awake in \_\_\_\_\_, awaiting the late night return of their parents from their trip to the mountains.

- A. vigil
- B. pajamas
- C. agitation
- D. fright
- E. exhaustion

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The sentence only implies that the children are staying awake instead of sleeping late at night. When someone keeps awake in this manner, it is called a “vigil.” The term often has religious overtones, for Christian monks would “keep vigil” by praying late at night (or very early in the morning, depending on one’s perspective); however, it has the general sense of being “awake.” When someone is “vigilant,” he or she keeps watch for dangers in a “wakeful” manner.

**QUESTION 1149**

Before attempting to complete advanced studies in a given subject, it is first necessary to make sure that you have mastered its \_\_\_\_\_.

- A. rudiments



- B. stages
- C. epitome
- D. summary
- E. outlines

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The contrast in this sentence is between advanced studies and the basics necessary for them. The basic principles of a subject are called its “rudiments.” Something “rude” is something that is “uncultured” or (closer to its Latin bases) “unshaped” or “unmade.” When something is “rudimentary,” it is basic, not having been subjected to much elaboration and further development.

**QUESTION 1150**

The students decided to undertake an \_\_\_\_\_ in order to explore the unknown tunnels under the school.

- A. entourage
- B. enquiry
- C. explanation
- D. expedition
- E. itinerary

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Since the students are said to be exploring the unknown tunnels and not merely doing research on them, the best option for this sentence is “expedition.” An expedition is a trip organized for a particular goal. It is often used to describe scientific and military outings of this sort, though it has a more general sense as well.

**QUESTION 1151**

On a number of occasions, Sebastian found the world spinning around him as he suffered from a bout of \_\_\_\_\_.

- A. vertigo
- B. infirmity
- C. weakness
- D. disease
- E. spins

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

A “bout” of something is an abrupt incident of some kind of illness or activity. The word “vertigo” is the best option, for it is a condition resulting in a loss of balance and the feeling that the world is spinning. The word “spins” really is just a flippant trap word. Do not be tricked by it. The other options are too general, given that we have the very specific “vertigo.” The word comes from the Latin for “to turn.” A close relative is “vertiginous,” which means “causing vertigo” (such as a high cliff that overwhelms someone looking over its edge). Since it is derived from “to turn,” “vertigo” has many other relatives in English like “convert,” “divert,” “introvert,” and many others.

**QUESTION 1152**

The complex argument had a number of \_\_\_\_\_ upon which it was based.

- A. assumptions
- B. conjectures

- C. derivatives
- D. presuppositions
- E. premises

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The argument is said to be complex, but nothing in the sentence should lead you to think that it is an incorrect argument; therefore, the words “assumptions,” “presuppositions,” and (especially) “conjectures” all convey more than is necessary for completing the sentence. Strictly speaking, the “premises” of an argument are the statements upon which it is based. Since the sentence only implies that there are many such foundational statements, the best option here is “premises.”

**QUESTION 1153**

Although there were a number of variations of the painting, they were all derived from a single \_\_\_\_\_.

- A. artist
- B. image
- C. archetype
- D. masterpiece
- E. picture

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Each of the multiple paintings are considered “derivative” works, meaning that they are “taken from” some preceding work. In this sentence, it is clear that they are all imitations of a single original. Therefore, the most appropriate word here would be “archetype,” meaning (among other things) such an original exemplar from which other like things are derived. The “arche-” prefix means “ancient” or “original,” and “type” means more generally “figure, model, or example.” We sometimes say things like, “The herring is a type of fish,” meaning, “The herring is an example of a fish.”

**QUESTION 1154** The old man had lived all of his life as a \_\_\_\_\_, never settling down but instead following the carnival in order to make a living selling shoes to the clowns.

- A. vagrant
- B. leech
- C. bum
- D. carnie
- E. sluggard

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Do not be fooled by this sentence into thinking that it calls for “carnie.” The man does not work in the carnival but instead follows it to make a living. When someone does not have a regular job but instead travels about to make his or her living, that person is called a “vagrant.” The word is ultimately derived from the Latin for “to wander.” When something is called “vague,” it is implied that it cannot be understood because it “wanders around the topic” without being explicit and direct.

**QUESTION 1155**

Otho saw no reason to act within the boundaries of \_\_\_\_\_, for he found such conventions to be mere social niceties.

- A. edicts
- B. regulations
- C. propriety

- D. laws
- E. culture

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The key thing to note here is that the “rules” that Otho does not obey are described as being “conventions.” Propriety is the characteristic that one has when he or she follows the generally accepted norms of a society. Such generally accepted norms are said to be “conventional” in nature. The word “proper” has a very strong sense in meaning “strictly conforming to something’s form or nature.” This is derived from much older Latin terms in logic and philosophy. Here, “propriety” (which is related to “proper”) is “conformity with the standard of society.”

**QUESTION 1156**

Samantha wanted to make a true \_\_\_\_\_ on the lives of her students and not merely pass the day without influencing their thought or behavior.

- A. inspiration
- B. aggrandizement
- C. impact
- D. uplift
- E. education

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The key expression for this sentence is “without influencing.” In light of the “and not merely,” it is clear that Samantha wishes to have an influence on her students’ lives. Expressed in another manner, she could be said to want to “impact” their lives. By its most direct usage, “impact” means “to strike or hit.” For instance, when a meteor is said to impact the earth. More generally, the word means “to have a strong influence on something else.” This is how the word is being used in the sentence.

**QUESTION 1157** Although most people deprive their body of food for the sake of losing weight, some religious people perform such \_\_\_\_\_ in order to overcome their physical passions.

- A. diets
- B. undertakings
- C. exaltations
- D. mortifications
- E. tasks

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The parallel in this sentence is between the notion of “depriving” and the needed word. When someone deprives himself or herself, he or she is said to deny himself or herself of a given good thing. The word “mortification” does not necessarily have the strong sense of “killing” as might be suspected by the “mort-” portion of the word (meaning death, as found in “mortal,” “immortal,” and “morgue”). “Mortification,” might merely mean the process of eliminating or subduing (in a sense “killing off”) the passions of the body. This meaning is used with particular frequency with regard to religious acts of this type, though one can find them in a number of other walks of life as well.

**QUESTION 1158**

The whipping of the slave led to bleeding \_\_\_\_\_ on the back of the prisoner.

- A. bruises
- B. lacerations

- C. lumps
- D. wounds
- E. welts

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

For this sentence, the most specific answer is the best one. Many of these options might be acceptable, for even lumps and bruises can also bleed (in addition to being lumps and bruises). The best option is “lacerations,” which are deep cuts in the flesh, which would be wounds almost completely guaranteed to bleed. All the other cases may or may not bleed.

**QUESTION 1159**

The image of the apple was starkly visible in the \_\_\_\_\_ of the painting, standing out from the coffee shop portrayed behind it.

- A. details
- B. foreground
- C. stillness
- D. background
- E. scenery

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The contrast expressed in this sentence is between the apple and the coffee shop, which is apparently behind the apple (as implied by “portrayed behind it [the apple]”). When something sits “in front” of other things so as to be very visible, it is said to be in the “foreground,” literally the “front ground” of the image, view, or painting.

**QUESTION 1160**

After ten years of \_\_\_\_\_, oil was again plenteously available since many new wells had been drilled.

- A. poverty
- B. ethanol
- C. depression
- D. scarcity
- E. eco-fuel

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The key phrase in this sentence is “once again plenteously available.” It indicates that for a time (i.e. the past ten years), oil was not available in great quantities. When a resource (or any other thing) is “scarce” it is in very limited supply. “Scarcity” is the state of something being “scarce.”

**QUESTION 1161**

Many actors spend their entire lives chasing after the \_\_\_\_\_ high that is associated with being onstage in front of an audience.

- A. ephemeral
- B. jubilant
- C. frugal
- D. exemplary

E. divergent

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

"Ephemeral" works best here since a high is a temporary rush of euphoric emotions, which can only last so long before disappearing, making it temporary.

**QUESTION 1162**

The college freshman considered her dorm room very \_\_\_\_\_ after sharing a room with her three sisters all her life.

- A. arid
- B. frugal
- C. florid
- D. capacious
- E. enervating

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Because she had shared a room with her three sisters all her life, she was probably accustomed to a cramped and small living space. Thus, the dorm room must seem very large, or "capacious," to her.

**QUESTION 1163**

Once a boring part of town life, the town meeting was now \_\_\_\_\_ with tension after the high school controversy.

- A. prosaic
- B. fraught
- C. reclusive
- D. provocative
- E. mundane

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The best answer is "fraught," which means "filled with," and captures the transformation of the town meeting from boredom to tension.

**QUESTION 1164** The seemingly \_\_\_\_\_ puppy never tired, even after several vigorous hours of play.

- A. heretical
- B. volatile
- C. uninhibited
- D. indefatigable
- E. satirical

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

"Indefatigable" means incapable of being tired out, or never tired.

**QUESTION 1165** Lewis and Clark are often regarded as the daring and \_\_\_\_\_ pair that explored the entire western United States.

- A. inadvertent
- B. intrepid
- C. rancorous
- D. benign
- E. mercurial

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The fact that Lewis and Clark explored the entire western United States would make them "intrepid" – adventurous or fearless.

**QUESTION 1166** The public was pleasantly surprised and relieved by their congresswoman's speedy and \_\_\_\_\_ recovery from pneumonia.

- A. inauspicious
- B. superficial
- C. exacerbated
- D. resilient
- E. incongruent



**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

"Resilient" indicates a quick recovery from illness or adversity.

**QUESTION 1167**

Becky's locker was \_\_\_\_\_ – all of her papers were filed by date and class, all of her notes were color-coded, and there wasn't a speck of dust or piece of trash to be seen.

- A. immaculate
- B. vulnerable
- C. deprived
- D. humble
- E. perfidious

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

We're looking for an adjective that conveys how clean and organized Becky's locker is, so "immaculate," which means perfectly clean, neat, or tidy, is the best answer.

**QUESTION 1168**

The story was published \_\_\_\_\_, so Wallace knew that contacting the author would be a challenging task, as no one knew who he or she was.

- A. copiously
- B. anonymouslyC. credulously
- D. evanescently
- E. anomalously

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Since no one knows who wrote the story, we're looking for an adverb that describes something done in a way so as to have one's identity remain secret. While "anomalously" and "anonymously" sound extremely similar, they have very different meanings: "anomalously" means "done in a way that deviates from expectations or norms" and "anonymously" means "done in a way that does not identify someone by name." So, "anonymously" is the best answer choice.

**QUESTION 1169** Many people did not realize the \_\_\_\_\_ nature of the naval victory, for at the time most citizens were merely glad to have a single success, paying little heed to the future ramifications of such an outcome.

- A. recognized
- B. joyous
- C. gravity
- D. momentous
- E. importance

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Although several options, like "importance" and perhaps even "gravity" are tempting here, the best option is "momentous." A "momentous" event is one that is important, especially in having implications for the future. Because of the last subordinate clause, this is the best option.

**QUESTION 1170** Ryan did not seem to be aware of how \_\_\_\_\_ he appeared to others, even though his actions seemed to show an utter lack of respect for the sensibilities of those with whom he spoke.

- A. deceptive
- B. callous
- C. judgmental
- D. censorious
- E. hypocritical

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The key thing to note in this sentence is that Ryan did not show respect for others. This does not necessarily mean that he was judgmental or censorious with regard to them. The word "callous" best fits the need in this sentence, for it means that one is insensitive to others or disregards them. It is related to the physical notion of "callus," in the sense of a hardened piece of skin (like that which one gets from playing the guitar).

**QUESTION 1171**

Few people are experts in many subjects, though some people can be at least \_\_\_\_\_ in quite a few.

- A. remarkable
- B. competent



- C. reviewed
- D. dependable
- E. steady

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The implication in this sentence is that quite a few people at least have abilities in subjects to a decent degree, even if not one that is superlative. When someone has “competency” in something, he or she is said to have an adequate amount of skill, at least enough to be able to do the task. It is indirectly related to words like “compete,” “competitor,” and “petition.” All of these words come from Latin roots meaning “to seek,” (implied by the “-pet-” portion of the word).

**QUESTION 1172**

The recently published book was a \_\_\_\_\_ piece of academic writing, exceeding all other attempts to discuss the problem of human intentions.

- A. superlative
- B. complete
- C. surprising
- D. laudable
- E. thorough

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The sentence implies that the writing was the best of such work. To be “superlative,” literally means “to be carried over” or (more properly in English usage) “the highest degree (of something).” In grammar, the superlative is the “-est” form of a word (e.g. hottest, nicest, heaviest), meaning “the most . . .” The word itself comes from the prefix “super-”, meaning “over,” and the base “-lat-”, which comes from the Latin for “to carry.” The word “translate,” has this same base, literally meaning “to carry over from one place to another.”

**QUESTION 1173**

In his childhood, Paco had been a cheerful baby, but by his twenties had developed a surprisingly \_\_\_\_\_ temperament.

- A. reflective
- B. spoiled
- C. pensive
- D. introverted
- E. dour

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The implication in our sentence is that Paco had become “not cheerful.” While that might lead one to be introverted, or perhaps even reflective, it is most directly opposed by a “dour” temperament. A dour person is strictly speaking stern or severe, though often the word is used to imply a certain gloominess as well. It is in this last sense that it is being used here.

**QUESTION 1174**

In contrast to her brother’s resolute determination, Patricia had a very \_\_\_\_\_ attitude toward any undertaking.

- A. questioning
- B. discerning
- C. slothful

- D. fickle
- E. judgmental

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

When someone is resolute, he or she is determined and unwavering. In contrast to this, Patricia must be said to be regularly changing. Hence, the best description of her attitude would be that of being “fickle,” which means “frequently changing.”

**QUESTION 1175** Nick had great abilities in tactile undertakings, but when it came to dealing with abstract thoughts, he found all such matters to be too \_\_\_\_\_ for his taste.

- A. removed
- B. detached
- C. boring
- D. distant
- E. ethereal

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The contrast here is between “tactile undertakings” and “abstract thoughts.” You must look for something match the “abstract” nature of the thoughts, particularly considering how something abstract could be considered opposed to something “tactile” (i.e. something that can be touched or felt); therefore, while options like “detached,” “distant,” or “removed” might seem appropriate, the best answer is “ethereal” which implies an almost spiritual or incorporeal and intangible distance from earthly – indeed, tangible – things.

**QUESTION 1176** The historian of the Middle Ages believed that everything modern was an \_\_\_\_\_ version of some more profound and fruitful reality found in the earlier age.

- A. unkempt
- B. impoverished
- C. incapacitated
- D. unraveled
- E. undone

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The historian is contrasting the “profound and fruitful reality” of the Middle Ages with what he must take to be the less fruitful nature of modernity. The best option is therefore “impoverished,” which implies a loss of “fruitfulness,” “productivity,” or more generally “strength or vitality.” The other options do not directly capture this notion of a loss of vigor.

**QUESTION 1177**

Many people thought the water in the cistern was \_\_\_\_\_, when in fact it had been filled with infusions of the deadly ebola virus.

- A. polluted
- B. pristine
- C. innocuous
- D. brackish

E. clean

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The contrast here is between being potentially deadly and healthy (or at least “not deadly”). Note, it is not a contrast between “clean and unclean” or “clean and dirty.” The word “innocuous” means “not harmful.” Being derived from the Latin for “harmful,” it is related to English words like “inoculate” and “noxious.” The “in-” prefix here means “not.”

**QUESTION 1178**

Todd would rarely approach his mother with requests, for he knew that his \_\_\_\_\_ father would rarely deny what he wanted.

- A. dunce
- B. lenient
- C. immature
- D. unreflective
- E. irreverent

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The key thing to note in this sentence is that Todd’s father would rarely deny his requests. Therefore, the best option for the needed word is “lenient,” which means “permissive” or sometimes “forgiving.” Here, it is the first meaning that fits best. The word comes from the Latin for “mild or gentle” and is found in other English words like “leniency” and “lenitude.” (The latter, rather strange, word means “the characteristic of being lenient.” We could speak of “the lenitude of Todd’s father.”).

**QUESTION 1179**

Kevin was not known for making \_\_\_\_\_ arguments, for his sentences were often labyrinthine, obscure masses of confusion.

- A. amazing
- B. vertiginous
- C. lucid
- D. childish
- E. unaccomplished

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The contrast here is between obscurity and clarity. When something or someone is “lucid,” he or she is able to express ideas or thoughts in a clear manner. The word actually comes from base words for “light,” which are found in English relatives like “lucent,” “translucent,” and even “Lucifer” (the so-called “light bearing angel” who later fell from grace, according to Christian tradition).

**QUESTION 1180**

Paula thought that her brother’s appearance was \_\_\_\_\_, with his multi-colored socks, large wig, and his ridiculous top hat.

- A. ramshackle
- B. embarrassing
- C. unacceptable
- D. ludicrous
- E. confusing

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The key word in this sentence is “ridiculous,” which helps to give a sense to what Paula must have thought about the other strange aspects of her brother’s appearance. When something is “ridiculous,” it is not only strange but even more literally is “amusing” or “laughable.” (The word “ridicule” is related to “ridiculous,” both coming from the Latin for “to laugh.”) The word “ludicrous” often means “ridiculous.” It is derived from Latin roots for “to play” or “game.” A “prelude” is a piece of music “played” (in the general, non-game sense) before (“pre-”) the main concert piece.

**QUESTION 1181**

Patrick was eager to start his diet until he realized how \_\_\_\_\_ his meals would be in order to reduce his caloric intake.

- A. meager
- B. disgusting
- C. unpalatable
- D. vegetarian
- E. distasteful

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The only real clue in this sentence is the fact that Patrick’s eagerness was diminished due to the fact that the meals would have to have a greatly reduced caloric intake. Therefore, the best option will be one that merely captures that sense of “reduction,” without introducing other elements unnecessarily. The word “meager” does just this, meaning that something lacks quantity or is thin. In German, the word “mager,” means “lean” or “thin.”

**QUESTION 1182** Baron Johann von Wulf assured his subordinates that he reached his position only by taking \_\_\_\_\_ care that no detail ever be overlooked in any undertaking.

- A. managed
- B. excellent
- C. overweening
- D. meticulous
- E. accomplished

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The key phrase here is “that no detail be overlooked . . .” While one could say that the Baron had excellent or perhaps even overweening care, the sentence most directly implies that he took exceptional care about details. The best option, therefore, is “meticulous,” which means to be precise and careful about every detail of something.

**QUESTION 1183**

Many believed that Douglas always acted in a calculated manner when, in fact, most of his choices were made in a \_\_\_\_\_ manner.

- A. whimsical
- B. playful
- C. reflective
- D. irreligious
- E. disdainful

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The two most tempting words here are “whimsical” and “playful,” but it is only the former that fits best. In contrast to acting “in a calculated manner,” Douglas must act in a manner that is not very reflective and not based on much forethought. Although we often say that someone is whimsical when he or she is playful, this adjective can also be used in the sense of “acting on a whim,” that is, “acting on a sudden (perhaps inexplicable) change of mind.” Therefore, “whimsical” is the best option.

**QUESTION 1184**

The horror movie featured completely \_\_\_\_\_ creatures that had to avoid all forms light lest they die.

- A. vampiric
- B. lucifugalC. brackish
- D. diurnal
- E. nocturnal

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

For this sentence, you must use your abilities to “piece together” words from their parts in order to find the correct answer. The creatures mentioned here must “avoid all forms of light.” The key thing to note is that it states “all” forms of light; therefore, “nocturnal” does not best work because that would only imply sunlight. Do not be tempted by “vampiric,” either, for that is not specific enough. The word “lucifugal,” though very rarely used in English, can be guessed even if you have never encountered it. The “luci-” portion of the word means “light” and is related to words like “translucent,” “lucid,” and “pellucid.” The “-fugal” portion of the word comes from Latin roots meaning “to flee” and is related to English words like “fugitive” and “refugee.” Based on this, we can see that the word “lucifugal” means “light-fleeing” – just what is needed for this sentence.

**QUESTION 1185**

Robert loved to have large ceremonies in which he could \_\_\_\_\_ present himself before a crowd in a grandiose and self-centered manner.

- A. pompously
- B. skillfully
- C. impressively
- D. greatly
- E. unquestionably

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Since Robert likes to draw attention to himself with large ceremonies, he could be said to act “pompously.” In an older sense, “pomp” or a “pompous display” would merely mean a large and splendid event. However, the word often implies not only a grand style but likewise that it is meant to draw attention to the one showing said style.

**QUESTION 1186** George was well known for the \_\_\_\_\_ talent to which he bore witness from his youngest days.

- A. academic
- B. astoundingC. amazing
- D. precocious
- E. remarkable

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The key words in this sentence are “from his youngest days.” This helps to eliminate words like “amazing,” “remarkable,” and “astounding.” The best option is “precocious,” for a person who shows amazing talent from his or her youth is said to be “precocious.” It often can mean that one has developed such abilities “before their time” (i.e. much earlier than expected). It comes from Latin roots literally meaning “to be pre-cooked” or “pre-ripened.”

**QUESTION 1187**

Although the conclusion to the argument appeared to be absolutely certain, in actuality, it was merely \_\_\_\_\_.

- A. probable
- B. deducible
- C. inductive
- D. reductive
- E. questionable

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The answers to the argument are implied to be less than certain, though the sentence does not imply that they are completely impossible. Therefore, they must be said to hold in a weaker sense. When something is “probable,” it is often said to be “likely.” This does not mean that it is necessary. A probability is not a guarantee that something will or must occur.

**QUESTION 1188** The car was \_\_\_\_\_ in the sand, unable to be transferred from its location by any means.

- A. immobile
- B. wedged
- C. lodged
- D. confined
- E. ensnared



**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The key expression in this sentence is “unable to be transferred,” for this implies that the car cannot be moved. This is literally what is meant by the word “immobile,” which is merely the combination of the “im-” prefix, which here means “not,” with the base “mobile.”

**QUESTION 1189**

When Dee adopted it off of the street, the underfed kitten looked \_\_\_\_\_, with its skin tight against its bones, but within a week started to put on weight and looked much healthier.

- A. concerned
- B. listless
- C. healthy
- D. gaunt
- E. plump

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

We know that the kitten was "underfed" and "its skin [looked] tight against its bones," so we need to pick out an adjective that means something like "emaciated." "Plump" and "healthy" are antonyms of the word we're looking for, so neither can be the correct answer. "Gaunt," an adjective that means "lean and haggard, especially because of suffering, hunger, or age," is the correct answer because it best fits the sentence's context.

**QUESTION 1190**

The process was quite difficult to perform, for it required not only a number of sequential actions but also ones that had to be done \_\_\_\_\_.

- A. assiduously
- B. progressively
- C. immediately
- D. strenuously
- E. simultaneously

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The contrast being asserted in this sentence is between “sequential” actions and ones that would be done in a non-sequential manner. A process that is done “sequentially” is one that has a number of steps done one after another. Therefore, the best contrast to this would be a process having steps done at the same time, or “simultaneously.” The “simul-” portion of the word comes from the Latin meaning “at the same time” and is distantly related to other “sameness” words like “similar” and “similarity.”

**QUESTION 1191** Being overly confident in their grasp of a subject’s details, young scholars often proclaim their most unsubstantial opinions as though they were \_\_\_\_\_ certain of them.

- A. regularly
- B. somewhat
- C. apodictically
- D. steadily
- E. relatively

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Since the young scholars are described as being “overly confident,” the best option will reflect such confidence. They will thus be described as being very certain or as having unwavering certainty. When something is “apodictic,” it is considered to have been completely demonstrated, leaving no room to doubt it. This would well describe the great certainty of the young scholars.

**QUESTION 1192**

Karen and Dorothy were quite a pair of contrasts, for Karen was always emotional and agitated, while Dorothy had a rather \_\_\_\_\_ temperament.

- A. cheerful
- B. ebullient
- C. stoic
- D. zestful
- E. sparkling

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:



The contrast in this sentence is between someone who is said to be generally emotional and someone who is not. Just because Karen is emotional and agitated, one need not believe that she was nasty, sad, depressed, or anything else. The best contrasting term is “stoic,” meaning “undergoing difficulties without showing emotion.” It is often used in the broader sense of implying that a person shows no emotion when it would seem normal to do so. The term is taken from the ancient Greek (and later Roman) philosophical school (the Stoic school of thought) that is often given the simplistic characterization of promoting this kind of outlook on life.

**QUESTION 1193** The distinction that the teacher was attempting to make were particularly \_\_\_\_\_, easily overlooked by students who were expecting an immediately evident explanation.

- A. difficult
- B. simple
- C. complex
- D. arduous
- E. subtle

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The best guide for answering this sentence is the expression “easily overlooked,” though the remark about “immediate evidence” is also helpful. When something is easily overlook and not evident with blinding immediacy, it can be said to be “subtle,” meaning that it is either indirect or even (more properly) fine / delicate. Something very “fine” or “subtle” is something small – i.e. not large, blatant, and obvious.

**QUESTION 1194** Regularly raging irately about almost any topic, Robert had a notoriously \_\_\_\_\_ personality.

- A. perplexed
- B. unfriendly
- C. vexing
- D. tempestuousE. disagreeable



**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Since the expression “raging irately” is used in the participial clause, the best option will be the word that is as strong as this expression. The word “tempestuous” indicates such a strong temperament, better than the much weaker “disagreeable” and “unfriendly.” The word “tempestuous” literally means “like a storm,” as can be seen in its obvious relation to the word “tempest.”

**QUESTION 1195**

Instead of persecuting the questionable religious group, the state decided that it was best to be \_\_\_\_\_ until the group showed any aggression toward the broader society.

- A. watchful
- B. distant
- C. aware
- D. tolerant
- E. vigilant

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Although one might say that the state was going to watch the questionable group, the contrast in this sentence is really with “persecution.” In opposition to that, it would be best to choose “tolerant,” for when one tolerates a group, he or she allows it to exist, even if it seems questionable or even undesirable. The sentence does not speak directly about surveillance and therefore does not merit the choosing of “vigilant,” “aware,” or “watchful.”

**QUESTION 1196**

The telescope observatory had gathered \_\_\_\_\_ data for years, charting the stars in the hopes of producing an outline of the universe's history.

- A. scientific
- B. investigatory
- C. research
- D. astrological
- E. astronomical

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Since the sentence directly mentions star charting, the best answer will be that which describes the data as being related to heavenly bodies or stars. Therefore, the two “astro-” options should stand out immediately. Here, you must be careful not to confuse the two words. Astrology is concerned not with the science of measuring (etc) stars but with the so-claimed “meaning” of stars in the sense of horoscopes and things of that sort. It is astronomy that studies the scientific laws of the stars. This is indicated by the “-nomy” at the end of the word, which is derived from Greek word for “law.” It is found in the word “autonomy,” literally meaning “having a self-given law.”

**QUESTION 1197** The teacher's \_\_\_\_\_ voice often amused the students with its musical and flowing sound.

- A. lisping
- B. raspy
- C. lilting
- D. soft
- E. fluent

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The key words to note are “musical” and “flowing.” The best description of the teacher's voice will reflect these two parallel descriptions. Probably the most tempting trap answer is “fluent,” which means “flowing.” However, “lilting” better matches the two descriptions mentioned. A lilting sound is one that rises and falls in a pleasant manner. When applied to a voice, it means that it has such a gentle rising and falling. Although it does not directly mean “musical and flowing,” it does, by extension, imply a certain musicality and gentle flow to the voice. In any case, it is much better than “fluent,” which generally is used to describe one's ability to speak well (often in another language) and only secondarily is used for the more general sense of “to flow;” thus, lilting fits more closely.

**QUESTION 1198**

The \_\_\_\_\_ group was eventually suppressed by the government for its opposition to the nation's military efforts.

- A. illegal
- B. dissonant
- C. illicit
- D. consonant
- E. dissident

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The key word here is “opposition.” Although the group was suppressed, we do not know anything about its legality. Therefore, the best option is “dissident,” which means “disagreeing” (with someone else). The word literally means “to sit apart from.” The “sitting” portion is reflected in “-sident” and “dis-” portion means “apart from” or “opposed to.” Do not be fooled by “dissonant,” which means “a clashing sound.”

**QUESTION 1199** The \_\_\_\_\_ system of the dog is amazingly acute, often able to smell prey at a distance many multiples of the effective distance of humans’ abilities.

- A. gustatory
- B. pulmonary
- C. breathing
- D. olfactory
- E. inhalation

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The key thing to note is that the sentence describes the dog’s ability to smell, not merely to breathe. Therefore, the options “pulmonary” (relating to the lungs), “inhalation,” and “breathing” are all inadequate. The word “olfactory” means “related to the sense of smell.” The “olfactory system” is comprised of the sense organs and nervous system components related to the sense of smell. It comes from the Latin for “to smell.”

**QUESTION 1200** The course of studies was extremely \_\_\_\_\_, requiring many hours of study every night.

- A. exhaustive
- B. overwhelming
- C. tiring
- D. rigorous
- E. exhausting

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The word rigorous can mean “thorough” but it can likewise mean “demanding.” The other options for this sentence to express difficulty in the course but likewise imply additional content like “tiring” or “being too much” (e.g. overwhelming). The word “rigorous” comes from the Latin for “stiffness” and here means “demanding” in the sense of being “stiff and unbending” in the pursuit of a goal.

**QUESTION 1201**

While many people are interested in the effects of a given action, it is often enlightening to consider the nature of its \_\_\_\_\_ causes as well.

A.

B.

- following
- physical
- C. metaphysical
- D. antecedent
- E. regular

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The contrast here is between effect and cause, that is between things “coming after” and things “coming before” an event. Since our sentence does not speak of specific kinds of causes or even their regularity, the best adjective will be one that merely expresses the fact that causes “come before” a given event. The word “antecede” literally means “going before.” The prefix “ante” means “before” and is found in the English “antechamber,” meaning a small room that is “before” another room (and in which people are often first received as guests). Also, it is found in “antebellum” which literally means “before the war” and is often used to describe the southern United States before the American Civil War.

**QUESTION 1202** The serious old man judged most displays of sentimental emotion to be \_\_\_\_\_ excesses.

- A. unmanly
- B. maudlin
- C. cowardly
- D. feminine
- E. effeminate

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Since the sentence speaks neither of effeminacy nor of cowardliness, the best option is “maudlin.” The word means “sentimental” with the negative sense being “self-pitying” and perhaps induced by drunkenness. This negative implication suffices for this sentence, for it implies that the old man judged such displays in a negative light.

**QUESTION 1203**

Upon reaching his eightieth birthday, Anatol made the \_\_\_\_\_ observation, “I have entered the decade of my death.”

- A. remarkable
- B. morbid
- C. startling
- D. adroit
- E. condescending

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The only thing that is said about Anatol’s remark is that it concerns his perception of the proximity of his death. While this remark might seem startling or perhaps remarkable (for many people may not think of such things), the best description is “morbid.” A morbid person often focuses on unhappy subjects, often death. The word itself is related to Latin root words for disease, though we often associate the “morb-” prefix with another Latin root, namely “mort-” for death. Remember that “morb-” is directly concerned with disease.

**QUESTION 1204**

A.

B.

The \_\_\_\_\_ words of the preacher were among the most beautifully constructed sentences that his listeners had ever heard.

- rhetorical
- mellifluous
- C. recited
- D. enunciated
- E. bombastic

**Correct Answer:** B

**Section:**           **Reading**

**Explanation**

**Explanation/Reference:**

Explanation:

The best option is that which indicates the beauty of the words spoken by the preacher. The word “mellifluous” means “beautiful and pleasing to hear.” The word literally means “flowing with honey,” so it at times can have the meaning of “sweet sounding.” The “mel-” prefix is derived from the Latin for honey and can be found in the rare English word “melliferous,” which means “producing honey.”

**QUESTION 1205**

One can only remain \_\_\_\_\_ before great evils for so long; inevitably, one must choose sides for or against horrible atrocities.

- A. neutral
- B. restrained
- C. tranquil
- D. placid
- E. calm

**Correct Answer:** A

**Section:**           **Reading**

**Explanation**

**Explanation/Reference:**

Explanation:

The key expression here is “one must choose sides for or against.” The contrast implied in the sentence is between one who does not take such sides and one who does do so. When someone does not have a preference for either side of a conflict or controversy, he or she is said to be “neutral.” (A neutral person need not be calm or tranquil, though often this can be the case.) The word comes from the Latin word describing a gender in the Latin language, namely the neuter gender. Many non-English modern European languages still have the masculine and feminine genders for their nouns. Languages like Latin and Greek also had another option, the neuter gender. Being neither masculine nor feminine, it was rather neutral on the matter of gender!

**QUESTION 1206** Mildred’s acts may not have been immoral in a strict sense, but given that she did ignore the regulations in force, they could be considered \_\_\_\_\_.

- A. facetious
- B. illicit
- C. unacceptable
- D. egregious
- E. appalling

**Correct Answer:** B

**Section:**           **Reading**

**Explanation**

**Explanation/Reference:**

Explanation:

Since Mildred’s actions are implied to have been against the regulations, they are illegal even if someone wants to argue that they are not immoral. Something “illicit” is literally something “against the law.” The “il-” prefix is a negative prefix applied to the base “-licit,” which means “lawful.” The latter is related to words like “license” and “licentiate.”

A.

B.

**QUESTION 1207** Joseph finally concluded that all his efforts were doomed to be \_\_\_\_\_, for after hundreds of attempts, it seemed certain that he was incapable of accomplishing his goals.

frustrating



A.

B.

- defeated
- C. thwarted
- D. aggravating
- E. ineffectual

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Since it seemed that Joseph could not accomplish his goals, it can be said that his efforts would not be “effective” or (more exactly) “efficacious” (meaning “successful or able to produce an effect”). We cannot say that they are either thwarted or frustrating. The sentence merely speaks of him being incapable; therefore, the best option is the negation of “efficacious”: “ineffectual.”

**QUESTION 1208** Instead of quitting in despair, David decided to face the coming difficult month with a \_\_\_\_\_ attitude, convinced that he could thus overcome the hardships through his determination.

- A. conceited
- B. resolute
- C. haughty
- D. Pollyanna
- E. presumptuous

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The key word here is “determination,” for it describes David’s overall attitude. When someone is “resolute,” he or she is fixedly determined to do something. When one makes a “resolution,” he or she fixes that resolution as a goal. Traditionally, people make “new year’s resolutions” as goals for the coming year.

**QUESTION 1209**

Watching the stars from his windows every night and reading about constellations during the day, Omer was deeply interested in all things \_\_\_\_\_.

- A. celestial
- B. scientific
- C. planetary
- D. ethereal
- E. unearthly

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Omer could be said to have an interest in “the heavens.” The word “celestial,” is an adjective meaning “concerning heavenly bodies” or “concerning the things of space.” It is derived from the Latin word for “heavens” or “skies.” The instrument called “the celeste” is so named because of its “heavenly” sound.

**QUESTION 1210**

Although the puzzle was not particularly \_\_\_\_\_, it still perplexed John, taking him several hours to solve.

- A. advanced
- B. unknown
- C. secondary



- D. undisclosed
- E. intricate

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The key word to note is “perplexed,” which helps to give sense to the contrast being proposed in this sentence. The sense is that the puzzle was not particularly perplexing or difficult. While the option “advanced” might appear to be an adequate option, it does not signify the sense of perplexity as well as the word “intricate.” The word “intricate” implies a certain “trickiness” or complicated nature. It is derived from the Latin for “to entangle,” which itself is derived from the word for “trick.” It is related to words like “intriguing” and “extricate.”

**QUESTION 1211**

William did not realize how \_\_\_\_\_ his remarks were, for he would not personally have been angered by them.

- A. sedate
- B. inflammatory
- C. petty
- D. racist
- E. questionable

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The sentence implies that William’s words apparently angered some people, even if they would not have angered him. When something (particularly words or speech) provoke anger, they are said to be “inflammatory.” The word has the sense of “setting on fire,” which is obvious from the “-flam-” portion of the word, which is related to “flame.”

**QUESTION 1212** Justine hated when her husband used \_\_\_\_\_ expressions to name her, for such words only functioned only to make her seem small and powerless in comparison with him.

- A. diminutive
- B. despicable
- C. insulting
- D. defamatory
- E. coddling

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The key expression is “small and powerless,” in particular “small.” When something is “diminutive,” it is very small, though when the adjective is applied to words or expressions, it implies the usage of such words either in affection (“darling,” “sweetie”) or as expressing contempt (by treating the other person as being “little” and, by implication, not fully mature). The word is clearly related to English words like “diminish” and “diminution.”

**QUESTION 1213** Although the two countries had not settled on an official trade agreement, for many years they operated under a \_\_\_\_\_ state of friendly exchange.

- A. delicate
- B. tacit
- C. fragile

- D. tenuous
- E. questionable

**Correct Answer:** B  
**Section:** Reading  
**Explanation**

**Explanation/Reference:**  
Explanation:

Based on what is stated in the sentence, one cannot say whether or not the current state of friendly exchange is either weak or questionable; however, it can be described as being “unsaid” in the sense of not having an official status in treaties or law. The word “tacit” means “being known without being stated explicitly.” It is related to Latin words for “to be silent.” Someone who speaks very little can be described as being “taciturn.”

**QUESTION 1214**

While nouns often seem to imply nothing about the past, present, or future, verbs always appear to have some kind of \_\_\_\_\_ aspect.

- A. temporal
- B. effervescent
- C. flowing
- D. passing
- E. temporary

**Correct Answer:** A  
**Section:** Reading  
**Explanation**

**Explanation/Reference:**  
Explanation:

The contrast between nouns and verbs is here being expressed as a matter of implying (or not implying) “past, present, or future.” Something is called “temporal” when it is related to time. In older speech, people would speak of “temporal” matters in opposition to “spiritual” ones (that would be “after or outside of time”). The word is related to other time-related words like “temporary” and “extemporaneous.”

**QUESTION 1215** When one sees the crumbling faces of old monuments, it is tempting to think that even the most enduring accomplishments are mere \_\_\_\_\_ attainments.

- A. risible
- B. temporary
- C. worthless
- D. farcical
- E. fruitless

**Correct Answer:** B  
**Section:** Reading  
**Explanation**

**Explanation/Reference:**  
Explanation:

The key work for the contrast here is “enduring.” In opposition to “enduring,” one could speak of “passing” things. When something is “temporary,” it only lasts for a “time” and is, therefore, not permanent. (Sometimes, people speak of “temporary employment,” which is the state of being employed only for a limited, contracted time.) The word “temporary” is related to other time-related words such as “temporal” and “extemporaneous.”

**QUESTION 1216** After three years of extreme inflation, the price of potatoes had increased \_\_\_\_\_.

- A. surprisingly
- B. moderately
- C. astronomically
- D. astonishingly

E. regularly

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The key expression “extreme inflation” indicates that the prices greatly increased. “Inflation” occurs when the money supply increases, causing prices to shift upward. The adjective “astronomically” most properly means “relating to the stars” (as in “astrology” or “astronomy”). It can likewise be used in a metaphoric sense to mean “going as high as the stars” or “in a great amount.”

**QUESTION 1217** Jason's professor liked his creative writing piece, but thought that it was too full of \_\_\_\_\_ sayings like "the early bird gets the worm" that detracted from the work because of how overused the sayings were.

A. authentic

B. necessary

C. novel

D. pardonable

E. trite

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

We can infer that because Jason's creative writing piece was full of overused sayings, we need to pick out a word that means something like "overused" to describe those sayings. Neither "authentic" nor "novel" will do, because each of those words is an antonym to "overused." "Trite" is an adjective that is used of a remark, opinion, or idea and means "overused and consequently of little import; lacking originality or freshness," and because it is the answer choice that best suits the sentence's context, "trite" is the correct answer.

**QUESTION 1218**

They worried that he had injured himself when they found him lying \_\_\_\_\_ on the floor, but when he saw he had company he quickly got up from his flat, face-down position and explained that he was just trying to find the contact lens he had dropped on the carpet.

A. prone

B. meticulously

C. weak

D. asleep

E. awkward

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

From the sentence's context, we can tell that we need to pick out an adjective that can describe a position of someone who is "face-down," "flat," and "on the floor." Neither "asleep" nor "weak" works given that the sentence's subject "quickly [gets] up" when he sees he has company. "Prone," an adjective that can mean "lying flat, especially face downward," is the best answer choice because it is best suited to the sentence's context.

**QUESTION 1219** The scientists spent over an hour cleaning up their lab at the end of every workday to ensure that their environment remained \_\_\_\_\_, so no bacteria or microorganisms would contaminate their samples and experiments.

A. neurotic

B. sterile

C. dirty

D. unprepared

E. productive

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

We can infer from the sentence's context that we need to pick out an adjective that can describe an area that is free of bacteria and microorganisms. "Dirty" cannot be the correct answer because it is an antonym of "free of bacteria and microorganisms." However, "sterile" is an adjective that means "free from bacteria or other living microorganisms; totally clean," and because it best fits the context of the sentence, it is the correct answer.

**QUESTION 1220**

Louis had been looking forward to going on a picnic to the beach for weeks, so one couldn't blame him for growing \_\_\_\_\_ and snappish when the forecast called for intense thunderstorms for the entire weekend for which he had planned the trip.

A. dreamy

B. minute

C. insular

D. polite

E. morose

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

We can infer that Louis must have been in a bad mood when he had to cancel the plans for the picnic that he had been "looking forward to for weeks," so we need to pick out an adjective for the blank that means something like "snappish" or "in a bad mood." "Polite" cannot be the correct answer because someone who is "snappish" ("irritable and curt") isn't likely to be polite simultaneously. "Morose," however, is an adjective that means "sullen and ill-tempered," and because it best fits the context of the sentence, it is the correct answer.

**QUESTION 1221** Since Edward had not read any new authors, his work became rather \_\_\_\_\_, for he remained unchallenged, rarely feeling the need to develop his positions.

A. tedious

B. unacceptable

C. boorish

D. stagnant

E. disappointed

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The key expression to note is "rarely feeling the need to develop his positions." Since Edward did not feel challenged but instead "remained the same," he could be said to "stagnate." The word literally applies to bodies of air or water that do not have any movement in them (like a pond that is still and becomes scum-covered). However, it can be metaphorically used to describe a person who does not have much change in ideas or positions (as though there is were no intellectual "inflow" or "outflow").

**QUESTION 1222** Since William wished to retire at the earliest possible age, he decided to take all \_\_\_\_\_ measures to attain his goal, unconcerned with how his choices would potentially harm those around him.

A. avaricious

B. wicked

C. expedient

- D. efficient
- E. vicious

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

William's desire to retire early apparently is leading him to take every possible measure to make the process occur more quickly. We might even say that he is attempting to "expedite" the process, meaning he is trying to make it occur more quickly. Since he is unconcerned with how his actions might harm others, he is taking all "expedient" measures. The word is related "expedite," though it means "convenient" often as a means to reaching a goal. It generally has the negative connotation of willingness to do so at the expense of others.

**QUESTION 1223**

Sometimes one is only able to discern the distant causes of an event; nevertheless, one hopes to find more \_\_\_\_\_ ones if possible.

- A. uplifting
- B. proximate
- C. discernable
- D. informative
- E. rational

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The key word in the first sentence is "distant." The construction (using the word "nevertheless") indicates that there is an opposition between the two independent clauses. Since the pronoun "ones" refers back to "causes," the option "proximate" provides the best adjectival opposite. The word "proximate" means "close" (as opposed to "distant"). It comes from the Latin for "nearest to" and is found in the English "proximity" as well.

**QUESTION 1224** Isabel was certain that her husband's \_\_\_\_\_ behavior was not isolated to his thoughts but that he was likewise engaged in at least one adulterous affair.

- A. horrific
- B. egregious
- C. lecherous
- D. heartbreaking
- E. agonizing

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Since we are given a description of the character of some of Isabel's husband's actions – that they are adulterous – the best word is "lecherous," which means "extremely lustful." The other options are general or make judgments regarding Isabel's own reaction that are not necessarily stated in the rest of the sentence.

**QUESTION 1225** The \_\_\_\_\_ dog barked loudly whenever it heard an unfamiliar noise or saw a person or animal walk by the yard, and refused to walk on a leash without dragging its owner down the sidewalk and giving no need to his commands.

- A. mild
- B. obstreperous
- C. docile
- D. learned

E. cherished

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

We know from the sentence that the dog is loud, drags its owner down the sidewalk, and doesn't obey its owner's commands. So, we need to pick out an adjective that mean something like "loud," "hard to control," "disobedient," or some combination of these meanings. We can rule out "mild" and "docile" as potentially correct answers because "mild" means "gentle and not easily provoked" and "docile" "ready to accept control or instruction; submissive," so these words are antonyms of the word we are looking for. "Obstreperous," however, is an adjective that means "noisy and difficult to control," and because it best fits the context of the sentence, "obstreperous" is the correct answer.

**QUESTION 1226** The library's most \_\_\_\_\_ tome was an overly-detailed history of the lineages of the kings of England that was both excessively serious and extremely dull.

- A. gripping
- B. ponderous
- C. underratedD. verdant
- E. omniscient

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

We know that that the library's tome is "excessively serious and extremely dull," so we need to pick out an adjective to describe it that complements this description. "Gripping" cannot be the correct answer, because if the tome were gripping, or "firmly holding the attention or interest; exciting," it would not be "extremely dull." "Ponderous," however, is an adjective that can mean either "slow and clumsy because of great weight" or "dull, laborious, or excessively solemn." Because "ponderous" is the answer choice that best describes the library's tome and best fits the sentence's context, it is the correct answer.

**QUESTION 1227** The \_\_\_\_\_ young man steadfastly refused to follow his elder's instructions, believing that he did not need to listen to others in order to direct his life.

- A. disdainful
- B. recalcitrant
- C. self-centered
- D. pushy
- E. arrogant

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The two things to note in this sentence are (1) that the young man refuses to follow instructions from an elder and (2) that his general attitude is one of ignoring others in the direction of his life. The elder is here rejected as an authority in the young man's life. Also, note that he refuses in a "steadfast" manner. When someone resolutely refuses to listen to authority, such a person is said to be "recalcitrant." The word is derived from the Latin for "heel" in the sense of "digging in one's heels" (in refusal). The heel bone is called the "calcaneus" from the same base word.

**QUESTION 1228** Although Richard had disagreements with his colleagues, they were \_\_\_\_\_ in comparison to the immense differences he had experienced at his previous job.

- A. amusing
- B. minute
- C. calming
- D. acceptabl

E. typical

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The comparison here is really a contrast. This can be ascertained by the “although” that opens the sentence, implying such a contrast. If the differences at the previous job were immense, they were large. The word “minute” is an excellent opposite to his. When used as an adjective, it means “very small,” often implying that the thing is so small so as not to matter at all. This use of “minute” is related both to “diminish” as well as “diminution,” both words pertaining to shrinking or becoming smaller.

**QUESTION 1229** The vacation package was far from being \_\_\_\_\_; although it covered the cost of lodging, it left many other aspects to be paid for by the travelers.

A. miserly

B. inexpensive

C. comprehensive

D. acceptable

E. sufficient

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Since the vacation package did not cover all aspects of the trip, it cannot be called “comprehensive,” meaning it cannot be said to be “all-inclusive.” When someone comprehends something, he or she is said to understand all of that thing’s aspects or parts. More generally, something is comprehensive when it covers all of the aspects of some reality – here, the reality of a trip. Since the package did not cover many aspects of the trip, it is rightly said to be “far from being comprehensive.” The word is related to “apprehend,” literally meaning “to grab toward something.” Something that “comprehends” could be said to grab together all of the parts.

**QUESTION 1230** Many people may wish to do \_\_\_\_\_ work on a project, but a thorough job is a true reward.

A. simplistic

B. painless

C. boring

D. minimal

E. tedious

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The opposition implied by this sentence is between the word “thorough” and the blank to be filled. When a job is done thoroughly, it is done completely, with all parts being considered and accomplished. To do “minimal” work would be to do the least possible amount of work necessary – quite the opposite of “thorough”! The word is related to “minus” and is likewise found in words like “diminution” (a reduction) or “diminish” (to reduce).

**QUESTION 1231** The office windows were extremely \_\_\_\_\_, being easily broken, even by the smallest pebble.

A. narrow

B. flexible

C. fragile

D. pliant



E. thin

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

For this question, it is a matter of not being overwhelmed by potential options. Something can be thin but still very durable and hard to break, and a flexible or pliant material is actually quite unlikely to break (since it can “flex” to meet the onslaught of the apparently destructive pebbles). The best option is the simplest, namely “fragile.” The word means “easily broken,” which really is all that is needed for this sentence.

**QUESTION 1232** Although the prosecutor acted as though his evidence was conclusive, in reality it was based only on \_\_\_\_\_ facts related to the defendant’s work schedule on the day of the crime.

A. forged

B. irregular

C. falsified

D. distorted

E. circumstantial

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

When the facts of a criminal case are not conclusive but carry force, they are often called “circumstantial.” More strictly, this word means that the evidence has to deal with data pertaining to the circumstances in question. While the word can mean that the data is comprehensive (if it really does describe those circumstances in a thorough way), when applied to a court case, this kind of evidence does not provide deductive certainty. For instance, you might know that the defendant was in France and that the murder happened in France. If that is all that you have for an argument that the defendant committed the murder (in France), your case is rather weak indeed.

**QUESTION 1233** Zachary had an extremely \_\_\_\_\_ attitude, always using small words with his friend because he believed them to be too stupid to understand his natural way of speaking.

A. judgmental

B. arrogant

C. critical

D. nasty

E. condescending

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The key thing to note here is that Zachary treats his friends in a way that judges them to be less intellectually able than him and that implies this judgment in his very way of speaking. It could be said that he acts in a manner so as to “step down to their level.” When someone is “condescending,” he or she does just that, always with the implication that it is accompanied by the feeling of superiority in comparison with the others.

**QUESTION 1234**

When Patrick committed any small social faux pas, his mother would overreact and be utterly \_\_\_\_\_ by his actions.

A. depressed

B. enervated

C. angered

D. mortified

E. dispirited

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

A “faux pas” is a social “false step,” an embarrassing action. The sense of the sentence is that Patrick’s mother was utterly embarrassed by his actions. The other options imply more than is justified by the expression “faux pas.” When someone is “mortified,” he or she is embarrassed, often in a strong sense. The word literally means “to make dead,” hear as though the actions would “embarrass to death.” The “mort-” portion of the word is related to the Latin for “death” and is found in English words like “mortal,” “immortal,” and “morgue.”

**QUESTION 1235**

Selena was not merely happy to finish the project at last; she was quite \_\_\_\_\_ about its completion.

- A. content
- B. elated
- C. satisfied
- D. eased
- E. peaceful

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

This sentence implies an intensification from the first independent clause to the second by using the words “not merely.” The word being intensified is “happy.” To say that Selena is “very happy,” the best option is “elated.” This word is derived from the Latin for meaning “carried out of.” When someone is elated, he or she is so emotional that he or she is “carried out of himself or herself.” Another way that it is expressed is to say that such a person is “ecstatically happy,” which also means “happy in the sense of ‘standing outside of oneself.’” Sometimes, you might hear older people say, “He was beside himself with joy.” This expresses the same sense.

**QUESTION 1236** The whole affair was so \_\_\_\_\_ that Daria could not take it seriously at all.

- A. unprofessional
- B. quizzical
- C. unbeknownst
- D. ludicrous
- E. depressing

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The key expression in this sentence is “not take it seriously at all.” Since the affair is said not to be taken seriously “at all,” it must be a rather laughable affair or at least one that is very inconsequential (to Daria, at least). When something is “ludicrous,” it is a “laughable” matter. While we cannot say for certain that the affair was ridiculous or laughable, still this kind of “lack of gravity” is implied by the aforementioned “not . . . at all.” This is far better than “depressing” or the other (even worse) options. The word “ludicrous,” actually comes from the Latin for “game,” so a ludicrous affair could be said to be “just a game” (at least in the eye of the beholder).

**QUESTION 1237**

Lauren found Samuel’s remarks to be extremely \_\_\_\_\_, making the topic much more understandable.

- A. pedantic
- B. illuminating
- C. academic
- D. intellectual

E. scholarly

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

All of the wrong options are those that most directly pertain to education, academia, or the intellect. The key thing to note is that the remarks make the topic understandable. When one thing helps to make another understandable, that first thing is said to “illuminate” the other. The sense of the word is taken from the metaphorical image of shining a light on a dark (obscure) subject matter.

**QUESTION 1238**

George acted as though he were \_\_\_\_\_, though his friends knew that he was a human like anyone else, making many mistakes daily.

A. celestial

B. grandiose

C. theological

D. infallible

E. god-like

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The key word in this sentence is “mistakes.” The only contrast being implied is that George did not seem to think that he could make mistakes (though his friends knew better). When someone is “infallible” that person does not make mistakes. The word “fallible” means “capable of making mistakes” and is related to “false” as well as “fallacy” and “fallacious.” The “in-” functions here as a negative, making “in-fallible” to mean “not-fallible.”

**QUESTION 1239**

Since Nathanael had little time, he planned his schedule very \_\_\_\_\_ in order to avoid wasting even the slightest moment.

A. reflectively

B. insightfully

C. carefully

D. amazingly

E. efficiently

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The only thing that we can say about Nathanael is that he is avoiding any waste of time. Any other description might hold (that it is amazing, insightfully done, etc), but that goes beyond what we are given. The best answer is “efficiently,” which describes someone who is very productive while using the least amount of resources (money, time, etc).

**QUESTION 1240** The book includes long footnotes that serve as a place for \_\_\_\_\_ information like tangents, recommended reading, and notes on the work’s historical context, none of which are absolutely necessary to the text itself.

A. pardonable

B. ancillary

C. crucial

D. joyful

E. winding

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

We can infer that because the footnotes allow room for various types of information of which "none . . . are absolutely necessary to the text itself," we can infer that we need to pick out an answer choice that means something like "extraneous" or "extra." "Crucial," then, cannot be the correct answer, because "crucial" is an antonym of "extraneous" and "extra." "Ancillary," however, is an adjective that can mean "additional; subsidiary," and because it best describes the nature of the information the book's footnotes contain, "ancillary" is the correct answer.

**QUESTION 1241** The \_\_\_\_\_ knitter predicted the fashion trend toward homemade goods and started an online store, making a lot of money selling the scarves, hats, and mittens that she made.

- A. wholesome
- B. portable
- C. astute
- D. undiscerning
- E. minute

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

For this sentence, we can infer that the knitter must have been pretty smart to "[predict] the fashion trend toward homemade goods." So, we need to pick out an adjective to describe the knitter that means something like "smart." "Undiscerning," then, cannot be the correct answer, because "undiscerning" means "lacking judgment, insight, or taste," making it the opposite of the word for which we're looking. "Astute," however, is an adjective that means "having or showing an ability to accurately assess situations or people and turn this to one's advantage," and because "astute" best describes the knitter's profitable assessment of the fashion trend, "astute" is the correct answer.

**QUESTION 1242** Unfortunately, the brief period of sunshine and blue sky was \_\_\_\_\_ that day, as the clouds turned grey after only ten minutes of sunshine and let loose a drizzle that lasted the rest of the afternoon and into the evening.

- A. pardonable
- B. demonstrable
- C. far-fetched
- D. lasting
- E. evanescent

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

We can infer that because the period of sunny weather lasted "only ten minutes," we need to pick out an adjective to describe the sunny weather that means something like "fleeting" or "temporary." "Lasting," then, cannot be the correct answer, because "lasting," when used as an adjective, means "enduring or able to endure over a long period of time," making it an antonym of the word for which we're looking. "Evanescent," however, is an adjective that means "soon passing out of sight, memory, or existence; quickly fading or disappearing," and because "evanescent" best conveys the briefness of the sunny weather in the sentence, "evanescent" is the correct answer.

**QUESTION 1243** The farmers chose not to plant any crops on the land last year, and by letting it lie \_\_\_\_\_ they were able to grow three times as much wheat this year due to the nutrients that were restored when the field wasn't in use.

- A. coherent
- B. futile
- C. abstemious
- D. hideous

E. fallow

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Since we know that the farmers did not plant anything on the land last year, we know that we're looking for an adjective that can refer to land and means something like "unused" or "unplanted." While "abstemious" sounds like a potential answer because it has to do with restraint, it refers to people and means "marked by restraint, especially in the consumption of food and alcohol," and is not an applicable word given the sentence's context - we need a word that refers to land. Alternatively, "fallow" specifically refers to land and means "plowed and left unseeded for a season or more; uncultivated," so it is the best answer choice.

**QUESTION 1244** The knight was assigned guard duty, and stood \_\_\_\_\_ outside the king's door whenever he met with his advisors, to ensure that no one tried to spy on or disrupt the meetings.

A. asleep

B. neutral

C. wheedling

D. host

E. sentry

**Correct Answer:** E

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

We know that "the knight was assigned guard duty," so we need to pick out an adjective that conveys this information. While "asleep" might make grammatical sense in the sentence, it doesn't make sense for the knight to be sleeping on the job, so "asleep" cannot be the correct answer. "Sentry," a word that when used in the phrase "stand sentry" means "keep guard or control access to a place," is the correct answer because it best fits the sentence's context.

**QUESTION 1245** Peter introduced a carefully crafted \_\_\_\_\_ into his argument, subtly changing the meaning of one word in the hopes of confusing those trying to follow his reasoning.

A. trickery

B. equivocation

C. contrivance

D. lie

E. falsification

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The subordinate clause beginning with "subtly" is the key to getting this sentence correct. The implication of this clause is that Peter changed the meaning of a word in the middle of making an argument. Perhaps he changed "payment" from its general sense to a specific use of payment that had legal repercussions. Without noticing, he would thus have shifted the argument from a question of "payment" to "paying in a specific legal circumstance." Equivocation is generally used to describe this kind of loose use of language. In ancient and medieval logic, a "purely equivocal term" would be a word like "bank," which describes both the edge of a river and the institution into which you put money. With such a word, you certainly could equivocate – change meanings – though it would not be very subtle!

**QUESTION 1246** The executive officer sometimes forgot how many \_\_\_\_\_ were made available to his department; this led him to be unfairly impatient with the slowness of other groups that had far fewer employees and supplies.

A. employees

B. instruments

C. resources

D. servants  
E. drones



**Correct Answer:**  
**Section: Reading**  
**Explanation**

**Explanation/Reference:**  
Explanation:

C

The parallel in this sentence is between the man things that the officer has and the “far fewer employees and supplies” available to the other groups. Note also that the sentence implies that he is impatient because the other groups are not as efficient as his group, which apparently is better endowed. Resources are those materials and people available for someone to accomplish a given task. This is the best option for this sentence, as all the other options are too specific.

**QUESTION 1247** In praise of the speaker’s talk, the crowd gave him a resounding \_\_\_\_\_.

- A. yelp
- B. acceptance
- C. ovulation
- D. hauteur
- E. ovation

**Correct Answer: E**  
**Section: Reading**  
**Explanation**

**Explanation/Reference:**  
Explanation:



The two key words in this sentence are “praise” and “resounding.” The sentence implies that the crowd greatly praised the speaker. When someone gives an “ovation,” he or she does just that. Often this signifies that the praise is in the way of applause. We often speak of “standing ovations” when a crowd stands up at the end of a show in order to applaud. Do not be tricked by “ovulation,” which has nothing to do with this sentence. That word has to do with the release of an egg in the female reproductive system.

**QUESTION 1248**

The light rainfall left the wooden rowboat glistening, the water giving a slight reflective \_\_\_\_\_ on the oars stacked on its sides.

- A. color
- B. feel
- C. texture
- D. sheen
- E. quantity

**Correct Answer: D**  
**Section: Reading**  
**Explanation**

**Explanation/Reference:**  
Explanation:

We can infer that because the rainfall left the rowboat "glistening" and that the noun that will go in the blank will be described by the adjectives "slight" and "reflective," we need to pick out a word that has something to do with shininess, and in particular, slight shininess. While "color" may look like a potentially correct answer, it wouldn't make sense in the blank, because the sentence isn't talking about "color," but shininess. "Sheen," however, is a noun that means "a soft luster on a surface," and because "sheen" best describes the slight shininess that the rowboat acquires after being rained on, "sheen" is the correct answer.

**QUESTION 1249**

Because of her faith in her \_\_\_\_\_ to do well in graduate school, Julie had already begun to make plans for after graduation.



**Correct Answer:**

**Section: Reading**

**Explanation**

**Explanation/Reference:**

Explanation:

A. serenity

B. competence

C. authority

D. incompetence

E. dissonance

B

This question asks for a word that means that Julie had the ability to do well. The word closest in meaning to ability is competence.

**QUESTION 1250** Given that John's personal life did not match the moral injunctions about which he wrote vehemently, many of John's friends expected him some day to condemn his own behavior as sheer \_\_\_\_\_.

A. oversight

B. insensitivity

C. irregularity

D. hypocrisy

E. perplexity



**Correct Answer: D**

**Section: Reading**

**Explanation**

**Explanation/Reference:**

Explanation:

The key thing to note in the initial subordinate clause is that John's life is "out of harmony" with the moral code that he proclaimed (and indeed enjoined to others) in his writing. When someone's actions oppose the standards in which they claim to believe, such a person is called a "hypocrite." John's friends well expected him to condemn his own "hypocritical" behavior. They must have believed that, given his high moral standards, he would eventually be forced to admit to the immorality of his hypocrisy.

**QUESTION 1251**

Adapted from Nicholas Nickleby by Charles Dickens (1839) There was a great bustle in Bishopsgate Street Within, as they drew up, and (it being a windy day) half-a-dozen men were tacking across the road under a press of paper, bearing gigantic announcements that a Public Meeting would be held at one o'clock precisely, to take into consideration the propriety of petitioning Parliament in favour of the United Metropolitan Improved Hot Muffin and Crumpet Baking and Punctual Delivery Company, capital five millions, in five hundred thousand shares of ten pounds each; which sums were duly set forth in fat black figures of considerable size. Mr. Bonney elbowed his way briskly upstairs, receiving in his progress many low bows from the waiters who stood on the landings to show the way; and, followed by Mr. Nickleby, dived into a suite of apartments behind the great public room: in the second of which was a business-looking table, and several business-looking people. "Hear!" cried a gentleman with a double chin, as Mr. Bonney presented himself. "Chair, gentlemen, chair!" The new-comers were received with universal approbation, and Mr. Bonney hustled up to the top of the table, took off his hat, ran his fingers through his hair, and knocked a hackney-coachman's knock on the table with a little hammer: whereat several gentlemen cried "Hear!" and nodded slightly to each other, as much as to say what spirited conduct that was. Just at this moment, a waiter, feverish with agitation, tore into the room, and throwing the door open with a crash, shouted "Sir Matthew Pupker!" The committee stood up and clapped their hands for joy, and while they were clapping them, in came Sir Matthew Pupker, attended by two live members of Parliament, one Irish and one Scotch, all smiling and bowing, and looking so pleasant that it seemed a perfect marvel how any man could have the heart to vote against them. Sir Matthew Pupker especially, who had a little round head with a flaxen wig on the top of it, fell into such a paroxysm of bows, that the wig threatened to be jerked off, every instant. When these symptoms had in some degree subsided, the gentlemen who were on speaking terms with Sir Matthew Pupker, or the two other members, crowded round them in three little groups, near one or other of which the gentlemen who were NOT on speaking terms with Sir Matthew Pupker or the two other members, stood lingering, and smiling, and rubbing their hands, in the desperate hope of something turning up which might bring them into notice. All this time, Sir Matthew Pupker and the two other members were relating to their separate circles what the intentions of government were, about taking up the bill; with a full account of what the government had said in a whisper the last time they dined with it, and how the government had been observed to wink when it said so; from which premises they were at no loss to draw the conclusion, that if the government had one object more at heart than another, that one object was the welfare and advantage of the United

Metropolitan Improved Hot Muffin and Crumpet Baking and Punctual Delivery Company. Meanwhile, and pending the arrangement of the proceedings, and a fair division of the speechifying, the public in the large room were eyeing, by turns, the empty platform, and the ladies in the Music Gallery. In these amusements the greater portion of them had been occupied for a couple of hours before, and as the most agreeable diversions pall upon the taste on a too protracted enjoyment of them, the sterner spirits now began to hammer the floor with their boot-heels, and to express their dissatisfaction by various hoots and cries. These vocal exertions, emanating from the people who had been there longest, naturally proceeded from those who were nearest to the platform and furthest from the policemen in attendance, who having no great mind to fight their way through the crowd, but entertaining nevertheless a praiseworthy desire to do something to

**Correct Answer:**

**Section: Reading**

**Explanation**

**Explanation/Reference:**

Explanation:

quell the disturbance, immediately began to drag forth, by the coat tails and collars, all the quiet people near the door; at the same time dealing out various smart and tingling blows with their truncheons, after the manner of that ingenious actor, Mr. Punch: whose brilliant example, both in the fashion of his weapons and their use, this branch of the executive occasionally follows. Several very exciting skirmishes were in progress, when a loud shout attracted the attention even of the belligerents, and then there poured on to the platform, from a door at the side, a long line of gentlemen with their hats off, all looking behind them, and uttering vociferous cheers; the cause whereof was sufficiently explained when Sir Matthew Pupker and the two other real members of Parliament came to the front, amidst deafening shouts, and testified to each other in dumb motions that they had never seen such a glorious sight as that, in the whole course of their public career.

The passage states that which of the following is true?

- A. There is a Welsh member of parliament present.
- B. Mr. Nickleby does not go to the meeting.
- C. Sir Matthew Pupker brought several members of Parliament to the meeting.
- D. There were ladies present at the meeting.
- E. There are no members of the constabulary at the meeting.

D

In the fourth paragraph's first sentence, we are told that there are ladies present at the meeting sitting in Music gallery: "Meanwhile, and pending the arrangement of the proceedings, and a fair division of the speechifying, the public in the large room were eyeing, by turns, the empty platform, and the ladies in the Music Gallery."

#### QUESTION 1252

Adapted from Nicholas Nickleby by Charles Dickens (1839) There was a great bustle in Bishopsgate Street Within, as they drew up, and (it being a windy day) half-a-dozen men were tacking across the road under a press of paper, bearing gigantic announcements that a Public Meeting would be held at one o'clock precisely, to take into consideration the propriety of petitioning Parliament in favour of the United Metropolitan Improved Hot Muffin and Crumpet Baking and Punctual Delivery Company, capital five millions, in five hundred thousand shares of ten pounds each; which sums were duly set forth in fat black figures of considerable size. Mr. Bonney elbowed his way briskly upstairs, receiving in his progress many low bows from the waiters who stood on the landings to show the way; and, followed by Mr. Nickleby, dived into a suite of apartments behind the great public room: in the second of which was a business-looking table, and several business-looking people. "Hear!" cried a gentleman with a double chin, as Mr. Bonney presented himself. "Chair, gentlemen, chair!" The new-comers were received with universal approbation, and Mr. Bonney bustled up to the top of the table, took off his hat, ran his fingers through his hair, and knocked a hackney-coachman's knock on the table with a little hammer: whereat several gentlemen cried "Hear!" and nodded slightly to each other, as much as to say what spirited conduct that was. Just at this moment, a waiter, feverish with agitation, tore into the room, and throwing the door open with a crash, shouted "Sir Matthew Pupker!" The committee stood up and clapped their hands for joy, and while they were clapping them, in came Sir Matthew Pupker, attended by two live members of Parliament, one Irish and one Scotch, all smiling and bowing, and looking so pleasant that it seemed a perfect marvel how any man could have the heart to vote against them. Sir Matthew Pupker especially, who had a little round head with a flaxen wig on the top of it, fell into such a paroxysm of bows, that the wig threatened to be jerked off, every instant. When these symptoms had in some degree subsided, the gentlemen who were on speaking terms with Sir Matthew Pupker, or the two other members, crowded round them in three little groups, near one or other of which the gentlemen who were NOT on speaking terms with Sir Matthew Pupker or the two other members, stood lingering, and smiling, and rubbing their hands, in the desperate hope of something turning up which might bring them into notice. All this time, Sir Matthew Pupker and the two other members were relating to their separate circles what the intentions of government were, about taking up the bill; with a full account of what the government had said in a whisper the last time they dined with it, and how the government had been observed to wink when it said so; from which premises they were at no loss to draw the conclusion, that if the government had one object more at heart than another, that one object was the welfare and advantage of the United Metropolitan Improved Hot Muffin and Crumpet Baking and Punctual Delivery Company. Meanwhile, and pending the arrangement of the proceedings, and a fair division of the speechifying, the public in the large room were eyeing, by turns, the empty platform, and the ladies in the Music Gallery. In these amusements the greater portion of them had been occupied for a couple of hours before, and as the most agreeable diversions pall upon the taste on a too protracted enjoyment of them, the sterner spirits now began to hammer the floor with their boot-heels, and to express their dissatisfaction by various hoots and cries. These vocal exertions, emanating from the people who had been there longest, naturally proceeded from those who were nearest to the platform and furthest from the policemen in attendance, who having no great mind to fight their way through the crowd, but entertaining nevertheless a praiseworthy desire to do something to quell the disturbance, immediately began to drag forth, by the coat tails and collars, all the quiet people near the door; at the same time dealing out various smart and tingling blows with their truncheons, after the manner of that ingenious actor, Mr. Punch: whose brilliant example, both in the fashion of his weapons and their use, this branch of the executive occasionally follows. Several very exciting skirmishes were in progress, when a loud shout attracted the attention even of the belligerents, and then there poured on to the platform, from a door at the side, a long line of gentlemen with their hats off, all looking behind them, and uttering vociferous cheers; the cause whereof was sufficiently explained when Sir Matthew Pupker and the two other real members of Parliament came to the front, amidst deafening shouts, and testified to each other in dumb motions that they had never seen such a glorious sight as that, in the whole course of their public career.

The fifth paragraph establishes all of the following EXCEPT \_\_\_\_\_.

- A. The men were equally looking at the empty stage and the women.
- B. The policemen could not reach the bottom of the platform because of the density of the crowd.
- C. The policemen were just in their actions.

**Correct Answer:**  
**Section: Reading**  
**Explanation**

**Explanation/Reference:**

Explanation:

D. The men were impatient and began to stamp and shout.

E. The main body of the public were in another room than the members of Parliament, waiting for the meeting to start.

**Correct Answer: C**  
**Section: Reading**  
**Explanation**

**Explanation/Reference:**

Explanation:

The narrator jokes about how as the policemen could not get through the crowd “but entertaining nevertheless a praiseworthy desire to do something to quell the disturbance, immediately began to drag forth, by the coat tails and collars, all the quiet people near the door.” The police were unjust in their actions and attacked the innocents to punish the crimes of those they could not reach.

**QUESTION 1253**

Adapted from Nicholas Nickleby by Charles Dickens (1839) There was a great bustle in Bishopsgate Street Within, as they drew up, and (it being a windy day) half-a-dozen men were tacking across the road under a press of paper, bearing gigantic announcements that a Public Meeting would be held at one o'clock precisely, to take into consideration the propriety of petitioning Parliament in favour of the United Metropolitan Improved Hot Muffin and Crumpet Baking and Punctual Delivery Company, capital five millions, in five hundred thousand shares of ten pounds each; which sums were duly set forth in fat black figures of considerable size. Mr. Bonney elbowed his way briskly upstairs, receiving in his progress many low bows from the waiters who stood on the landings to show the way; and, followed by Mr. Nickleby, dived into a suite of apartments behind the great public room: in the second of which was a business-looking table, and several business-looking people. "Hear!" cried a gentleman with a double chin, as Mr. Bonney presented himself. "Chair, gentlemen, chair!" The new-comers were received with universal approbation, and Mr. Bonney bustled up to the top of the table, took off his hat, ran his fingers through his hair, and knocked a hackney-coachman's knock on the table with a little hammer: whereat several gentlemen cried "Hear!" and nodded slightly to each other, as much as to say what spirited conduct that was. Just at this moment, a waiter, feverish with agitation, tore into the room, and throwing the door open with a crash, shouted "Sir Matthew Pupker!" The committee stood up and clapped their hands for joy, and while they were clapping them, in came Sir Matthew Pupker, attended by two live members of Parliament, one Irish and one Scotch, all smiling and bowing, and looking so pleasant that it seemed a perfect marvel how any man could have the

heart to vote against them. Sir Matthew Pupker especially, who had a little round head with a flaxen wig on the top of it, fell into such a paroxysm of bows, that the wig threatened to be jerked off, every instant. When these symptoms had in some degree subsided, the gentlemen who were on speaking terms with Sir Matthew Pupker, or the two other members, crowded round them in three little groups, near one or other of which the gentlemen who were NOT on speaking terms with Sir Matthew Pupker or the two other members, stood lingering, and smiling, and rubbing their hands, in the desperate hope of something turning up which might bring them into notice. All this time, Sir Matthew Pupker and the two other members were relating to their separate circles what the intentions of government were, about taking up the bill; with a full account of what the government had said in a whisper the last time they dined with it, and how the government had been observed to wink when it said so; from which premises they were at no loss to draw the conclusion, that if the government had one object more at heart than another, that one object was the welfare and advantage of the United Metropolitan Improved Hot Muffin and Crumpet Baking and Punctual Delivery Company. Meanwhile, and pending the arrangement of the proceedings, and a fair division of the speechifying, the public in the large room were eyeing, by turns, the empty platform, and the ladies in the Music Gallery. In these amusements the greater portion of them had been occupied for a couple of hours before, and as the most agreeable diversions pall upon the taste on a too protracted enjoyment of them, the sterner spirits now began to hammer the floor with their boot-heels, and to express their dissatisfaction by various hoots and cries. These vocal exertions, emanating from the people who had been there longest, naturally proceeded from those who were nearest to the platform and furthest from the policemen in attendance, who having no great mind to fight their way through the crowd, but entertaining nevertheless a praiseworthy desire to do something to quell the disturbance, immediately began to drag forth, by the coat tails and collars, all the quiet people near the door; at the same time dealing out various smart and tingling blows with their truncheons, after the manner of that ingenious actor, Mr. Punch: whose brilliant example, both in the fashion of his weapons and their use, this branch of the executive occasionally follows. Several very exciting skirmishes were in progress, when a loud shout attracted the attention even of the belligerents, and then there poured on to the platform, from a door at the side, a long line of gentlemen with their hats off, all looking behind them, and uttering vociferous cheers; the cause whereof was sufficiently explained when Sir Matthew Pupker and the two other real members of Parliament came to the front, amidst deafening shouts, and testified to each other in dumb motions that they had never seen such a glorious sight as that, in the whole course of their public career.

Which of the following statements about the committee is supported by the passage?

- A. They are, in part, self-centred.
- B. They wear wigs.
- C. They are all in favor of the members of Parliament.
- D. They are anarchists.
- E. They form three groups in the room when the members of parliament arrive.

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

We cannot say if the committee members are anarchists or not. But we know they form four groups in the room with the members of parliament: one around the Scottish member, one around the Irish member, one around Sir Pupker, and one which does not stand around the members at all. “[The committee] crowded round them in three little groups, near one or other of which the gentlemen who were NOT on speaking terms with Sir Matthew Pupker or the two other members, stood lingering.” We do know, however, that some of the members are self-centred, as they wait for an opportunity “of something turning up which might bring them into notice.”

#### QUESTION 1254

Adapted from Moby-Dick by Herman Melville (1851) The fact is, that among his hunters at least, the whale would, by all hands, be considered a noble dish were there not so much of him; but when you come to sit down before a meat-pie nearly one hundred feet long, it takes away your appetite. Only the most unprejudiced of men, like Stubb, nowadays partake of cooked whales; but the Esquimaux are not so fastidious. We all know how they live upon whales and have rare old vintages of prime old train oil. Zogranda, one of their most famous doctors, recommends strips of blubber for infants as being exceedingly juicy and nourishing. And this reminds me that certain Englishmen, who long ago were accidentally left in Greenland by a whaling vessel – that these men actually lived for several months on the moldy scraps of whales which had been left ashore after trying out the blubber. Among the Dutch whalers, these scraps are called “fritters,” which, indeed, they greatly resemble, being brown and crisp, and smelling something like old Amsterdam housewives’ dough-nuts or oly-cooks when fresh. They have such an eatable look that the most self-denying stranger can hardly keep his hands off. But what further depreciates the whale as a civilized dish is his exceeding richness. He is the great prize ox of the sea, too fat to be delicately good. Look at his hump, which would be as fine eating as the buffalo’s (which is esteemed a rare dish), were it not such a solid pyramid of fat. But the spermaceti itself, how bland and creamy that is, like the transparent, half-jellied, white meat of a coconut in the third month of its growth, yet far too rich to supply a substitute for butter. Nevertheless, many whale men have a method of absorbing it into some other substance and then partaking of it. In the long try watches of the night, it is a common thing for the seamen to dip their ship-biscuit into the huge oil-pots and let them fry there awhile. Many a good supper have I thus made.

To whom or what does the narrator compare the whale?

- A. A coconut
- B. An ox
- C. A buffalo
- D. The Esquimaux

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The narrator calls the whale "the great prize ox of the sea," comparing the whale to an ox.

#### QUESTION 1255

Adapted from *Jude the Obscure* by Thomas Hardy (1895) He sounded the clacker till his arm ached, and at length his heart grew sympathetic with the birds' thwarted desires. They seemed, like himself, to be living in a world which did not want them. Why should he frighten them away? They took upon more and more the aspect of gentle friends and pensioners – the only friends he could claim as being in the least degree interested in him, for his aunt had often told him that she was not. He ceased his rattling, and they alighted anew. "Poor little dears!" said Jude, aloud. "You shall have some dinner – you shall. There is enough for us all. Farmer Troutham can afford to let you have some. Eat, then my dear little birdies, and make a good meal!" They stayed and ate, inky spots on the nut-brown soil, and Jude enjoyed their appetite. A magic thread of fellow-feeling united his own life with theirs. Puny and sorry as those lives were, they much resembled his own. His clacker he had by this time thrown away from him, as being a mean and sordid instrument, offensive both to the birds and to himself as their friend. All at once he became conscious of a smart blow upon his buttocks, followed by a loud clack, which announced to his surprised senses that the clacker had been the instrument of offense used. The birds and Jude started up simultaneously, and the dazed eyes of the latter beheld the farmer in person, the great Troutham himself, his red face glaring down upon Jude's cowering frame, the clacker swinging in his hand. "So it's 'Eat my dear birdies,' is it, young man? 'Eat, dear birdies,' indeed! I'll tickle your breeches, and see if you say, 'Eat, dear birdies' again in a hurry! And you've been idling at the schoolmaster's too, instead of coming here, ha'n't ye, hey? That's how you earn your sixpence a day for keeping the rooks off my corn!" The passage states that which of the following is true?

- A. Jude loves the birds.
- B. Jude is using his hands to scare the birds by clapping.
- C. Jude's aunt is vocal in her disinterest in him.
- D. The whole scene was just a drawing.
- E. Farmer Troutham is a rich man.

**Correct Answer:** C

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

We know that Jude's aunt has told him that she is not interested in him from the line, "the only friends he could claim as being in the least degree interested in him, for his aunt had often told him that she was not."

#### QUESTION 1256

Adapted from *Jude the Obscure* by Thomas Hardy (1895) He sounded the clacker till his arm ached, and at length his heart grew sympathetic with the birds' thwarted desires. They seemed, like himself, to be living in a world which did not want them. Why should he frighten them away? They took upon more and more the aspect of gentle friends and pensioners – the only friends he could claim as being in the least degree interested in him, for his aunt had often told him that she was not. He ceased his rattling, and they alighted anew. "Poor little dears!" said Jude, aloud. "You shall have some dinner – you shall. There is enough for us all. Farmer Troutham can afford to let you have some. Eat, then my dear little birdies, and make a good meal!" They stayed and ate, inky spots on the nut-brown soil, and Jude enjoyed their appetite. A magic thread of fellow-feeling united his own life with theirs. Puny and sorry as those lives were, they much resembled his own. His clacker he had by this time thrown away from him, as being a mean and sordid instrument, offensive both to the birds and to himself as their friend. All at once he became conscious of a smart blow upon his buttocks, followed by a loud clack, which announced to his surprised senses that the clacker had been the instrument of offense used. The birds and Jude started up simultaneously, and the dazed eyes of the latter beheld the farmer in person, the great Troutham himself, his red face glaring down upon Jude's cowering frame, the clacker swinging in his hand. "So it's 'Eat my dear birdies,' is it, young man? 'Eat, dear birdies,' indeed! I'll tickle your breeches, and see if you say, 'Eat, dear birdies' again in a hurry! And you've been idling at the schoolmaster's too, instead of coming here, ha'n't ye, hey? That's how you earn your sixpence a day for keeping the rooks off my corn!" Which of the following statements about Troutham is supported by the passage?

- A. He is well spoken.
- B. He is undemanding.
- C. He is a small man.
- D. He is severe.
- E. He pays his employees well.

**Correct Answer:** D

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Troutham's violent reaction to Jude's discretion shows that he is a violent man, which is equal to "severe." He may think he pays his employees well, but a sixpence was about one fortieth of a pound, so it was not a great deal of money.

#### QUESTION 1257

Adapted From "Tony Kytes, The Arch-Deceiver" in *Life's Little Ironies: A Set of Tales*, with some colloquial sketches, entitled, *A Few Crusted Characters* by Thomas Hardy (1905 ed.) I shall never forget Tony's face. It was a little, round, firm, tight face, with a seam here and there left by the small-pox, but not enough to hurt his looks in a woman's eye, though he'd had it baddish when he was a boy. So very serious looking and unsmiling 'a was, that young man, that it really seemed as if he couldn't laugh at all without great pain to his conscience. He looked very hard at a small speck in your eye when talking to 'ee. And there was no more sign of a whisker or beard on Tony Kytes's face than on the palm of my hand. He used to sing "The Tailor's Breeches," with all its scandalous lyrics, in a religious manner, as if it were a hymn. He was quite the women's favorite. But in course of time Tony got fixed down to one in particular, Milly Richards – a nice, light, small, tender little thing; and it was soon said that they were engaged to be married. One Saturday he had been to market to do business for his father, and was driving home the wagon in the afternoon. When he reached the foot of the hill, who should he see waiting for him at the top but Unity Sallet, a handsome girl, one of the young women he'd been very tender towards before he'd got engaged to Milly. As soon as Tony came up to her she said, "My dear Tony, will you give



me a lift home?" "That I will, darling," said Tony. "You don't suppose I could refuse 'ee?" She smiled a smile, and up she hopped, and on drove Tony. "Tony," she says, in a sort of tender chide, "Why did ye desert me for that other one? In what is she better than I? I should have made 'ee a finer wife, and a more loving one, too. 'Tisn't girls that are so easily won at first that are the best. Think how long we've known each other – ever since we were children almost – now haven't we, Tony?" "Yes, that we have," says Tony, struck with the truth o't. "And you've never seen anything in me to complain of, have ye, Tony? Now tell the truth to me." "I never have, upon my life," says Tony. "And – can you say I'm not pretty, Tony? Now look at me. He let his eyes light upon her for a long while. "I really can't," says he. "In fact, I never knowed you was so pretty before!" The end of the passage establishes all of the following EXCEPT \_\_\_\_\_.

- A. Tony does not want to marry Milly.
- B. Tony admits that Unity is pretty.
- C. Unity is manipulative.
- D. Tony is willing to mollify Unity.
- E. Unity thinks herself superior to Milly.

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

We can infer from the end of the passage that Unity is attempting to change Tony's mind and has waited for him for this specific purpose. We cannot tell if Tony has no feelings for Milly from the end of the passage, as we are not given any information to support this statement. We are also unable to infer the information, as Tony does not say anything against Milly, he only affirms some of the things Unity says.

#### QUESTION 1258

Adapted From "Tony Kytes, The Arch-Deceiver" in Life's Little Ironies: A Set of Tales, with some colloquial sketches, entitled, A Few Crusted Characters by Thomas Hardy (1905 ed.) I shall never forget Tony's face. It was a little, round, firm, tight face, with a seam here and there left by the small-pox, but not enough to hurt his looks in a woman's eye, though he'd had it baddish when he was a boy. So very serious looking and unsmiling 'a was, that young man, that it really seemed as if he couldn't laugh at all without great pain to his conscience. He looked very hard at a small speck in your eye when talking to 'ee. And there was no more sign of a whisker or beard on Tony Kytes's face than on the palm of my hand. He used to sing "The Tailor's Breeches," with all its scandalous lyrics, in a religious manner, as if it were a hymn. He was quite the women's favorite. But in course of time Tony got fixed down to one in particular, Milly Richards – a nice, light, small, tender little thing; and it was soon said that they were engaged to be married. One Saturday he had been to market to do business for his father, and was driving home the wagon in the afternoon. When he reached the foot of the hill, who should he see waiting for him at the top but Unity Sallet, a handsome girl, one of the young women he'd been very tender towards before he'd got engaged to Milly. As soon as Tony came up to her she said, "My dear Tony, will you give me a lift home?" "That I will, darling," said Tony. "You don't suppose I could refuse 'ee?" She smiled a smile, and up she hopped, and on drove Tony. "Tony," she says, in a sort of tender chide, "Why did ye desert me for that other one? In what is she better than I? I should have made 'ee a finer wife, and a more loving one, too. 'Tisn't girls that are so easily won at first that are the best. Think how long we've known each other – ever since we were children almost – now haven't we, Tony?" "Yes, that we have," says Tony, struck with the truth o't. "And you've never seen anything in me to complain of, have ye, Tony? Now tell the truth to me." "I never have, upon my life," says Tony. "And – can you say I'm not pretty, Tony? Now look at me. He let his eyes light upon her for a long while. "I really can't," says he. "In fact, I never knowed you was so pretty before!" The passage states that which of the following is true?

- A. Tony had a severe bout of smallpox as a child.
- B. Unity claims that women who are wooed easily make the best wives.
- C. Tony does not think that Unity is pretty.
- D. Tony easily grew facial hair.
- E. Unity was not a good-looking woman.

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

In the first paragraph the narrator establishes that: “ [his] face, with a seam here and there left by the small-pox, but not enough to hurt his looks in a woman's eye, though he'd had it badish when he was a boy.” So we know that he had a bad case of smallpox when he was younger.

#### QUESTION 1259

Adapted From "Tony Kytes, The Arch-Deceiver" in Life's Little Ironies: A Set of Tales, with some colloquial sketches, entitled, A Few Crusted Characters by Thomas Hardy (1905 ed.) I shall never forget Tony's face. It was a little, round, firm, tight face, with a seam here and there left by the small-pox, but not enough to hurt his looks in a woman's eye, though he'd had it baddish when he was a boy. So very serious looking and unsmiling 'a was, that young man, that it really seemed as if he couldn't laugh at all without great pain to his conscience. He looked very hard at a small speck in your eye when talking to 'ee. And there was no more sign of a whisker or beard on Tony Kytes's face than on the palm of my hand. He used to sing "The Tailor's Breeches," with all its scandalous lyrics, in a religious manner, as if it were a hymn. He was quite the women's favorite. But in course of time Tony got fixed down to one in particular, Milly Richards – a nice, light, small, tender little thing; and it was soon said that they were engaged to be married. One Saturday he had been to market to do business for his father, and was driving home the wagon in the afternoon. When he reached the foot of the hill, who should he see waiting for him at the top but Unity Sallet, a handsome girl, one of the young women he'd been very tender towards before he'd got engaged to Milly. As soon as Tony came up to her she said, "My dear Tony, will you give me a lift home?" "That I will, darling," said Tony. "You don't suppose I could refuse 'ee?" She smiled a smile, and up she hopped, and on drove Tony. "Tony," she says, in a sort of tender chide, "Why did ye desert me for that other one?

In what is she better than I? I should have made 'ee a finer wife, and a more loving one, too. 'Tisn't girls that are so easily won at first that are the best. Think how long we've known each other – ever since we were children almost – now haven't we, Tony?" "Yes, that we have," says Tony, struck with the truth o't. "And you've never seen anything in me to complain of, have ye, Tony? Now tell the truth to me." "I never have, upon my life," says Tony. "And – can you say I'm not pretty, Tony? Now look at me. He let his eyes light upon her for a long while. "I really can't," says he. "In fact, I never knowed you was so pretty before!" Which of the following statements about Tony is supported by the passage?

- A. Tony has a comely face.
- B. Tony secretly hates Milly.
- C. Tony had hair on his palms.
- D. Tony would not look people in the eye.
- E. Tony enjoys going to market.

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The first paragraph explains, when talking about his face that, “[Tony had smallpox] but not enough to hurt his looks in a woman's eye” so we know that he was attractive to women and that his face, despite some scars, was particularly good looking, or comely. "Comely" most closely means cute or attractive.

#### QUESTION 1260

Adapted from Tess of the D'Urbervilles by Thomas Hardy (1891) The haggling business, which had mainly depended on the horse, became disorganized forthwith. Distress, if not penury, loomed in the distance. Durbeyfield was what was locally called a slack-twisted fellow; he had good strength to work at times; but the times could not be relied on to coincide with the hours of requirement; and, having been unaccustomed to the regular toil of the day-labourer, he was not particularly persistent when they did so coincide. Tess, meanwhile, as the one who had dragged her parents into this quagmire, was silently wondering what she could do to help them out of it; and then her mother broached her scheme. "We must take the ups wi' the downs, Tess," said she; "and never could your high blood have been found out at a more called-for moment. You must try your friends. Do ye know that there is a very rich Mrs d'Urberville living on the outskirts o' the Chase, who must be our relation? You must go to her and claim kin, and ask for some help in our trouble." "I shouldn't care to do that," says Tess. "If there is such a lady, 'twould be enough for us if she were friendly – not to expect her to give us help." "You could win her round to do anything, my dear. Besides, perhaps there's more in it than you know of. I've heard what I've heard, good-now." The oppressive sense of the harm she had done led Tess to be more deferential than she might otherwise have been to the maternal wish; but she could not understand why her mother should find such satisfaction in contemplating an enterprise of, to her, such doubtful profit. Her mother might have made inquiries, and have discovered that this Mrs d'Urberville was a lady of unequalled virtues and charity. But Tess's pride made the part of poor relation one of particular distaste to her. "I'd rather try to get work," she murmured. "Durbeyfield, you can settle it," said his wife, turning to where he sat in the background. "If you say she ought to go, she will go." "I don't like my children going and making themselves beholden to strange kin," murmured he. "I'm the head of the noblest branch o' the family, and I ought to live up to it." His reasons for staying away were worse to Tess than her own objections to going. "Well, as I killed the horse, mother," she said mournfully, "I suppose I ought to do something. I don't mind going and seeing her, but you must leave it to me about asking for help. And don't go thinking about her making a match for me – it is silly." "Very well said, Tess!" observed her father sententiously. "Who said I had such a thought?" asked Joan. "I fancy it is in your mind, mother. But I'll go." Rising early next day she walked to the hill-town called Shaston, and there took advantage of a van which twice in the week ran from Shaston eastward to Chaseborough, passing near Trantridge, the parish in which the vague and mysterious Mrs d'Urberville had her residence.

It can be reasonable inferred from the passage that which of the following emotions play the strongest role in Tess's reluctance to visit Mrs d'Urbeville?

- A. Hatred
- B. Pride
- C. Fear
- D. Anger

**Correct Answer:** B

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

The passage clearly states in its sixth paragraph that "Tess's pride made the part of poor relation one of particular distaste to her."

#### QUESTION 1261

Adapted from A Room With a View by E.M. Forster (1908) "The Signora had no business to do it," said Miss Bartlett, "no business at all. She promised us south rooms with a view close together, instead of which here are north rooms, looking into a courtyard, and a long way apart. Oh, Lucy!" "And a Cockney, besides!" said Lucy, who had been further saddened by the Signora's unexpected accent. "It might be London." She looked at the two rows of English people who were sitting at the table; at the row of white bottles of water and red bottles of wine that ran between the English people; at the portraits of the late Queen and the late Poet Laureate that hung behind the English people, heavily framed; at the notice of the English church (Rev. Cuthbert Eager, M. A. Oxon.), that was the only other decoration of the wall. "Charlotte, don't you feel, too, that we might be in London? I can hardly believe that all kinds of other things are just outside. I suppose it is one's being so tired." "This meat has surely been used for soup," said Miss Bartlett, laying down her fork. "I want so to see the Arno. The rooms the Signora promised us in her letter would have looked over the Arno. The Signora had no business to do it at all. Oh, it is a shame!" "Any nook does for me," Miss Bartlett continued, "but it does seem hard that you shouldn't have a view." Lucy felt that she had been selfish. "Charlotte, you mustn't spoil me; of course, you must look over the Arno, too. I meant that. The first vacant room in the front –" "You must have it," said Miss Bartlett, part of whose traveling expenses were paid by Lucy's mother – a piece of generosity to which she made many a tactful allusion. "No,



no. You must have it." "I insist on it. Your mother would never forgive me, Lucy." "She would never forgive me." The ladies' voices grew animated, and – if the sad truth be owned – a little peevish. They were tired, and under the guise of unselfishness they wrangled. Some of their neighbors interchanged glances, and one of them – one of the ill-bred people whom one does meet abroad – leant forward over the table and actually intruded into their argument. He said: "I have a view, I have a view." Miss Bartlett was startled. Generally at a pension people looked them over for a day or two before speaking, and often did not find out that they would "do" till they had gone. She knew that the intruder was ill-bred, even before she glanced at him. He was an old man, of heavy build, with a fair, shaven face and large eyes. There was something childish in those eyes, though it was not the childishness of senility. What exactly it was Miss Bartlett did not stop to consider, for her glance passed on to his clothes. These did not attract her. He was probably trying to become acquainted with them before they got into the swim. So she assumed a dazed expression when he spoke to her, and then said: "A view? Oh, a view! How delightful a view is!"

In the final paragraph, Miss Bartlett's negative opinion of the man is partially based on his \_\_\_\_\_.

- A. clothing
- B. shoes
- C. attitude
- D. accent
- E. hygiene

**Correct Answer:** A

**Section:** Reading

**Explanation**

**Explanation/Reference:**

Explanation:

Miss Bartlett observes the old man in the passage's final paragraph: "She knew that the intruder was ill-bred, even before she glanced at him. He was an old man, of heavy build, with a fair, shaven face and large eyes. There was something childish in those eyes, though it was not the childishness of senility. What exactly it was Miss Bartlett did not stop to consider, for her glance passed on to his clothes. These did not attract her. He was probably trying to become acquainted with them before they got into the swim." We can tell from this quotation – specifically from " . . . her glance passed on to his clothes. These did not attract her" – that Miss Bartlett judges the man based on his clothing.