

TEAS Section 3: Mathematics.VCEplus.premium.exam.103q

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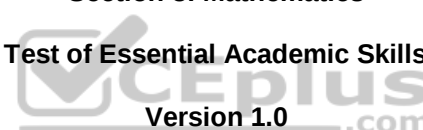
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TEAS

Section 3: Mathematics

Test of Essential Academic Skills



Version 1.0

Exam A

QUESTION 1

Given that one Tunnel Boring machine could build 1,000 m of tunnel a month and the Tunnel is 50 km long, how fast could the Tunnel have been built using two Tunnel Boring machines if there had been no delays?

- A. just over 2 years
- B. just under 5 years
- C. about 1 year
- D. just over 4 years

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Explanation:

In one month, 2,000m or 2km of tunnel could be built with 2 machines.

$2\text{km}/1\text{ month} = 50\text{km}/x$;

$2x = 50$; $x = 25$ months, or just over

2 years.

QUESTION 2 If Sara can read 15 pages in 10 minutes, how long will it take her to read 45 pages?

- A. 20 minutes
- B. 30 minutes
- C. 50 minutes
- D. 40 minutes

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

The relationship can be expressed as:

$15/10 = 45/x$;

$15x = 450$; x

$= 30$.

QUESTION 3 Restaurant customers tip their server only 8 percent for poor service.

If their tip was \$3.70, how much was their bill?

- A. \$46.25
- B. \$44.60
- C. \$40.15
- D. \$50.45

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Explanation:

The total amount of the bill is:

$3.70/x = 8/100$;

$$370 = 8x;$$
$$x = \$46.25.$$

QUESTION 4 If Leonard bought 2 packs of batteries for x amount of dollars, how many packs of batteries could he purchase for \$5.00 at the same rate?

- A. $10/x$
- B. $2x$
- C. $2/x$
- D. $10x$

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Explanation:

First set the relationship up and solve for the number of packs:

$$x/2 = 5/\text{packs}; x(\text{packs}) = 10; \text{packs} = 10/x.$$

QUESTION 5 Choose the algebraic expression that best represents the following situation:

Jeral's test score (J) was 5 points higher than half of Kara's test score (K).

- A. $K = 1/2 \times J - 5$
- B. $J = 1/2 \times K + 5$
- C. $J = 2K - 5$
- D. $K = (J - 1/2) - 5$

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 6 Enrique weighs 5 pounds more than twice Brendan's weight.

If their total weight is 225 pounds, how much does Enrique weigh?

- A. 125 pounds
- B. 152 pounds
- C. 165 pounds
- D. 115 pounds

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

If $E + B = 225$, and $E = 2B + 5$, then $225 - B = 2B + 5$.

Solving for B:

$$3B = 220$$

$$B = 73.3$$

$$225 - 73.3 = 151.7.$$

QUESTION 7 What does $(4x - y) + (-10 + y)$ equal if $x = 3$ and $y = 4$?

- A. 14
- B. 22
- C. -2
- D. 2

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Plugging in x and y , you get $(4(3) - 4) + (-10 + 4)$, which is $8 + (-6)$, or $8 - 6 = 2$.

QUESTION 8 A pasta salad was chilled in the refrigerator at 35°F overnight for 9 hours. The temperature of the pasta dish dropped from 86°F to 38°F .

What was the average rate of cooling per hour?

- A. $(0.532^{\circ})/\text{hr}$
- B. $(5.3^{\circ})/\text{hr}$
- C. $(4.8^{\circ})/\text{hr}$
- D. $(5.15^{\circ})/\text{hr}$

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

The average rate of cooling is:

$((86^{\circ} - 38^{\circ}))/9$ hrs; $(48^{\circ})/9$

$= 5.33^{\circ}\text{F}$ per hour.

QUESTION 9 Loral received all her grades for the semester (in parentheses) along with the weight for each grade, shown below.

Weight 45% = 3 tests (80%, 75%, 92%) 25% = final (88%) 15% = paper (91%) 15% = 2 oral quizzes each worth 25 points (22, 19)

What is her final grade?

- A. 85
- B. 79
- C. 86
- D. 88

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Calculate the weighted average of the 3 tests:

$((80+75+92))/3 = 82.3$;

Calculate the average of the 2 oral quizzes:

$(22/25) \times 100 = 88$ and $(19/25) \times 100 = 76$, so $(88 + 76)/2 = 82$.

Multiply each grade by their weight, and then add them all up to determine the final grade: $(82 \times 0.45) + (88 \times 0.25) + (91 \times 0.15) + (82 \times 0.15) = 85$.

QUESTION 10

The following items were purchased at the grocery store.

Item	Cost	Quantity
Milk	\$3.50/carton	2
Banana	\$0.30 each	5
Can of soup	\$1.25/can	3
Carrots	\$0.45/stick	6

What was the average price paid for the items?

- A. \$0.34
- B. \$0.55
- C. \$0.93
- D. \$1.38

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Calculate the average price:

$$((3.5 \times 2) + (0.3 \times 5) + (1.25 \times 3) + (0.45 \times 6)) / ((2 + 5 + 3 + 6)) = 0.93.$$



QUESTION 11

What does 68% equal?

- A. 6800
- B. 0.68
- C. 0.0068
- D. 6.8

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

$$68\% = 68/100.$$

To express as a fraction, move the decimal two places to the left, 0.68.

QUESTION 12

Multiply $2\frac{1}{7} \times 3\frac{2}{3}$.

- A. $1\frac{1}{3}$
- B. $1\frac{32}{45}$
- C. $7\frac{6}{7}$
- D. $4\frac{1}{7}$

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

Explanation:

$$2^{1/7} \times 3^{2/3} = 15/7 \times 11/3 = 165/21 = 7^{18}/_{21} = 7^6/7.$$

QUESTION 13 Find

$$(27/9) \times (\sqrt{(25) \times 2}).$$

- A. 90
- B. 12
- C. 45
- D. 30

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Remember the order of operations:

$$(27/9) = 3 \text{ and } (\sqrt{(25) \times 2}) = 10; 3 \times 10 = 30.$$

QUESTION 14 What is the missing number in the sequence?

$$4, 6, 10, 18, \underline{\quad}, 66.$$

- A. 45
- B. 34
- C. 54
- D. 22

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Double the number that is added to the previous number.

So, $4+2=6$, $6+4=10$, $10+8=18$, $18+16=34$, and $34+32=66$.

QUESTION 15 Which of the following is an improper fraction?

- A. $2/3$
- B. 2.50
- C. $5/2$
- D. $1\frac{3}{5}$

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

Explanation:

An improper fraction is one whose numerator is greater than the denominator.

QUESTION 16 Convert 250 centimeters to kilometers.

- A. 0.0025 km
- B. 0.025 km
- C. 0.250 km
- D. 2.50 km

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Explanation:

1 kilometer is equal to 100,000 centimeters. $250/10000 = 0.0025$.

QUESTION 17

Precipitation (inches)			
Date	Albany	Coral Bay	Bunbury
6/1	0.01	0.02	0.02
6/2	0.25	0.35	0.00
6/3	0.55	0.75	0.20
6/4	0.00	0.45	0.10
6/5	0.90	1.01	0.50
6/6	2.00	2.15	1.90
6/7	0.95	1.05	1.15



How much more rain did Albany receive than Bunbury on the third of the month?

- A. 0.30 inches
- B. 0.25 inches
- C. 0.35 inches
- D. 0.55 inches

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Albany received 0.55 inches of rain, while Bunbury received only 0.20 in. $0.55 - 0.20 = 0.35$ inches.

QUESTION 18

Precipitation (inches)			
Date	Albany	Coral Bay	Bunbury
6/1	0.01	0.02	0.02
6/2	0.25	0.35	0.00
6/3	0.55	0.75	0.20
6/4	0.00	0.45	0.10
6/5	0.90	1.01	0.50
6/6	2.00	2.15	1.90
6/7	0.95	1.05	1.15

What was the average amount of precipitation received in all areas on the fifth of the month?

- A. 0.95 inches
- B. 2.41 inches
- C. 1.01 inches
- D. 0.80 inches

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Looking at the fifth day of the month, you get: $0.90 + 1.01 + 0.50 = 2.41 \div 3 = 0.80$.



QUESTION 19 Evaluate this expression. Which of these answers is correct?

$\frac{2}{3} \times \frac{5}{8}$

- A. $\frac{12}{8}$
- B. $\frac{10}{12}$
- C. $\frac{5}{12}$
- D. $\frac{5}{24}$

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 20 What is the exact value of 0.4×3.5 ?

- A. 13.5
- B. 0.14
- C. 1.4
- D. 14

Correct Answer: C

Section: (none)

Explanation**Explanation/Reference:**

QUESTION 21 Which of these expresses $\frac{33}{80}$ as a decimal?

- A. 0.345
- B. 0.4125
- C. 4.125
- D. 0.0412

Correct Answer: B

Section: (none)

Explanation**Explanation/Reference:**

QUESTION 22 Solve the equation and choose the best answer.

$$9/b = b/4$$

- A. 7
- B. 6.2
- C. 6
- D. 36

Correct Answer: C

Section: (none)

Explanation**Explanation/Reference:**

QUESTION 23 The price of a pencil box increased from \$25 to \$26.50.

What is the percentage increase in the price?

- A. 6%
- B. 35%
- C. 60%
- D. 0.6%

Correct Answer: A

Section: (none)

Explanation**Explanation/Reference:**

QUESTION 24 Evaluate $0.30 - 0.03$.

- A. 0.27
- B. 2.7

- C. 0.3
- D. 0.027

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 25

Simplify to a fraction in lowest terms:

$$\frac{6 + 9}{6 \times 9}$$

- A. 1/9
- B. 5/18
- C. 0.277
- D. 15/24

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 26 Express this number as a percentage: 9/40.

- A. 0.0225%
- B. 22.5%
- C. 0.225%
- D. 2.25%

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 27 Express 48 square centimeters in square meters.

- A. 4800 square meters
- B. 0.48 square meters
- C. 0.0048 square meters
- D. 0.048 square meters

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 28 A public health lecture was 1 hour 25 min long. The program started at 09:40.

At what time did it finish?

- A. 11:40 B. 10:55
- C. 11:05
- D. 8:15

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 29 In a sale, all prices are reduced by 40%.

Calculate the original price of an article whose sale price is \$42.

- A. \$72
- B. \$58.80
- C. \$105
- D. \$70

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:



QUESTION 30 The cost of 1 pound of fruit is \$3.40.

How many pounds of food can be bought for \$12.00?

- A. 0.35 pounds
- B. 3.53 pounds
- C. 6.3 pounds
- D. 35 pounds

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 31 Express 5.6 meters as a percentage of 8 meters.

- A. 70%
- B. 4.48%
- C. 25%
- D. 75%

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 32 Given that 5 cm on a map represents 4 km on the ground, calculate the distance in km between two points, which are 8 cm apart on the map.

- A. 64 km
- B. 10 km
- C. 6.4 km
- D. 2.5 km

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 33 Given that $6x = 7y$, find the ratio x/y .

- A. $6/7$
- B. $7/42$
- C. $42/6$
- D. $7/6$

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 34 Given that $a/12 = 4/10$, find the value of a .

- A. $5/12$
- B. $12/5$
- C. $24/5$
- D. $5/24$

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 35 If 42.8 kg is divided into two parts, in a ratio of $7/2$, how many kg is the smaller share?

- A. 9.51 kg
- B. 12.22 kg C. 0.856 kg
- D. 21.4 kg

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 36 John, Lucy and Emma share 60 pencils in the ratio 4/5/6.

How many pencils does Lucy receive?

- A. 24
- B. 16
- C. 3
- D. 20

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 37 Express $\frac{2}{7}$ as a decimal, with the answer correct to 2 decimal places.

- A. 0.285
- B. 0.29
- C. 3.5
- D. 0.3

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 38 Evaluate:
 0.07×0.4 .

- A. 0.028
- B. 0.28
- C. 2.8
- D. 28

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 39 A side of a square is 2.5 cm long.

What is the area of square?

- A. 39

- B. 6.25
- C. 5
- D. 10

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 40 A teacher has a rectangular piece of paper which is 52 cm long and 38 cm wide. She cuts the paper into squares, each measuring 5 cm by 5 cm.

What is the largest number of whole squares she cuts?

- A. 79.04
- B. 70C. 25
- D. 79

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 41 A tank is 12 cm high with a square base. Its sides are 10 centimeters wide.

What is the volume of the tank in cubic centimeters?

- A. 600
- B. 1200
- C. 120
- D. 4800

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 42 The area of one face of a cube is 49 square centimeters.

What is the total length of all its edges?

- A. 48 cm B.
- 98 cm
- C. 112 cm
- D. 84 cm

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 43 Given that $a = 4$, $b = -6$ and $c = 8$, what is the value of $(a + 2c)(b + 2c)$?

- A. 200
- B. 20
- C. -200
- D. -104

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 44 Solve the inequality $17 - 2a < 10$.

- A. $a < 2.3$
- B. $a > 5$
- C. $a < 3.5$
- D. $a > 3.5$

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 45

What is the value of x in this equation?

$$\frac{(x + 3)}{4} = \frac{(2x - 3)}{5}$$

- A. -9
- B. 15
- C. 12
- D. 9

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 46

Express as a single fraction in its simplest form:

$$\frac{3}{(2x - 1)} - \frac{4}{(5x + 2)}$$

$$\frac{-1}{10x - 2}$$

$$\frac{(7x + 10)}{(2x - 1)(5x + 2)}$$

$$\frac{7x + 10}{10x - 2}$$

$$\frac{(7x - 10)}{(2x - 1)(5x + 2)}$$

A.

B.

C.

D.



Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 47 What is the number a, if the result of adding a to 80 is the same as subtracting 2a from 272?

A. -64

B. 64

C. 192

D. 62

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 48 What is the value of a in this equation?

$$6a/5 - 2a/2 = 1/2$$

- A. $\frac{2}{5}$
- B. 5
- C. $\frac{20}{4}$
- D. $\frac{5}{2}$

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 49 Ali is x years old and her sister Sara is $(10x - 24)$ years old.

Given that Sara is twice as old as Ali, what is Sara's age?

- A. 8
- B. 10
- C. 24
- D. 6

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 50 Mary is x years old. She is 6 years older than her twin brothers Sam and Paul.

What is the mean age of the three children?

- A. $x - 2$
- B. $x - 3$
- C. $x - 4$
- D. $x + 4$

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 51

a is inversely proportional to $(b - 4)$.

If $a = 8$ and $b = 22$, express a in terms of b .

- A. $a = 32(b - 2)$

$$a = \frac{144}{(b - 4)}$$

$$b = \frac{72}{a - 4}$$

B.

C.

D. $a = 144b - 4$

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 52 In a competition, three teams, A , B and C , scored a total of 150 points.

If A scored 40% of this total and B scored four times as many points as C , what were the number of points scored by B ?

- A. 72
- B. 90
- C. 18
- D. 60

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 53 Sam, Paul, and Dean share a sum of money in the ratio 14:16:18 respectively.

Given that Sam receives \$2100, how much does Dean receive?

- A. \$2400
- B. \$2000
- C. \$2700
- D. \$5100

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 54 In a library, 30% of the books are fiction and the rest are non-fiction.

Given that there are 2,000 more non-fiction books than fiction books, what is the total number of books in the library?

- A. 4,000
- B. 3,000
- C. 6,000
- D. 5,000

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 55

A map has the scale of 4 cm to 1 km.

What is the actual area of a lake on ground which is represented as an area of 60 cm² on the map?

- A. 3.75 cm² B.
- 3.75 km²
- C. 0.26 km²
- D. 15 km²

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:



QUESTION 56 What is the number of sides of a regular polygon whose interior angles are 156° each?

(Remember, the sum of exterior angles of any polygon is 360°.)

- A. 15
- B. 14
- C. 6
- D. 8

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 57 Sam is now 5 times as old as his son Paul. Four years ago, the product of their ages was 52.

Find their present ages.

- A. Sam: 30 years; Paul: 6 years B.
- Sam: 15 years; Paul: 2 years
- C. Sam: 5 years; Paul: 30 years

D. Sam: 60 years; Paul: 30 years

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 58

What is the value of b in the equation:

$$\frac{12}{(4b - 10)} - \frac{8}{(2b - 6)} = 0$$

A. 1 B.

4

C. 8

D. -1

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 59 When a number is subtracted from 125 and the result is divided by 12, the answer obtained is twice the original number.

What is the number?

A. 10

B. 5C. 4

D. 25

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 60 Arrange the numbers 5, 4.26, 9/4, 13/3, and 8/2 in order, from least to greatest.

A. 13/3, 8/2, 4.26, 5, 9/4 B.

9/4, 8/2, 13/3, 4.26, 5 C.

4.26, 9/4, 13/3, 8/2, 5

D. 9/4, 8/2, 4.26, 13/3, 5

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 61 Arrange the numbers 0.09, 0.099, 0.9, 0.009, and 0.091 in order, from least to greatest.

- A. 0.09, 0.9, 0.091, 0.099, 0.009 B.
0.009, 0.09, 0.9, 0.091, 0.099 C.
0.009, 0.09, 0.091, 0.099, 0.9
D. 0.09, 0.099, 0.009, 0.9, 0.091

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 62

Find the value of $9 + (-41) - (-3) + 11$

- A. 64
B. 24
C. -24
D. -18

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 63 Find the value of $(3)(-4)(-3)(5)(-2)$.

- A. -1
B. -360
C. 360
D. 17

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 64 What is the fraction equivalent of 0.032?

- A. $\frac{32}{100}$
B. $\frac{4}{125}$ C. $\frac{4}{250}$
D. $\frac{8}{125}$

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:



QUESTION 65 What is the percent equivalent of 0.0067?

- A. 67%
- B. 0.067%
- C. 0.67%
- D. 6.7%

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 66 Express 85% as a fraction in its simplest form.

- A. 17/20
- B. 8/5
- C. 17/200
- D. 5/8

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 67 What is the decimal equivalent of 0.33%?

- A. 33.0
- B. 0.0033
- C. 0.033
- D. 0.33

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 68 What percent of 15 is 6?

- A. 40%
- B. 20%
- C. 32%
- D. 90%

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 69

A group of friends set aside four days to drive across a particularly scenic region of the country, stopping at popular tourist spots along the way. They covered $\frac{1}{4}$ of the distance on day one, another $\frac{4}{9}$ on day two, and $\frac{1}{6}$ of the trip on day three.

What fraction of the total trip had they completed by the end of the third day?

- A. $\frac{12}{49}$ B. $\frac{21}{36}$
C. $\frac{31}{36}$
D. $\frac{6}{9}$

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 70

Pete, Dan, and Carlyle had to dig a 2-foot deep trench to run conduit to their garage so they could wire it for electricity. To share the work, each agreed to dig $\frac{1}{3}$ of the way from the house to the garage. Dan went first and dug $\frac{1}{9}$ of the total distance early the next morning.

What fraction of the total amount of work did Dan still need to complete?

- A. $\frac{2}{3}$
B. $\frac{2}{9}$
C. $\frac{3}{9}$
D. $\frac{8}{9}$

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 71

Divide:

$$\frac{\frac{7}{8}}{\frac{1}{16}}$$

- A. $\frac{7}{128}$
B. 13
C. 3
D. 14

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 72

The town of Greenbody received 10.8 inches of rain in March, 5 inches in April, 3.47 inches in May, and 0.9 inches in June.

What was the town’s total rainfall over this four-month period?

- A. 14.92 B. 20.17
- C. 40.17
- D. 4.69

Correct Answer: B
Section: (none)
Explanation
Explanation/Reference:

QUESTION 73 Yesterday, Fatima trained for 6.25 hours, riding her bicycle under various conditions. During her workout, she managed to ride 114.75 miles total.

What was her average speed during this training session?

- A. 18.36 miles per hour B. 19.61 miles per hour
- C. 21.00 miles per hour
- D. 18.22 miles per hour

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 74 What is the value of this expression?

$2 \times (5 - 8 \times 10) + 5$

- A. -55
- B. -50
- C. -145
- D. -15

Correct Answer: C
Section: (none)
Explanation

B. 95 C.....2

D.....3

Correct Answer:3

Explanation/Reference:

QUESTION 75 What is the value of the expression:

$3 + 2(3 + 4)^2 - 6$

- A. 239

Section: (none)

Explanation

Explanation/Reference:

QUESTION 76

Which expression is equal to this one?

$$5x + 2 + \frac{9(x - 12)}{3} - x$$

- A. $7x - 34$
- B. $8x + 34$
- C. $7x + 38$
- D. $13x - 7$

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 77

$$\frac{2(4x - 2)(x - 5)}{4(x - 5)}$$

Which of these expressions is equal to it?

- A. $4x - 5$

B.
$$\frac{5x + 3}{2(x - 5)}$$

C. $2x - 1$

D.
$$\frac{9x + 1}{4x - 20}$$

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 78

Sebastian purchased a brand new car three years ago for \$35,000. The following year its value was estimated at \$23,850, and the year after that the price dropped to \$20,400.

Approximately what was the percentage change in the value of Sebastian's vehicle between one year and two years after its purchase?

- A. -42%
- B. 86%
- C. -14%
- D. 14%

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 79

Brad plans to leave instructions with his broker to sell all of his shares in a particular company if the value of its stock rises more than 10% above the current price, but to purchase additional shares if the stock's value falls more than 10% below its present value. The stock is currently selling for \$73.50 a share.

Which expression represents the interval, n , between which the broker should neither buy nor sell any shares of the company's stock for Brad?

A. $69.83 < n < 77.18$ B.

$73.60 < n < 73.60$ C.

$66.15 < n < 80.85$

D. $63.50 < n < 83.50$

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 80

Samantha is employed part-time working for three different businesses. At the first company she is paid \$20.00 per hour and works 15 hours each week. Her second job pays \$18.25 an hour and requires her to work two hours each day, Monday through Friday. On her last job, Samantha is paid \$15.00 per hour.

If she works a total of 37 hours every week, how much money does Samantha make on a weekly basis?

A. \$632.50

B. \$266.25

C. \$497.50

D. \$662.50



Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 81 Hamza purchased six 2-liter bottles of soft drink to serve at a pizza party with friends.

If the group drank 7,264 cubic centimeters of the soda during the party, about how many liters of soft drinks remained afterward?

A. 2 liters

B. 7 liters

C. 3 liters

D. 5 liters

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 82

Patti's base salary last year was \$65,000, not including her year-end bonus. When she checked her human resources profile, she saw that her total compensation added up to \$77,500. This total included her bonus, as well as health benefits equivalent to 15% of her base salary.

Rounded to the nearest tenth, what percentage of Patti's base salary plus benefits was her bonus?

- A. 3.6%
- B. 23.6%
- C. 3.7%
- D. 4.2%

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 83

A day trader noted that the value of a particular foreign currency pair fell from 1.32075 when the markets opened on Monday to 1.29620 when the markets closed on Friday.

By how much did the value of the currency pair decrease during the week, rounded to the nearest thousandth?

- A. 0.0246
- B. 0.024
- C. 0.025
- D. 0.02455

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:



QUESTION 84

A researcher is developing a new mold sealant designed to cover large areas. She plans to test the substance on a room with a total of 66 square meters of wall space.

If the product is designed to cover nine square meters of surface for every liter of compound, she will need to prepare a minimum of approximately how much sealant to cover the entire room?

- A. 594 milliliters
- B. 73 liters
- C. 73 deciliters
- D. 73 kiloliters

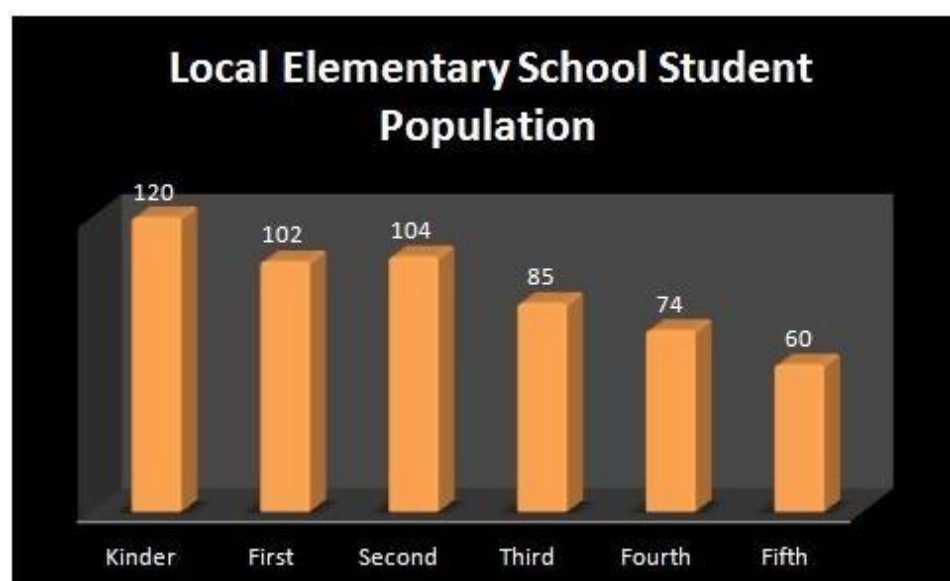
Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 85



The graph shows the number of students enrolled in each grade at a local elementary school.

Approximately what percentage of the total student population consists of kindergarten students?

- A. 25%
- B. 20%
- C. 15%
- D. 22%

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:



QUESTION 86



An investor purchased a total of 800 shares of stock from six different corporations. The graph represents the total number of shares in his portfolio and shows the distribution of shares purchased from each company.

How many of the total shares were purchased from Dr. Pepper Snapple Group?

- A. 176
- B. 136
- C. 190
- D. 152

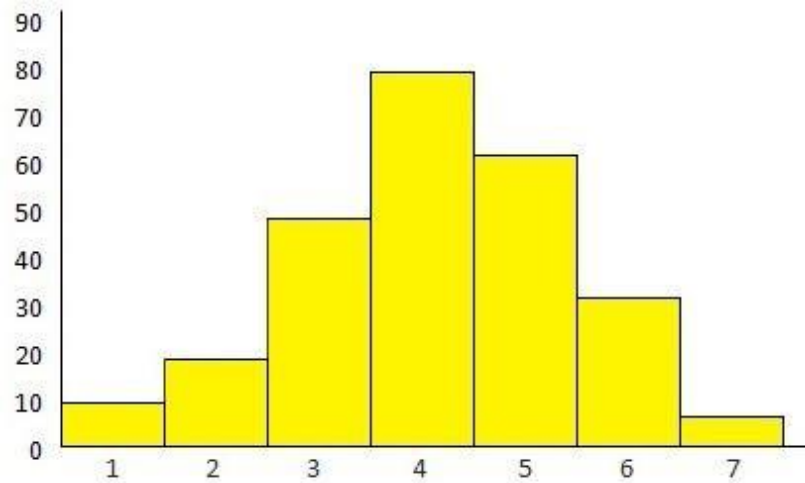
Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 87



Which answer choice most accurately describes the distribution observed in the graph?

- A. normal
- B. plateau
- C. skewed left
- D. bimodal

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 88

A review of data from 18 different studies found that there was a reduction in the risk of type 2 diabetes as people increased their consumption of coffee.

What valid conclusion can be made about the relationship between the consumption of coffee and the risk of type 2 diabetes, based on the results of this review?

- A. Studies have evidenced a positive covariance between coffee consumption and risk of type 2 diabetes.
- B. Studies have suggested that coffee consumption and risk of type 2 diabetes are uncorrelated.
- C. Studies have evidenced a random covariance between coffee consumption and risk of type 2 diabetes.
- D. Studies have evidenced a negative covariance between coffee consumption and risk of type 2 diabetes.

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 89 Estimate the value of $30/0.049$ correct to 1 significant figure.

- A. 610
- B. 612.2
- C. 600
- D. 612

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 90

Three numbers a , b and 27 have a mean of 30.

What is the value of $a + b$?

- A. 67
- B. 63
- C. 31
- D. 28

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:



QUESTION 91 Three numbers x , y , and 27 have a mean of 30. Five numbers x , y , 27, a , and b have a mean of 45.

What is the mean of a and b ?

- A. 69
- B. 70
- C. 67.5
- D. 25

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 92 What is the median for this set of numbers?

9, 1, 4, 8, 7, 8, 4, 2, 10, 9, 4

- A. 6
- B. 10
- C. 7
- D. 8

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 93 A football player scored the following number of field goals in eleven games:

1, 0, 0, 2, 2, 0, 1, 2, 3, 1, 2

What is the modal score?

- A. 0
- B. 3
- C. 1
- D. 2

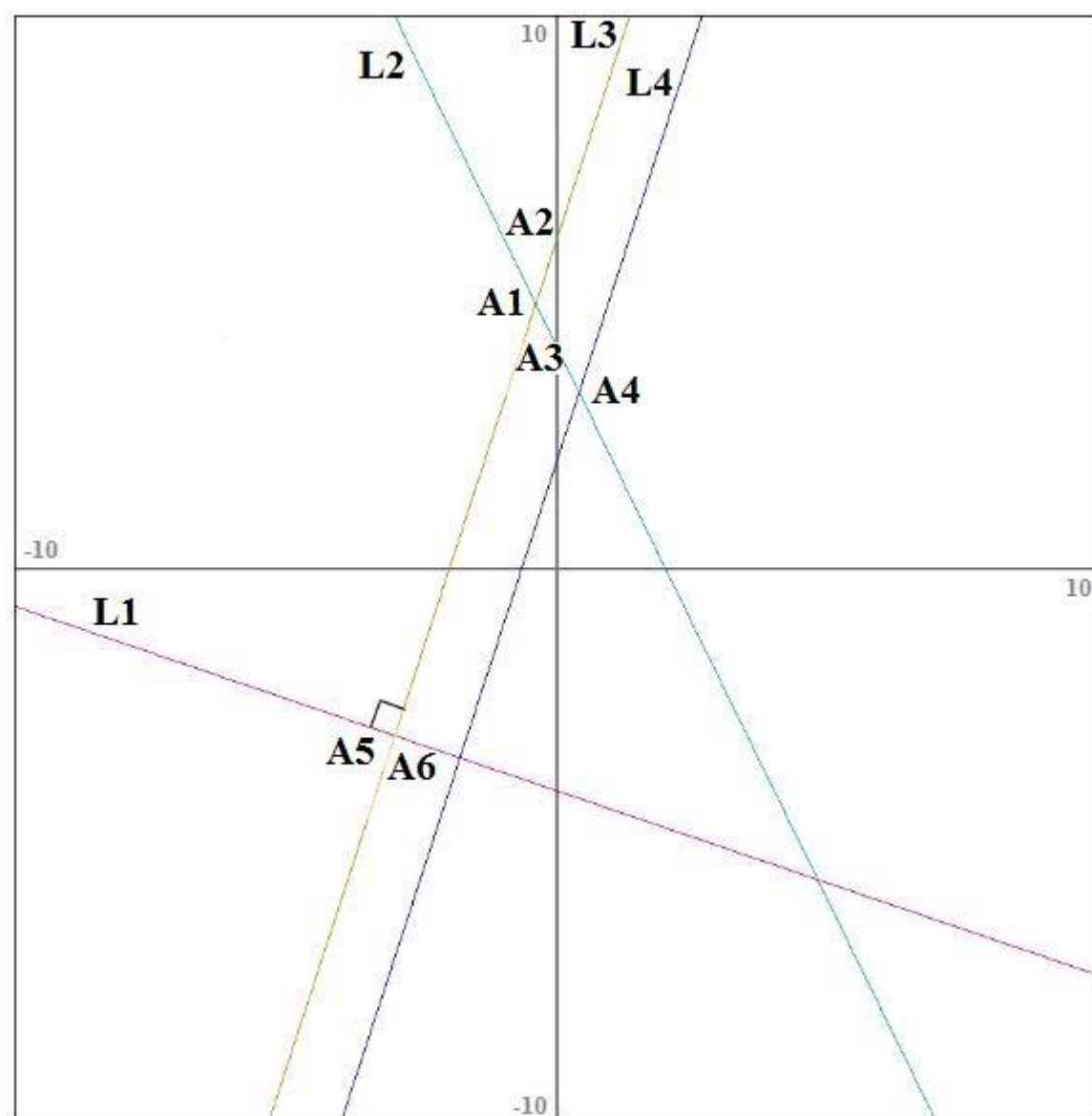
Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 94



In the figure, which pair(s) of labeled angles are equal to each other?

- A. angles A1 and A4
- B. angles A2 and A3
- C. both angle pairs A2 and A3 and A1 and A4
- D. angles A4 and A6

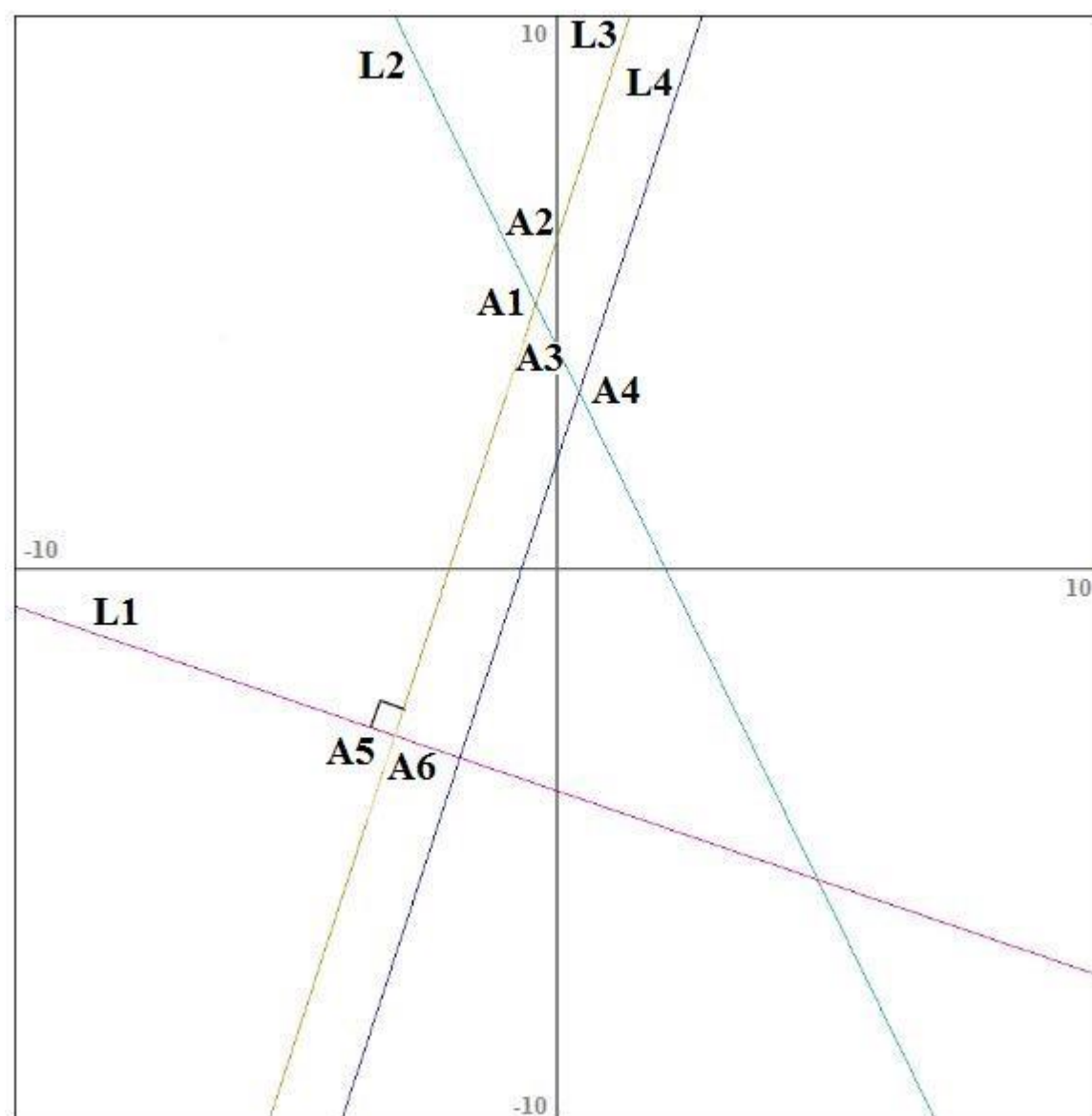
Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 95



In the figure, which of the following pairs of lines are perpendicular?

- A. There are no pairs of perpendicular lines in this figure.
- B. lines L1 and L2
- C. lines L1 and L3
- D. lines L2 and L3

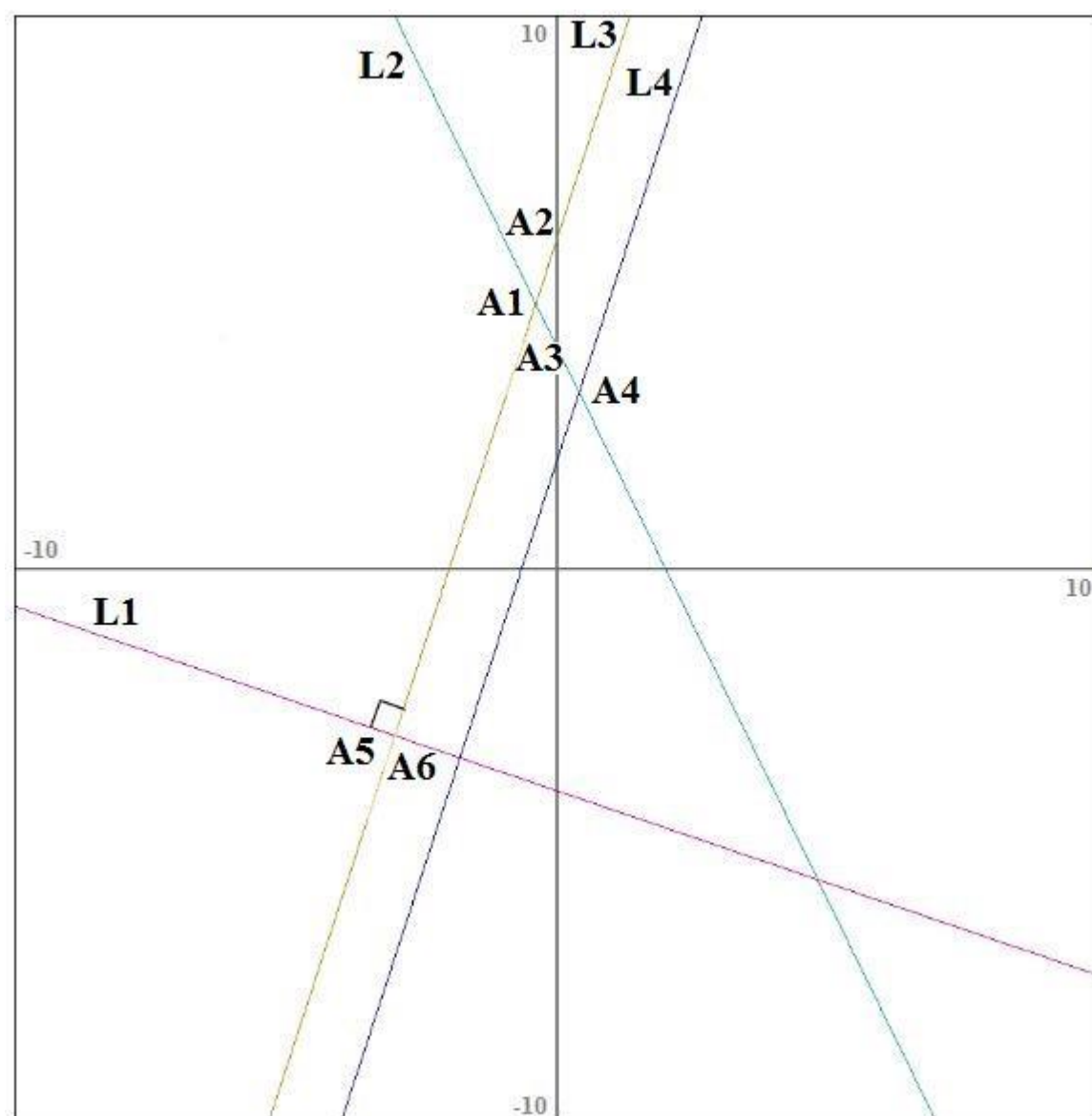
Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 96



In the figure, the lines L3 and L4 have the same slope.

Which of the following terms best describes their relationship?

- A. transversals
- B. parallel
- C. perpendicular
- D. There is no relationship between these lines.

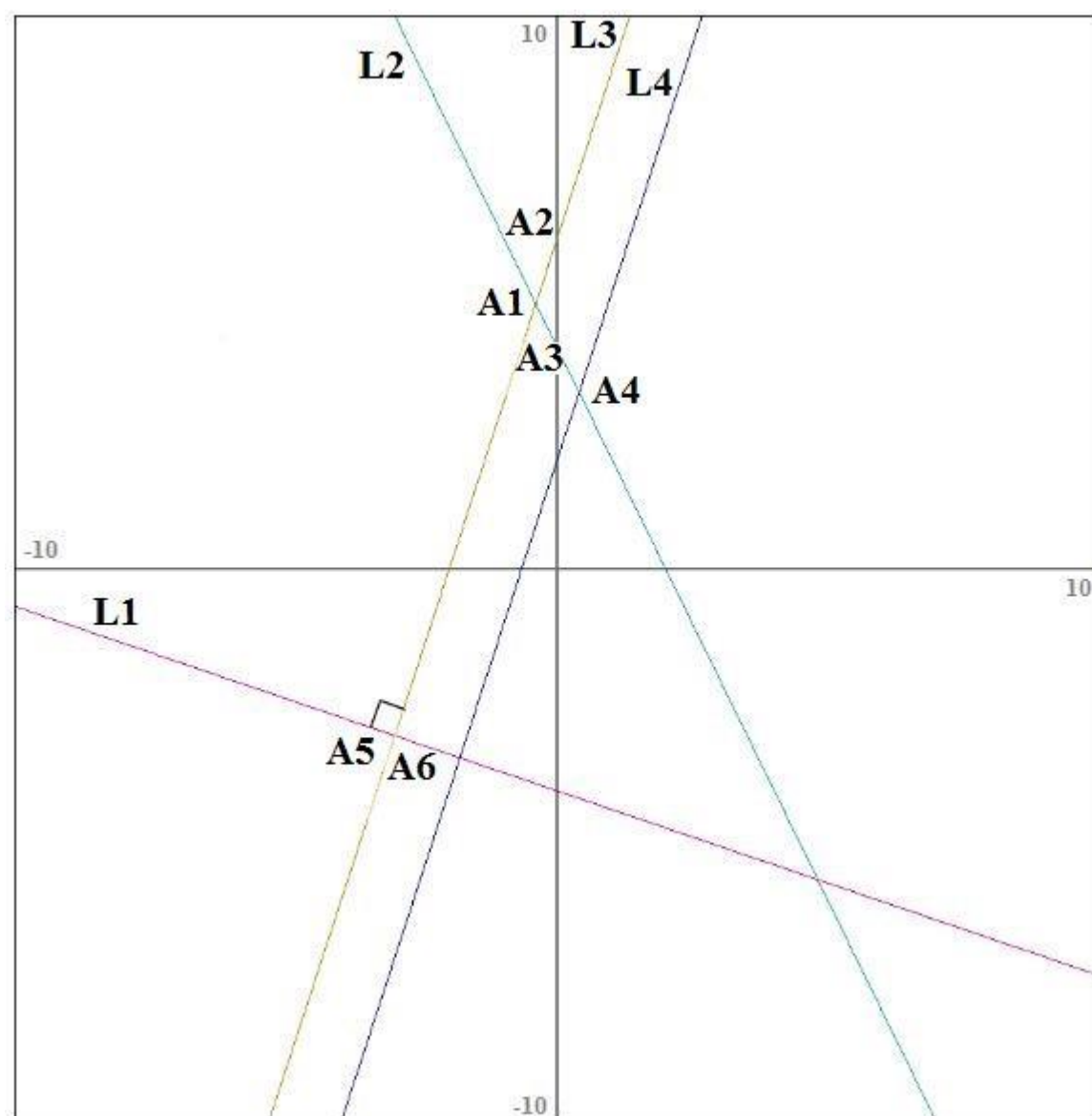
Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 97



In the figure, which of the angles are acute angles?

- A. angles A4 and A6 B. angles A1 and A4
- C. angles A2 and A3
- D. There are no acute angles in the figure.

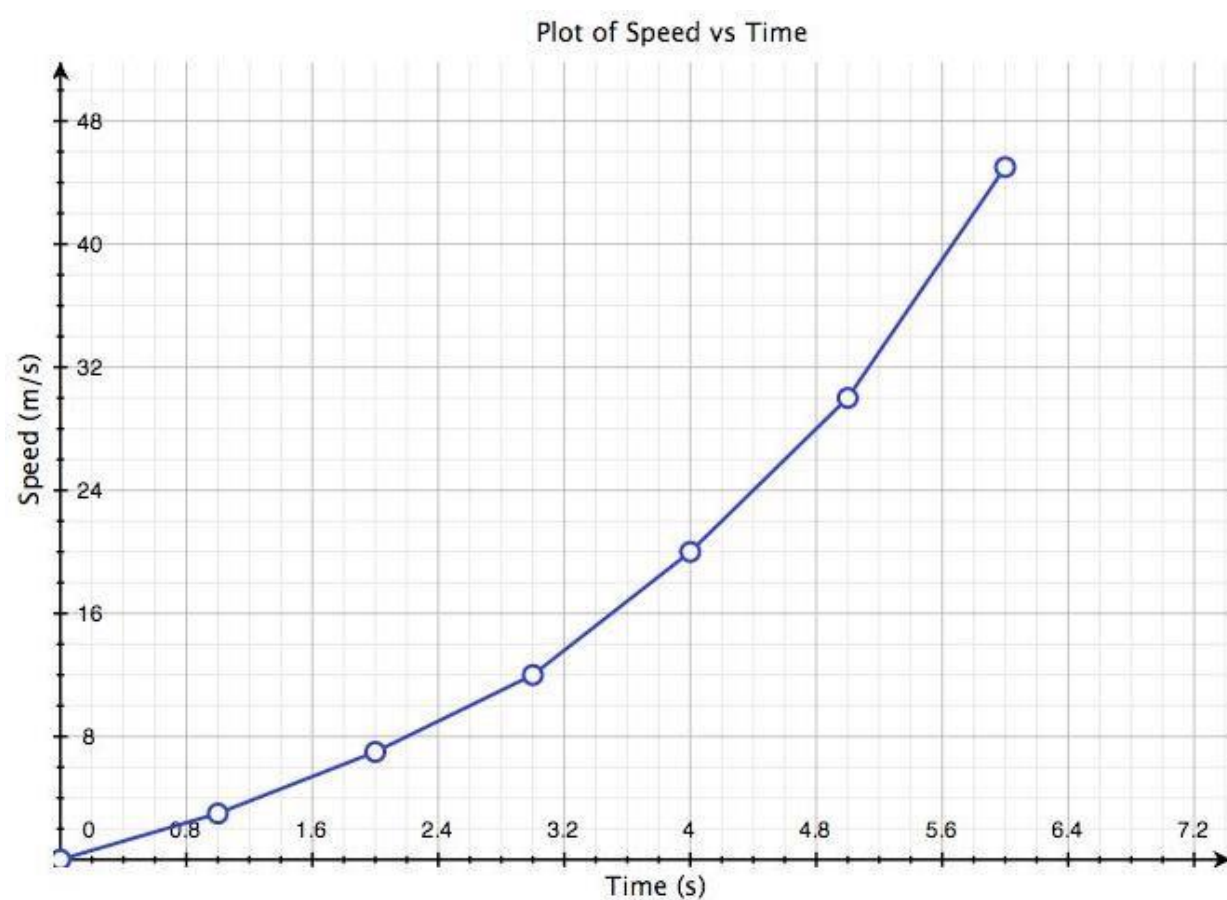
Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 98



The figure shows a graph of the speed of a test vehicle, plotted every second for 6 seconds during an experiment.

Which of the following statements best describes the motion of the vehicle during this time?

- A. The vehicle starts by moving slowly and continues to pick up speed during the entire time.
- B. The vehicle slows down at first, then picks up speed during the last 2 seconds of the time measured.
- C. The vehicle is moving rapidly at the start of measurement and slows down to a stop at the end.
- D. The vehicle moves at the same speed the entire time.

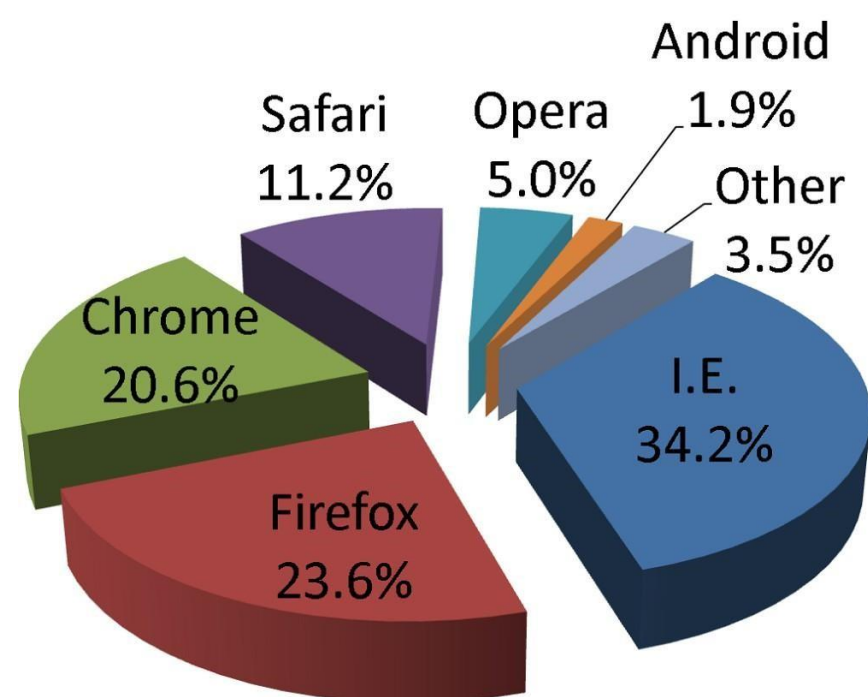
Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 99



**Browser Usage on Wikimedia
October 2011**

The pie chart shows the percentage of computers using a given web browser when they visited the Wikimedia Commons site over the period of one month.

If 500 computers used Opera during that time, what was the total number of computers that visited the site?

- A. A total of 5,000 computers visited the site.
- B. A total of 2,500 computers visited the site.
- C. A total of 100,000 computers visited the site.
- D. A total of 10,000 computers visited the site.

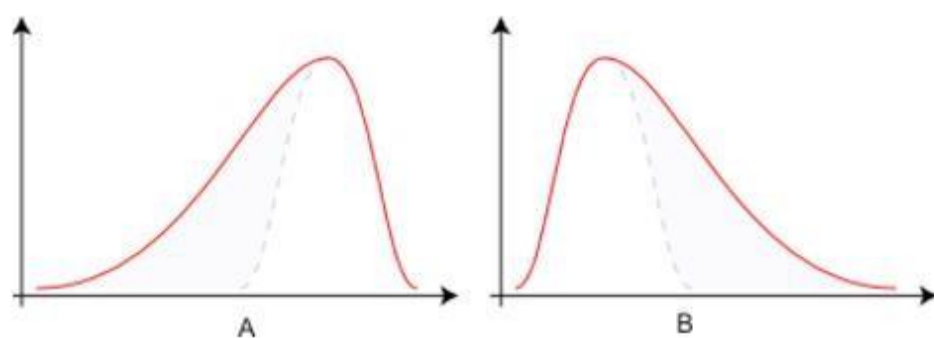
Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 100



The figure shows two types of data distribution.

The distribution represented by graph B is best described as _____.

- A. skewed right

- B. symmetric
- C. bimodal
- D. skewed left

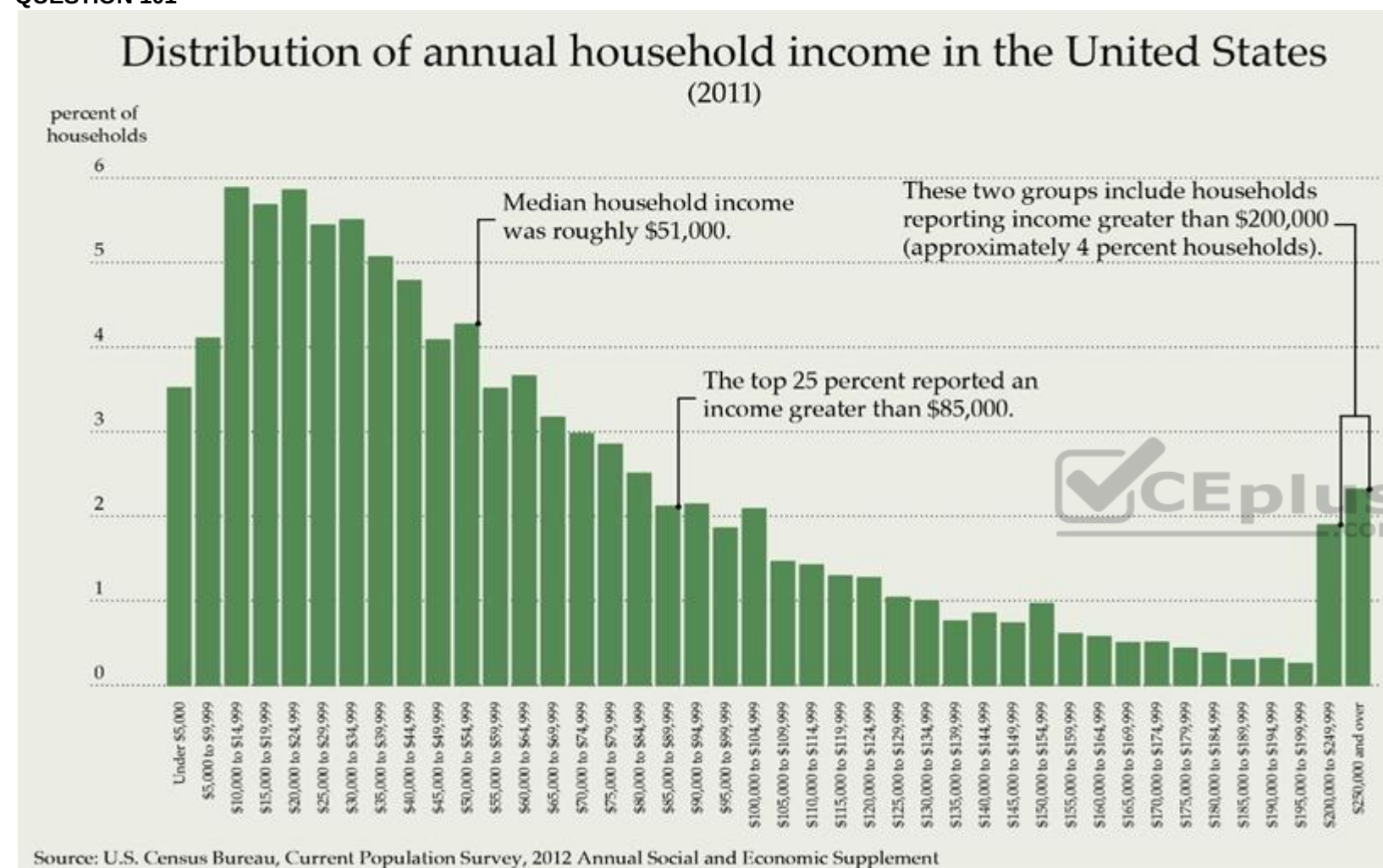
Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 101



Referring to the graphic, what is the meaning of this statement? "Median household income was roughly \$51,000."

- A. The average of all the reported household incomes was \$51,000.
- B. Most of the households had an income of \$51,000.
- C. Half of the households reported an income below this level and half reported an income above this level.
- D. The average household income was \$51,000 less than the maximum household income.

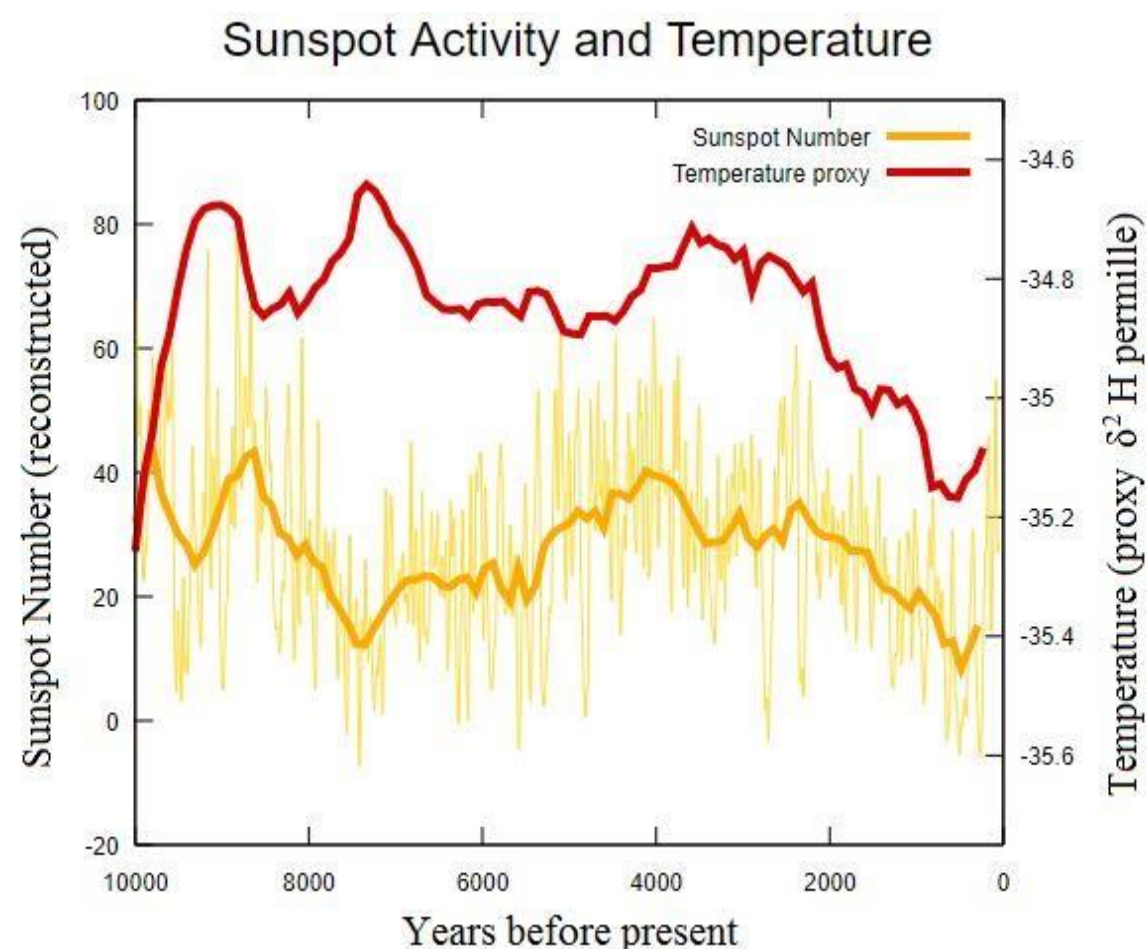
Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 102



The graph shows the number of sunspots and the measurement of a variable that estimates the average global temperature (“the temperature proxy”).

Which of the following statements best describes the correlation between these 2 measurements?

- A. Sunspots were not correlated with temperature between 8,000 and 6,000 years ago and were negatively correlated with temperature from about 2,000 years ago to the present.
- B. Sunspots were not correlated with temperature between 8,000 and 6,000 years ago and were positively correlated with temperature from about 2,000 years ago to the present.
- C. Sunspots were negatively correlated with temperature between 8,000 and 6,000 years ago and were negatively correlated with temperature from about 2,000 years ago to the present.
- D. Sunspots were negatively correlated with temperature between 8,000 and 6,000 years ago and were positively correlated with temperature from about 2,000 years ago to the present.

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 103

Two students were practicing the use of a scale. They each weighed an identical object 5 times. Student A got weights of 103, 104, 105, 106, and 107 pounds for the object, and student B got 101, 103, 105, 107, and 109 pounds for the same object.

Which of the following statements best describes the average and variation in their results?

- A. The two students got the same average weight and each had 5 measurements so the variability was the same.
- B. Student B got a higher average weight than student A and the same range.
- C. Student B got a higher average weight than student A and higher range.
- D. The two students got the same average weight, but student B had a higher range of measurements and more variability.

Correct Answer: D

Section: (none)
Explanation

Explanation/Reference:

