

Pass4sure.300-101.191.Questions

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VCEplus.com

Cisco 300-101

Implementing Cisco IP Routing



Got these real exam questions from my friends, made few answer corrections and now it is 100% passing formula being shared with you. By the way I passed yesterday.

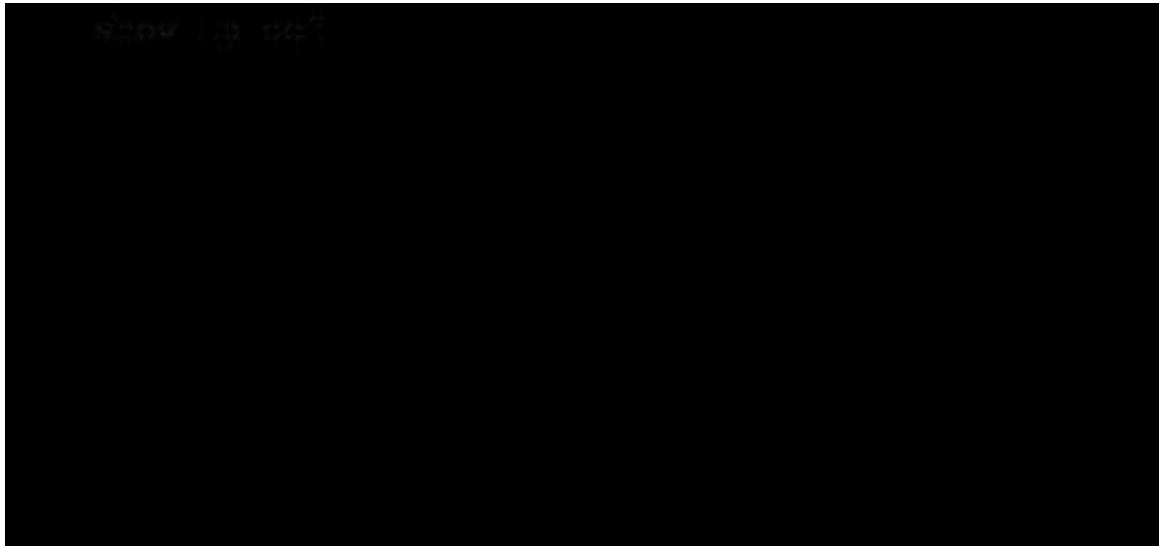
Sections

1. Network Principles
2. Layer 2 Technologies
3. Layer 3 Technologies
4. VPN Technologies
5. Infrastructure Security
6. Infrastructure Services
7. Mixed Questions

Exam A

QUESTION 1

Refer to the exhibit.



Based on this FIB table, which statement is correct?

- A. There is no default gateway.
- B. The IP address of the router on FastEthernet is 209.168.201.1.
- C. The gateway of last resort is 192.168.201.1.
- D. The router will listen for all multicast traffic.

Correct Answer: C

Section: Network Principles

Explanation

Explanation/Reference:

QUESTION 2

Refer to the exhibit.



A network administrator checks this adjacency table on a router. What is a possible cause for the incomplete marking?

- A. incomplete ARP information
- B. incorrect ACL
- C. dynamic routing protocol failure
- D. serial link congestion

Correct Answer: A

Section: Network Principles

Explanation

Explanation/Reference:

QUESTION 3

A network engineer notices that transmission rates of senders of TCP traffic sharply increase and decrease simultaneously during periods of congestion. Which condition causes this?

- A. global synchronization
- B. tail drop
- C. random early detection
- D. queue management algorithm

Correct Answer: A

Section: Network Principles

Explanation

Explanation/Reference:

QUESTION 4

Which statement about the use of tunneling to migrate to IPv6 is true?

- A. Tunneling is less secure than dual stack or translation.
- B. Tunneling is more difficult to configure than dual stack or translation.
- C. Tunneling does not enable users of the new protocol to communicate with users of the old protocol without dual-stack hosts.
- D. Tunneling destinations are manually determined by the IPv4 address in the low-order 32 bits of IPv4-compatible IPv6 addresses.

Correct Answer: C

Section: Network Principles

Explanation

Explanation/Reference:

QUESTION 5

Which three problems result from application mixing of UDP and TCP streams within a network with no QoS? (Choose three.)

- A. starvation
- B. jitter
- C. latency
- D. windowing
- E. lower throughput

Correct Answer: ACE

Section: Network Principles

Explanation

Explanation/Reference:

QUESTION 6

Which method allows IPv4 and IPv6 to work together without requiring both to be used for a single connection during the migration process?

- A. dual-stack method
- B. 6to4 tunneling
- C. GRE tunneling
- D. NAT-PT

Correct Answer: A

Section: Network Principles

Explanation**Explanation/Reference:****QUESTION 7**

A network administrator executes the command clear ip route. Which two tables does this command clear and rebuild? (Choose two.)

- A. IP routing
- B. FIB
- C. ARP cache
- D. MAC address table
- E. Cisco Express Forwarding table
- F. topology table

Correct Answer: AB

Section: Network Principles

Explanation**Explanation/Reference:****QUESTION 8**

Which switching method is used when entries are present in the output of the command show ip cache?

- A. fast switching
- B. process switching
- C. Cisco Express Forwarding switching
- D. cut-through packet switching

Correct Answer: A

Section: Network Principles

Explanation**Explanation/Reference:****QUESTION 9**

Which two actions must you perform to enable and use window scaling on a router? (Choose two.)

- A. Execute the command `iptcp window-size 65536`.
- B. Set window scaling to be used on the remote host.
- C. Execute the command `iptcpqueuemax`.
- D. Set TCP options to "enabled" on the remote host.
- E. Execute the command `iptcp adjust-mss`.

Correct Answer: AB

Section: Network Principles

Explanation

Explanation/Reference:

QUESTION 10

Which three TCP enhancements can be used with TCP selective acknowledgments? (Choose three.)

- A. header compression
- B. explicit congestion notification
- C. keepalive
- D. time stamps
- E. TCP path discovery
- F. MTU window

Correct Answer: BCD

Section: Network Principles

Explanation

Explanation/Reference:

QUESTION 11

A network administrator uses IP SLA to measure UDP performance and notices that packets on one router have a higher one-way delay compared to the opposite direction. Which UDP characteristic does this scenario describe?

- A. latency
- B. starvation
- C. connectionless communication
- D. nonsequencing unordered packets
- E. jitter

Correct Answer: A

Section: Network Principles

Explanation

Explanation/Reference:

QUESTION 12

Under which condition does UDP dominance occur?

- A. when TCP traffic is in the same class as UDP
- B. when UDP flows are assigned a lower priority queue
- C. when WRED is enabled
- D. when ACLs are in place to block TCP traffic

Correct Answer: A

Section: Network Principles

Explanation

Explanation/Reference:

QUESTION 13

Prior to enabling PPPoE in a virtual private dialup network group, which task must be completed?

- A. Disable CDP on the interface.
- B. Execute the vpdn enable command.
- C. Execute the no switchport command.
- D. Enable QoS FIFO for PPPoE support.

Correct Answer: B

Section: Layer 2 Technologies

Explanation

Explanation/Reference:

QUESTION 14

A corporate policy requires PPPoE to be enabled and to maintain a connection with the ISP, even if no interesting traffic exists. Which feature can be used to accomplish this task?

- A. TCP Adjust
- B. Dialer Persistent
- C. PPPoE Groups
- D. half-bridging
- E. Peer Neighbor Route

Correct Answer: B

Section: Layer 2 Technologies

Explanation

Explanation/Reference:

QUESTION 15

A network engineer has been asked to ensure that the PPPoE connection is established and authenticated using an encrypted password. Which technology, in combination with PPPoE, can be used for authentication in this manner?

- A. PAP
- B. dot1x
- C. IPsec
- D. CHAP
- E. ESP

Correct Answer: D

Section: Layer 2 Technologies

Explanation

Explanation/Reference:

QUESTION 16

Which PPP authentication method sends authentication information in cleartext?

- A. MS CHAP
- B. CDPCP
- C. CHAP
- D. PAP

Correct Answer: D

Section: Layer 2 Technologies

Explanation

Explanation/Reference:

QUESTION 17

Which protocol uses dynamic address mapping to request the next-hop protocol address for a specific connection?

- A. Frame Relay inverse ARP
- B. static DLCI mapping
- C. Frame Relay broadcast queue
- D. dynamic DLCI mapping

Correct Answer: A

Section: Layer 2 Technologies

Explanation

Explanation/Reference:

QUESTION 18

What is the default OSPF hello interval on a Frame Relay point-to-point network?

- A. 10
- B. 20
- C. 30
- D. 40

Correct Answer: A

Section: Layer 2 Technologies

Explanation

Explanation/Reference:

QUESTION 19

Which statement is true about the PPP Session Phase of PPPoE?

- A. PPP options are negotiated and authentication is not performed. Once the link setup is completed, PPPoE functions as a Layer 3 encapsulation method that allows data to be transferred over the PPP link within PPPoE headers.

- B. PPP options are not negotiated and authentication is performed. Once the link setup is completed, PPPoE functions as a Layer 4 encapsulation method that allows data to be transferred over the PPP link within PPPoE headers.
- C. PPP options are automatically enabled and authorization is performed. Once the link setup is completed, PPPoE functions as a Layer 2 encapsulation method that allows data to be encrypted over the PPP link within PPPoE headers.
- D. PPP options are negotiated and authentication is performed. Once the link setup is completed, PPPoE functions as a Layer 2 encapsulation method that allows data to be transferred over the PPP link within PPPoE headers.

Correct Answer: D

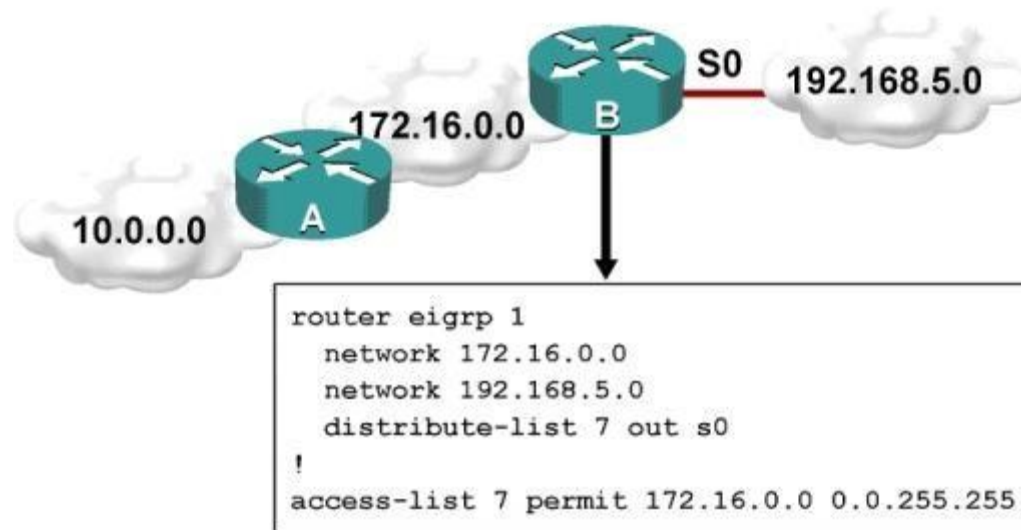
Section: Layer 2 Technologies

Explanation

Explanation/Reference:

QUESTION 20

Refer to the exhibit.



Which one statement is true?

- A. Traffic from the 172.16.0.0/16 network will be blocked by the ACL.
- B. The 10.0.0.0/8 network will not be advertised by Router B because the network statement for the 10.0.0.0/8 network is missing from Router B.
- C. The 10.0.0.0/8 network will not be in the routing table on Router B.

- D. Users on the 10.0.0.0/8 network can successfully ping users on the 192.168.5.0/24 network, but users on the 192.168.5.0/24 cannot successfully ping users on the 10.0.0.0/8 network.
- E. Router B will not advertise the 10.0.0.0/8 network because it is blocked by the ACL.

Correct Answer: E

Section: Layer 3 Technologies

Explanation

Explanation/Reference:

QUESTION 21

A router with an interface that is configured with ipv6 address autoconfig also has a link-local address assigned. Which message is required to obtain a global unicast address when a router is present?

- A. DHCPv6 request
- B. router-advertisement
- C. neighbor-solicitation
- D. redirect

Correct Answer: B

Section: Layer 3 Technologies

Explanation

Explanation/Reference:

QUESTION 22

PPPoE is composed of which two phases?

- A. Active Authentication Phase and PPP Session Phase
- B. Passive Discovery Phase and PPP Session Phase
- C. Active Authorization Phase and PPP Session Phase
- D. Active Discovery Phase and PPP Session Phase

Correct Answer: D

Section: Layer 2 Technologies

Explanation

Explanation/Reference:

QUESTION 23

An engineer has configured a router to use EUI-64, and was asked to document the IPv6 address of the router. The router has the following interface parameters:

mac address C601.420F.0007
subnet 2001:DB8:0:1::/64

Which IPv6 addresses should the engineer add to the documentation?

- A. 2001:DB8:0:1:C601:42FF:FE0F:7
- B. 2001:DB8:0:1:FFFF:C601:420F:7
- C. 2001:DB8:0:1:FE80:C601:420F:7
- D. 2001:DB8:0:1:C601:42FE:800F:7

Correct Answer: A

Section: Layer 3 Technologies

Explanation

Explanation/Reference:

QUESTION 24

For security purposes, an IPv6 traffic filter was configured under various interfaces on the local router. However, shortly after implementing the traffic filter, OSPFv3 neighbor adjacencies were lost. What caused this issue?

- A. The traffic filter is blocking all ICMPv6 traffic.
- B. The global anycast address must be added to the traffic filter to allow OSPFv3 to work properly.
- C. The link-local addresses that were used by OSPFv3 were explicitly denied, which caused the neighbor relationships to fail.
- D. IPv6 traffic filtering can be implemented only on SVIs.

Correct Answer: C

Section: Layer 3 Technologies

Explanation

Explanation/Reference:

QUESTION 25

What is the purpose of the autonomous-system {autonomous-system-number} command?

- A. It sets the EIGRP autonomous system number in a VRF.
- B. It sets the BGP autonomous system number in a VRF.
- C. It sets the global EIGRP autonomous system number.
- D. It sets the global BGP autonomous system number.

Correct Answer: A

Section: Layer 3 Technologies

Explanation

Explanation/Reference:

QUESTION 26

Router A and Router B are configured with IPv6 addressing and basic routing capabilities using OSPFv3. The networks that are advertised from Router A do not show up in Router B's routing table. After debugging IPv6 packets, the message "not a router" is found in the output. Why is the routing information not being learned by Router B?

- A. OSPFv3 timers were adjusted for fast convergence.
- B. The networks were not advertised properly under the OSPFv3 process.
- C. An IPv6 traffic filter is blocking the networks from being learned via the Router B interface that is connected to Router A.
- D. IPv6 unicast routing is not enabled on Router A or Router B.

Correct Answer: D

Section: Layer 3 Technologies

Explanation

Explanation/Reference:

QUESTION 27

Which type of traffic does DHCP snooping drop?

- A. discover messages
- B. DHCP messages where the source MAC and client MAC do not match
- C. traffic from a trusted DHCP server to client
- D. DHCP messages where the destination MAC and client MAC do not match

Correct Answer: B

Section: Layer 3 Technologies

Explanation

Explanation/Reference:

QUESTION 28

Refer to the exhibit.

```
access-list 1 permit 1.0.0.0  
0.255.255.255  
access-list 2 permit 1.2.3.0  
0.0.0.255  
!  
router rip
```

Which command only announces the 1.2.3.0/24 network out of FastEthernet 0/0?

- A. distribute list 1 out
- B. distribute list 1 out FastEthernet0/0
- C. distribute list 2 out
- D. distribute list 2 out FastEthernet0/0

Correct Answer: D

Section: Layer 3 Technologies

Explanation

Explanation/Reference:

QUESTION 29

Which prefix is matched by the command ip prefix-list name permit 10.8.0.0/16 ge 24 le 24?

- A. 10.9.1.0/24
- B. 10.8.0.0/24
- C. 10.8.0.0/16
- D. 10.8.0.0/23

Correct Answer: B

Section: Layer 3 Technologies**Explanation****Explanation/Reference:****QUESTION 30**

After you review the output of the command show ipv6 interface brief, you see that several IPv6 addresses have the 16-bit hexadecimal value of "FFFE" inserted into the address. Based on this information, what do you conclude about these IPv6 addresses?

- A. IEEE EUI-64 was implemented when assigning IPv6 addresses on the device.
- B. The addresses were misconfigured and will not function as intended.
- C. IPv6 addresses containing "FFFE" indicate that the address is reserved for multicast.
- D. The IPv6 universal/local flag (bit 7) was flipped.
- E. IPv6 unicast forwarding was enabled, but IPv6 Cisco Express Forwarding was disabled.

Correct Answer: A

Section: Layer 3 Technologies**Explanation****Explanation/Reference:****QUESTION 31**

A packet capture log indicates that several router solicitation messages were sent from a local host on the IPv6 segment. What is the expected acknowledgment and its usage?

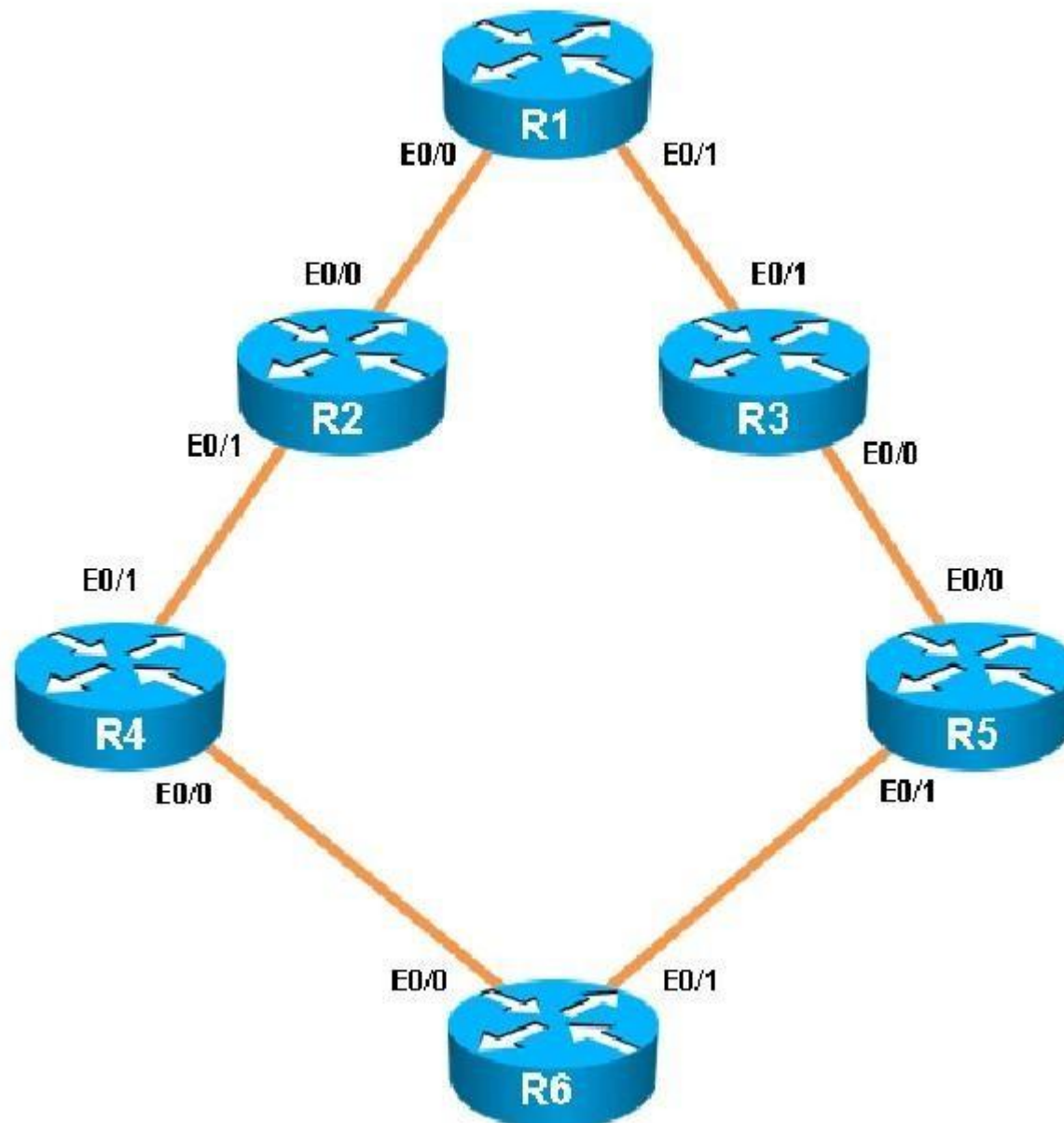
- A. Router acknowledgment messages will be forwarded upstream, where the DHCP server will allocate addresses to the local host.
- B. Routers on the IPv6 segment will respond with an advertisement that provides an external path from the local subnet, as well as certain data, such as prefix discovery.
- C. Duplicate Address Detection will determine if any other local host is using the same IPv6 address for communication with the IPv6 routers on the segment.
- D. All local host traffic will be redirected to the router with the lowest ICMPv6 signature, which is statically defined by the network administrator.

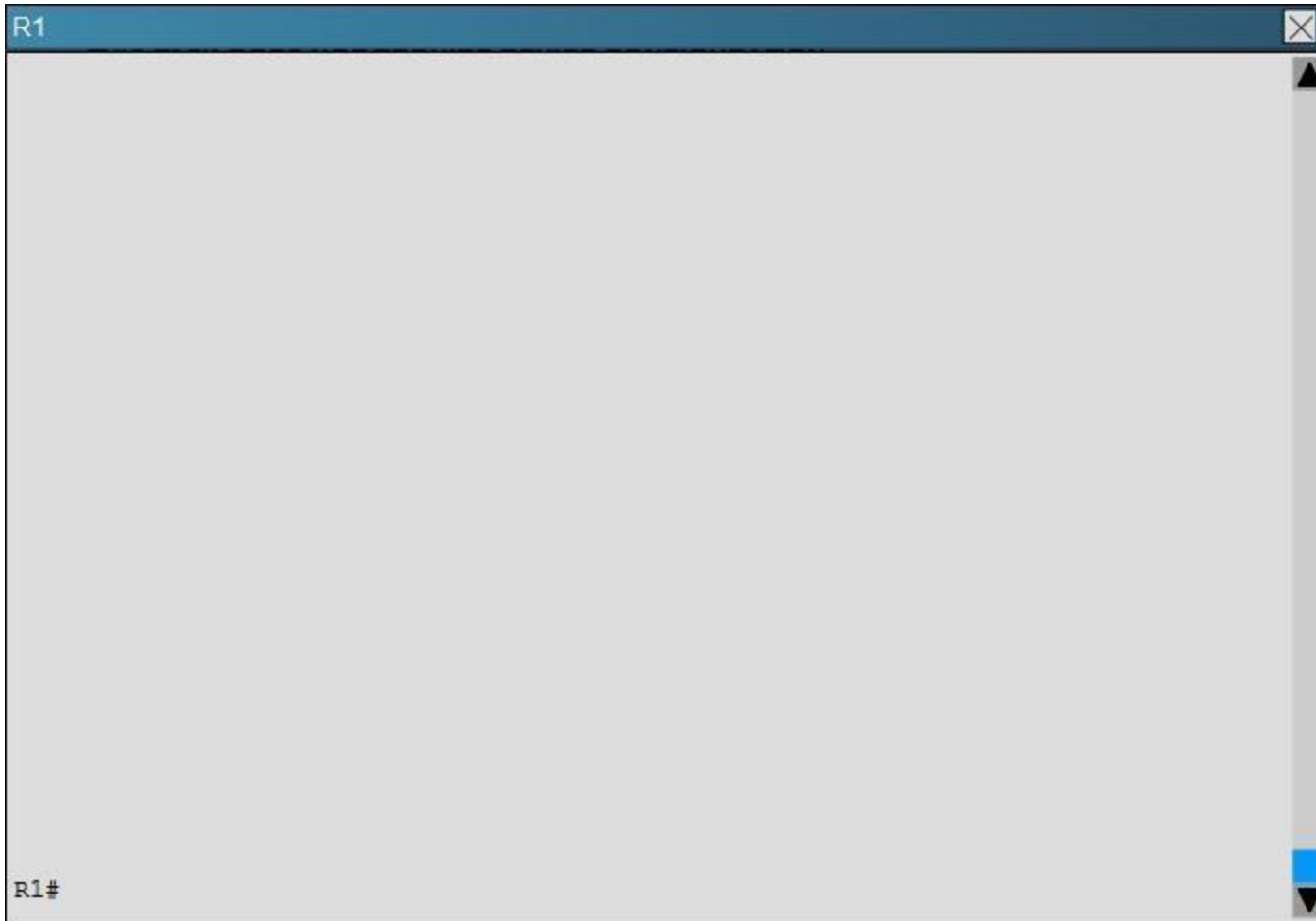
Correct Answer: B

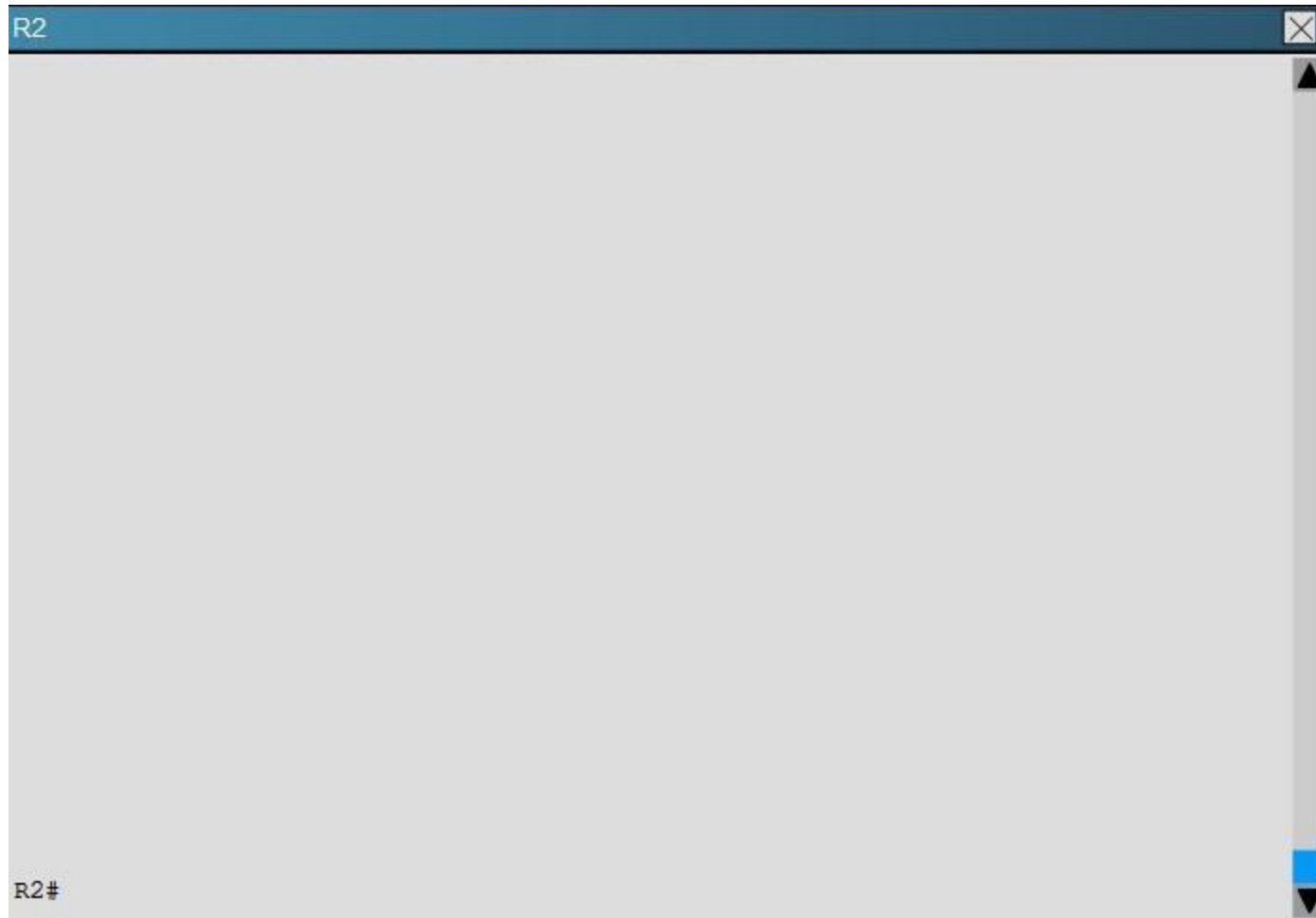
Section: Layer 3 Technologies**Explanation****Explanation/Reference:**

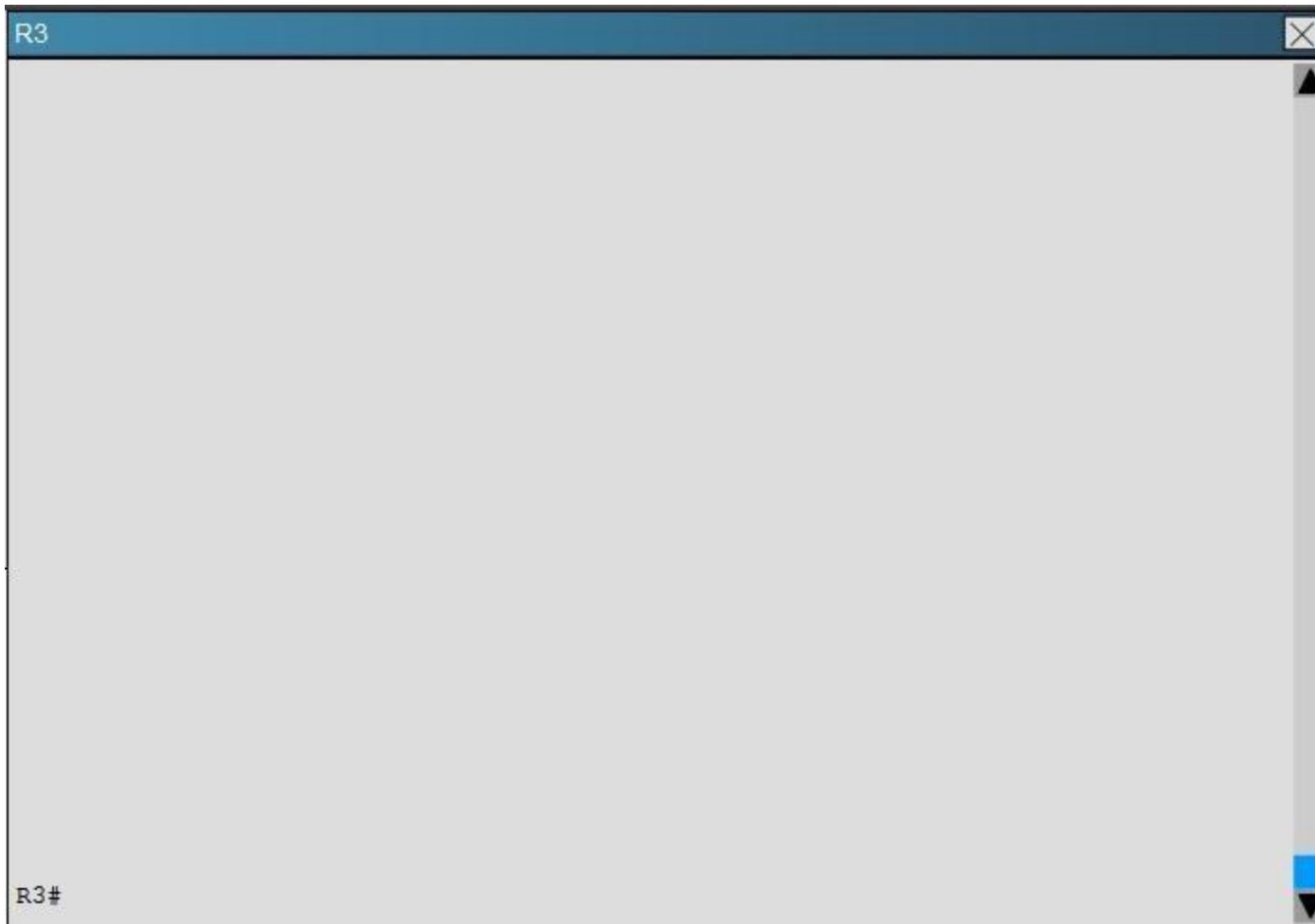
QUESTION 32

You have been asked to evaluate how EIGRP is functioning in a customer network.

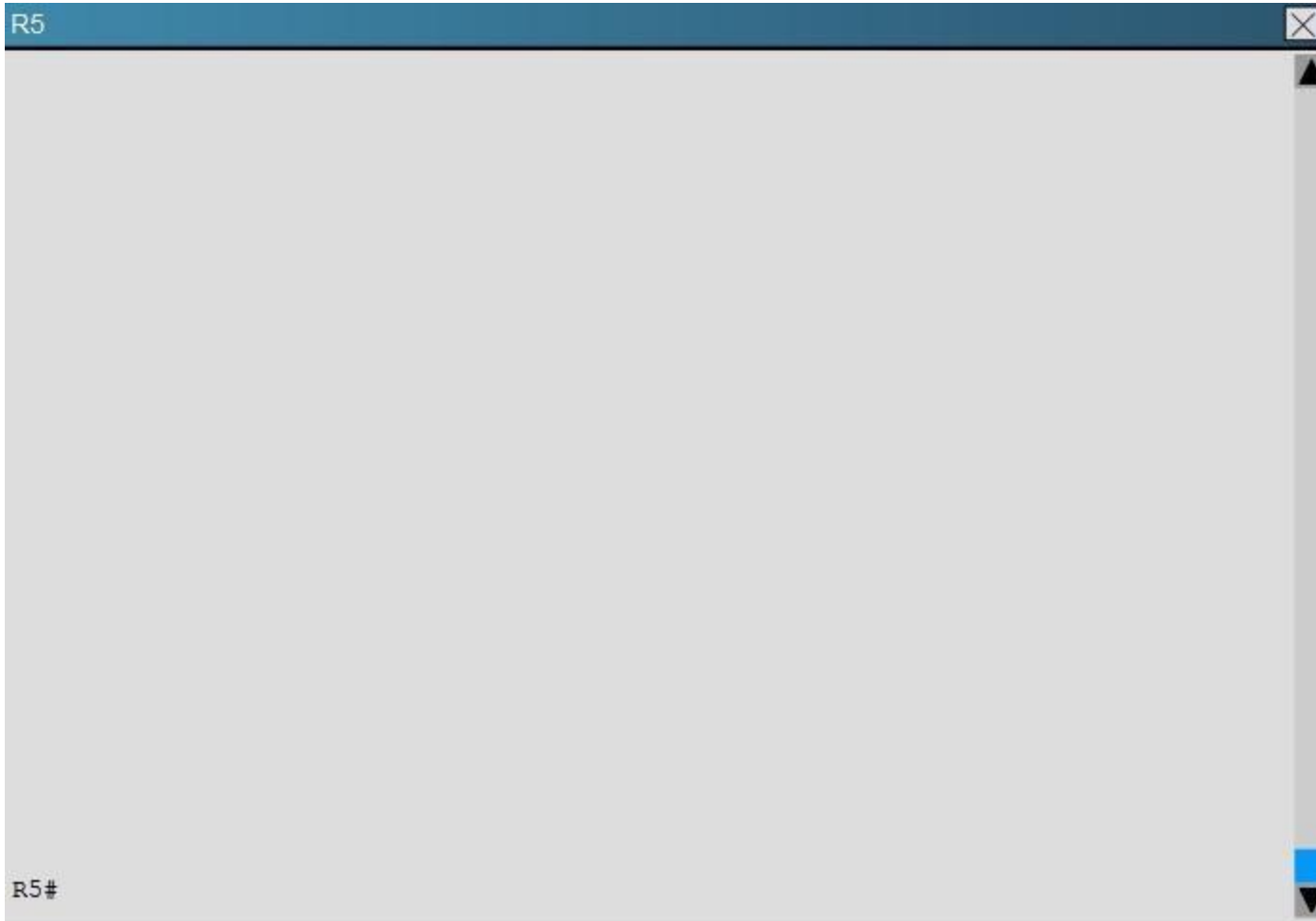


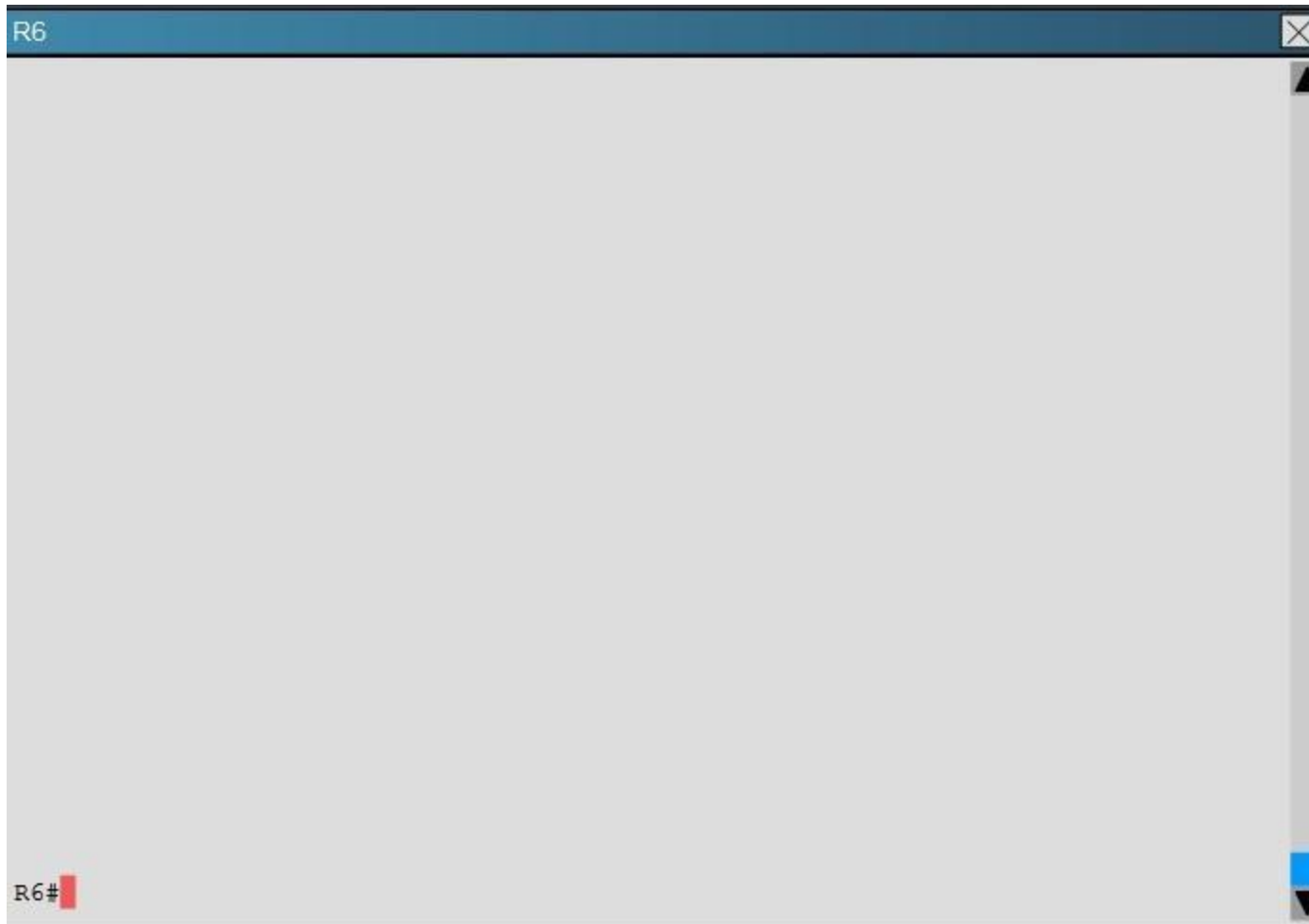












Traffic from R1 to R6's Loopback address is load shared between R1-R2-R4-R6 and R1-R3-R5-R6 paths. What is the ratio of traffic over each path?

- A. 1:1
- B. 1:5
- C. 6:8
- D. 19:80

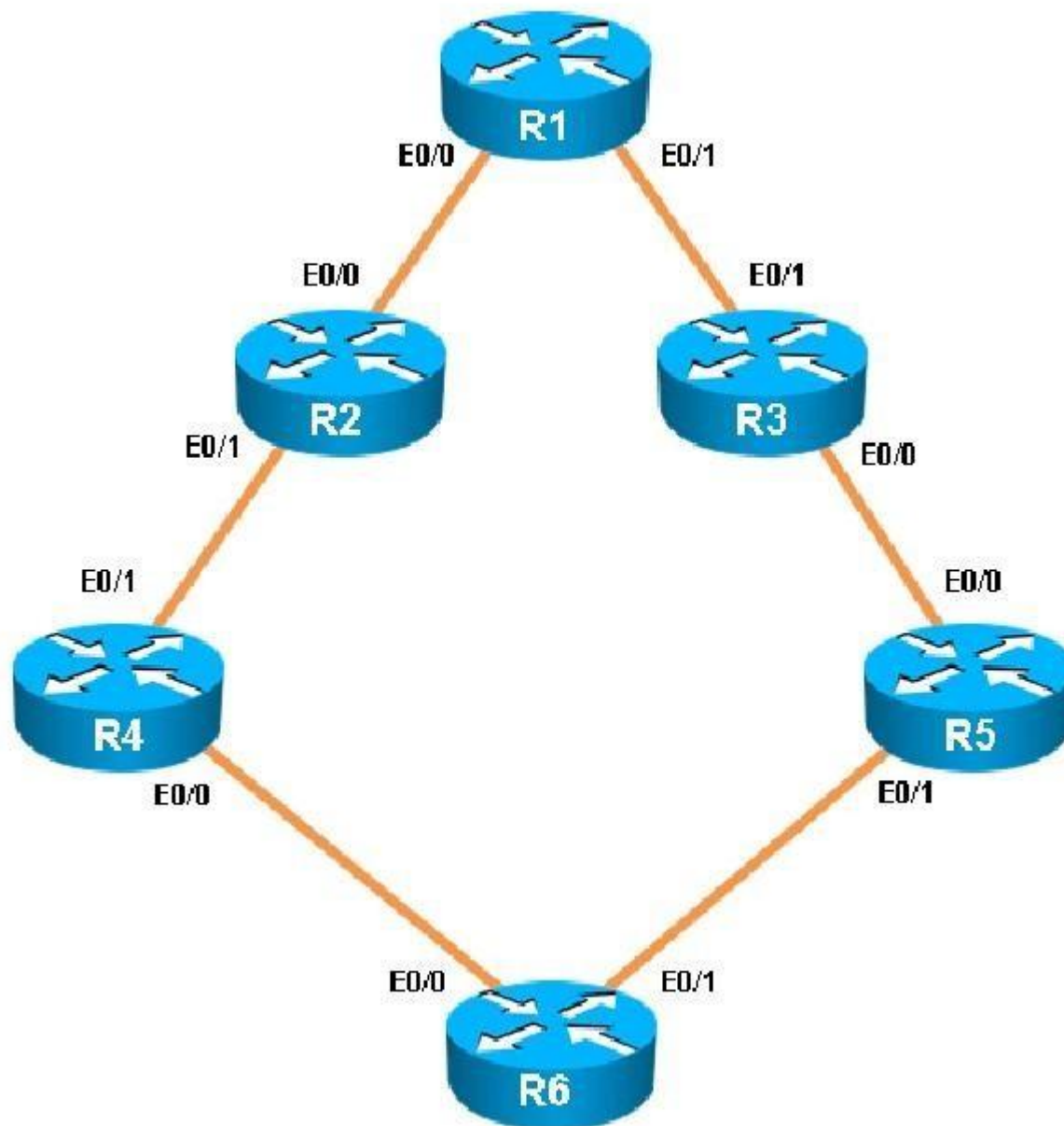
Correct Answer: D

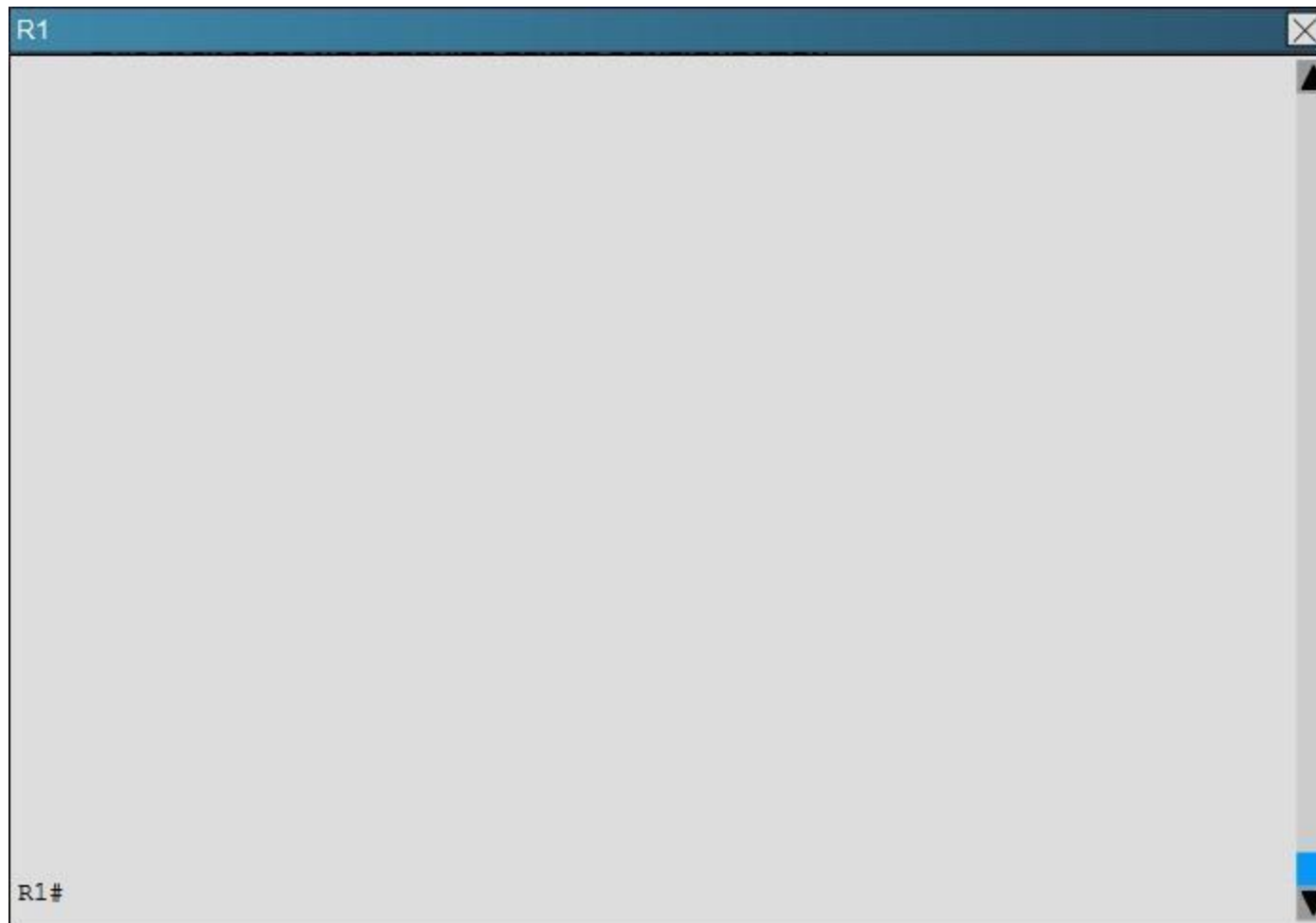
Section: Layer 3 Technologies
Explanation

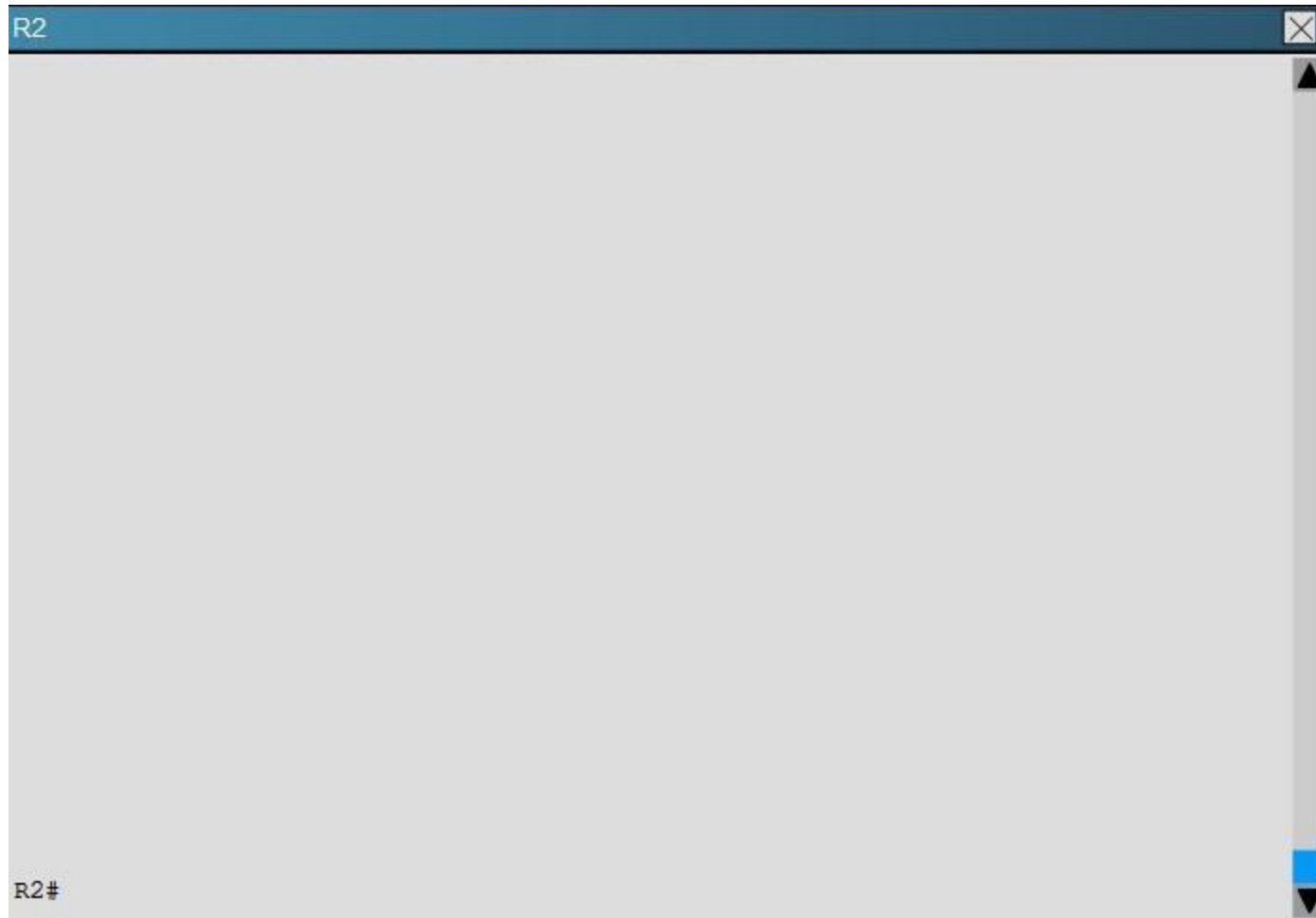
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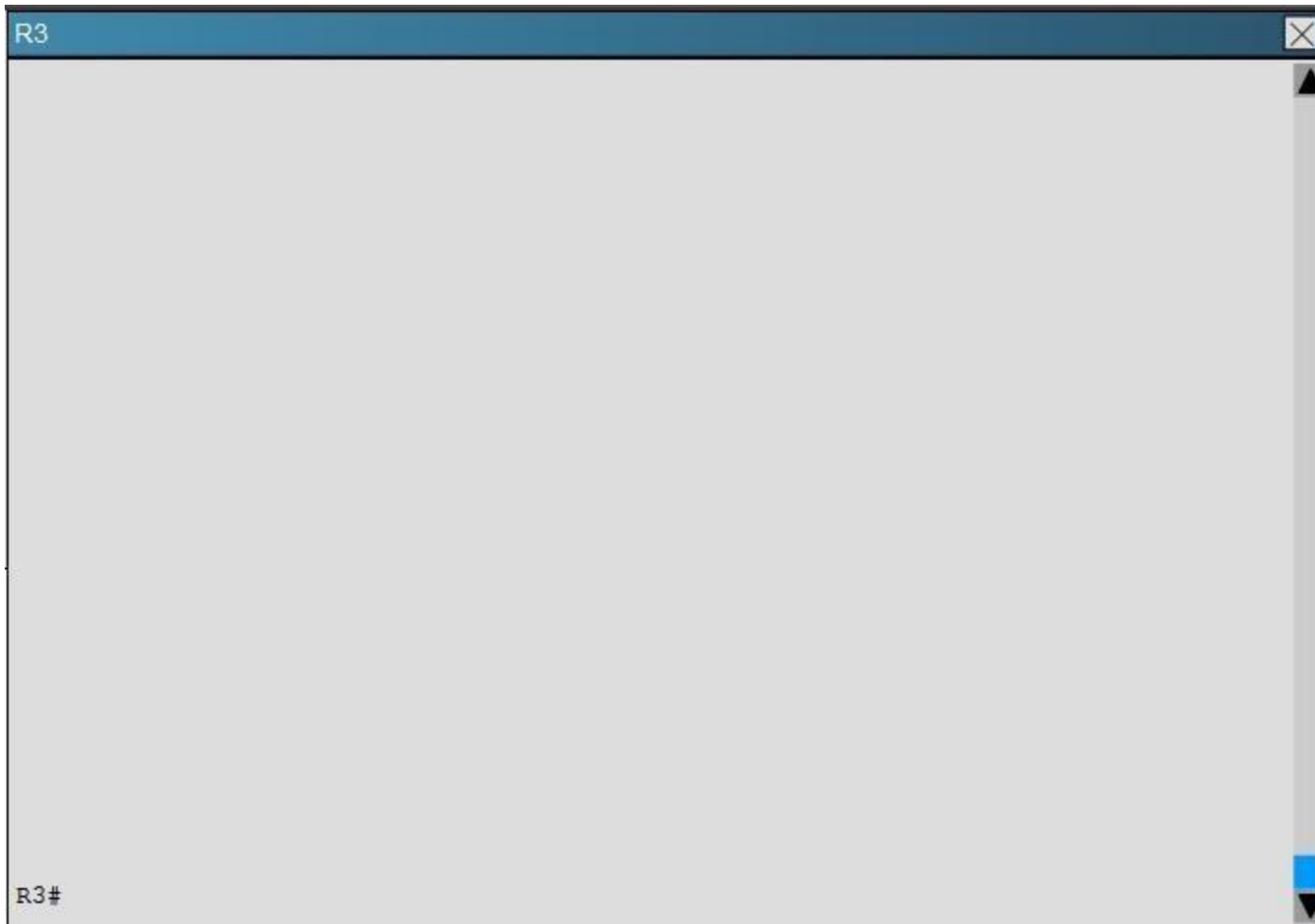
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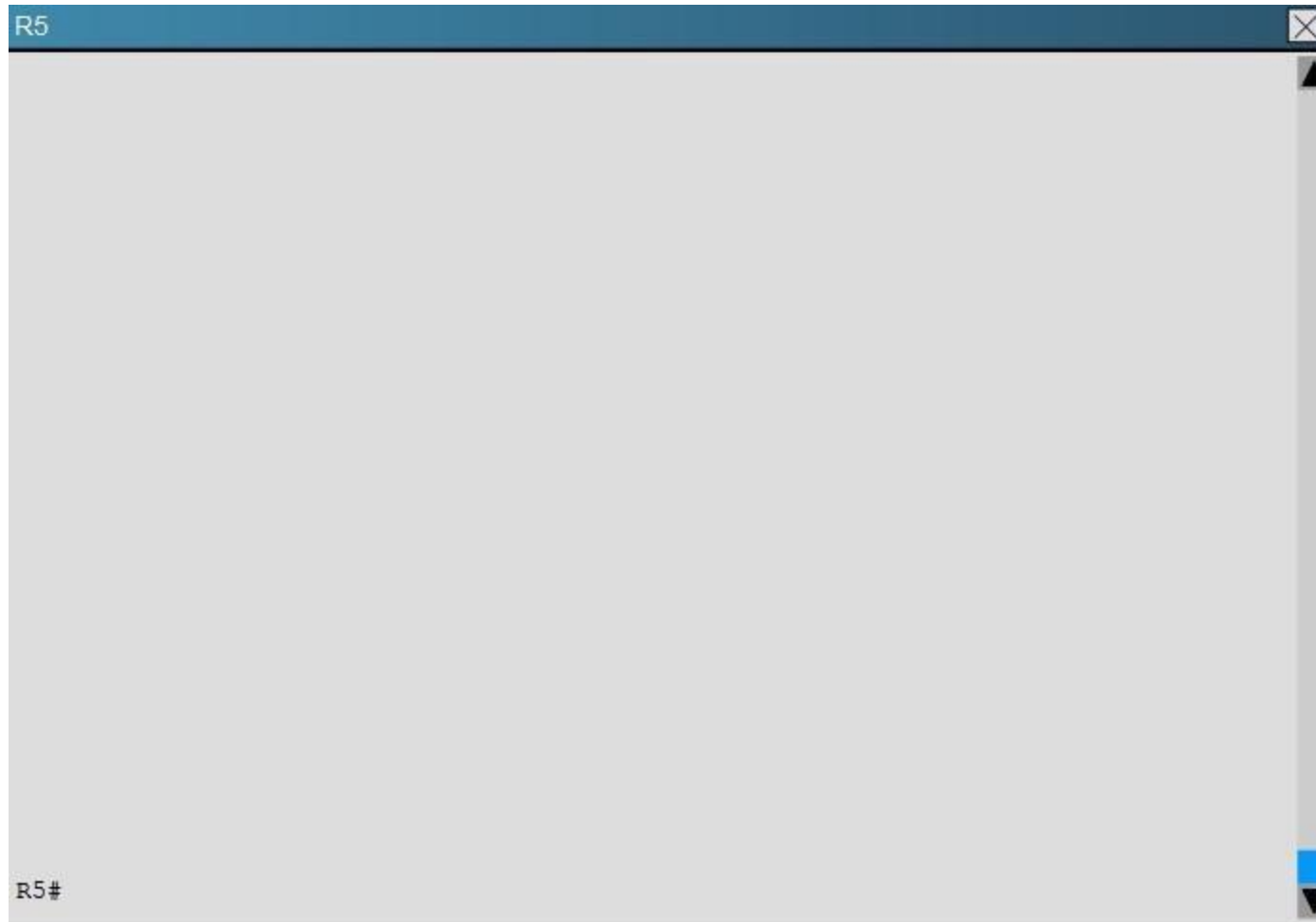














What is the advertised distance for the 192.168.46.0 network on R1?

- A. 333056
- B. 1938688
- C. 1810944
- D. 307456

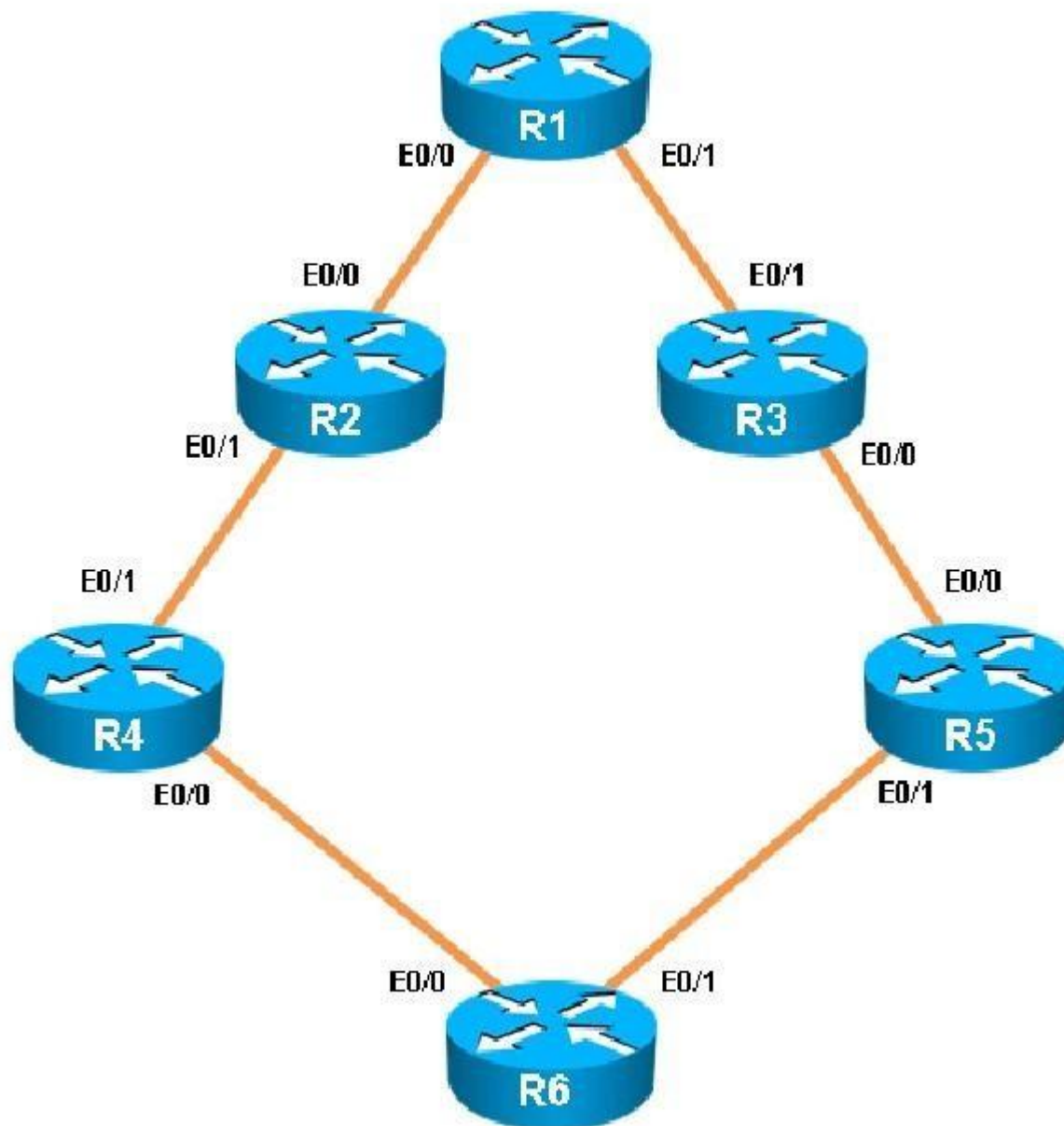
Correct Answer: C

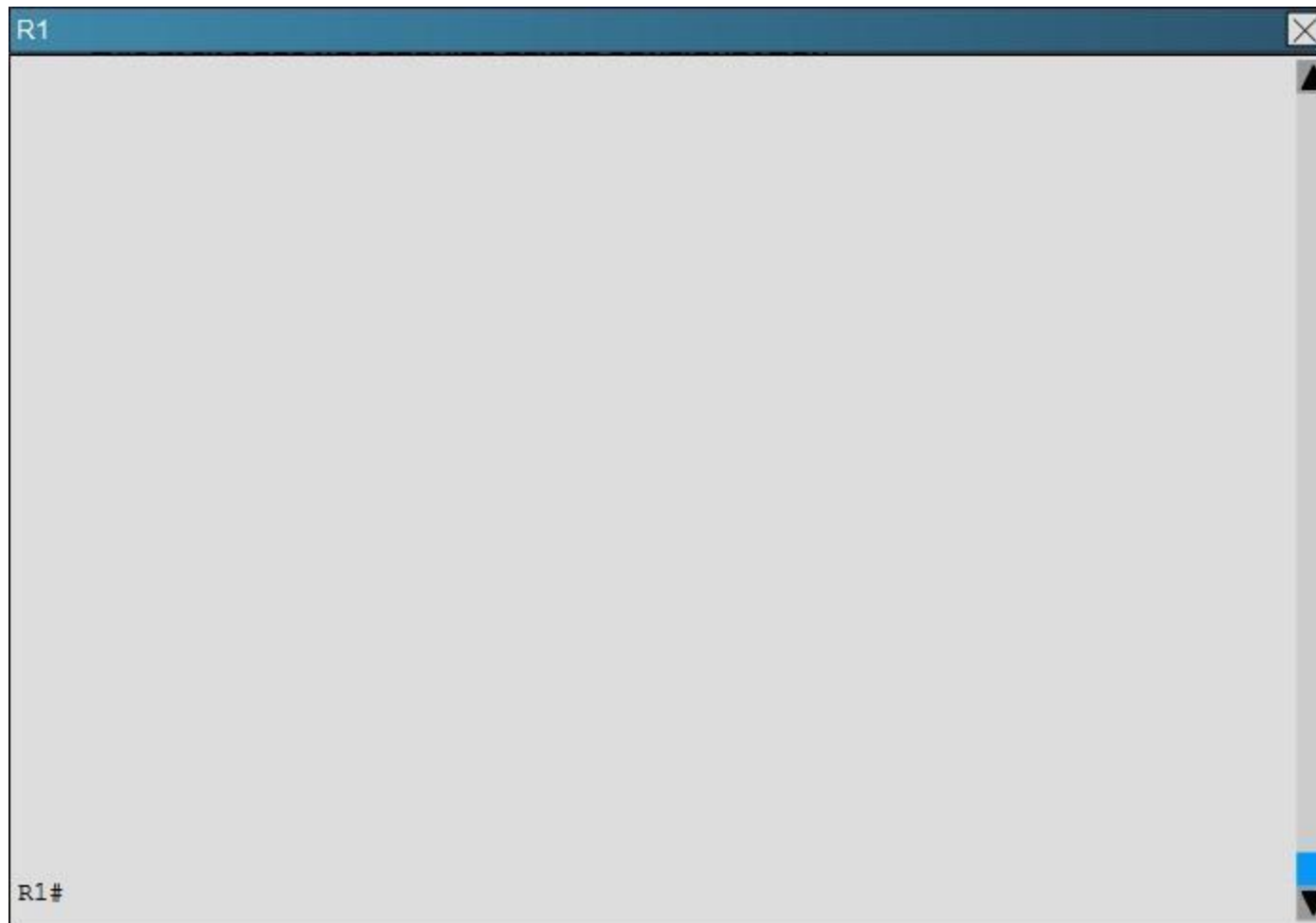
Section: Layer 3 Technologies
Explanation

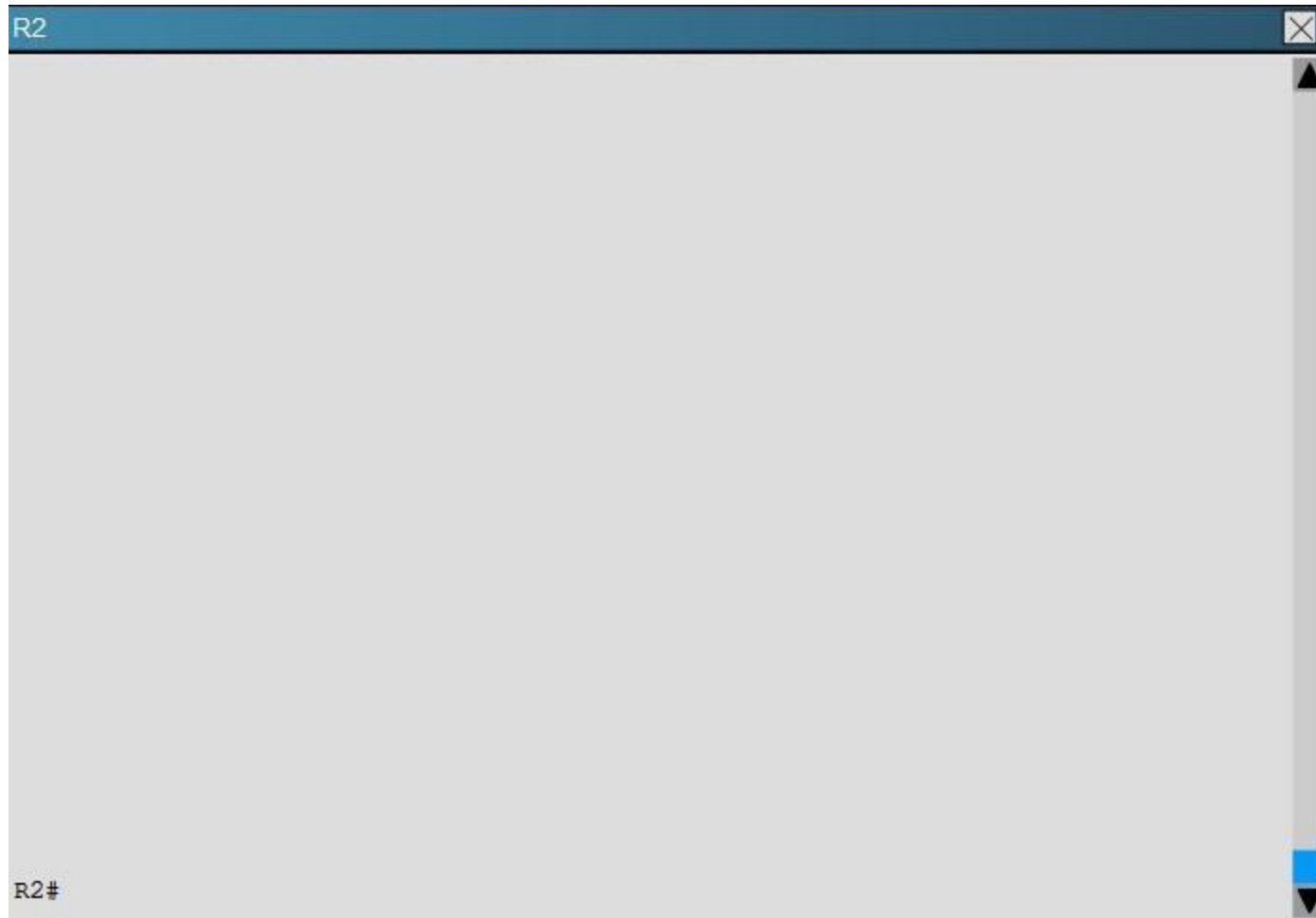
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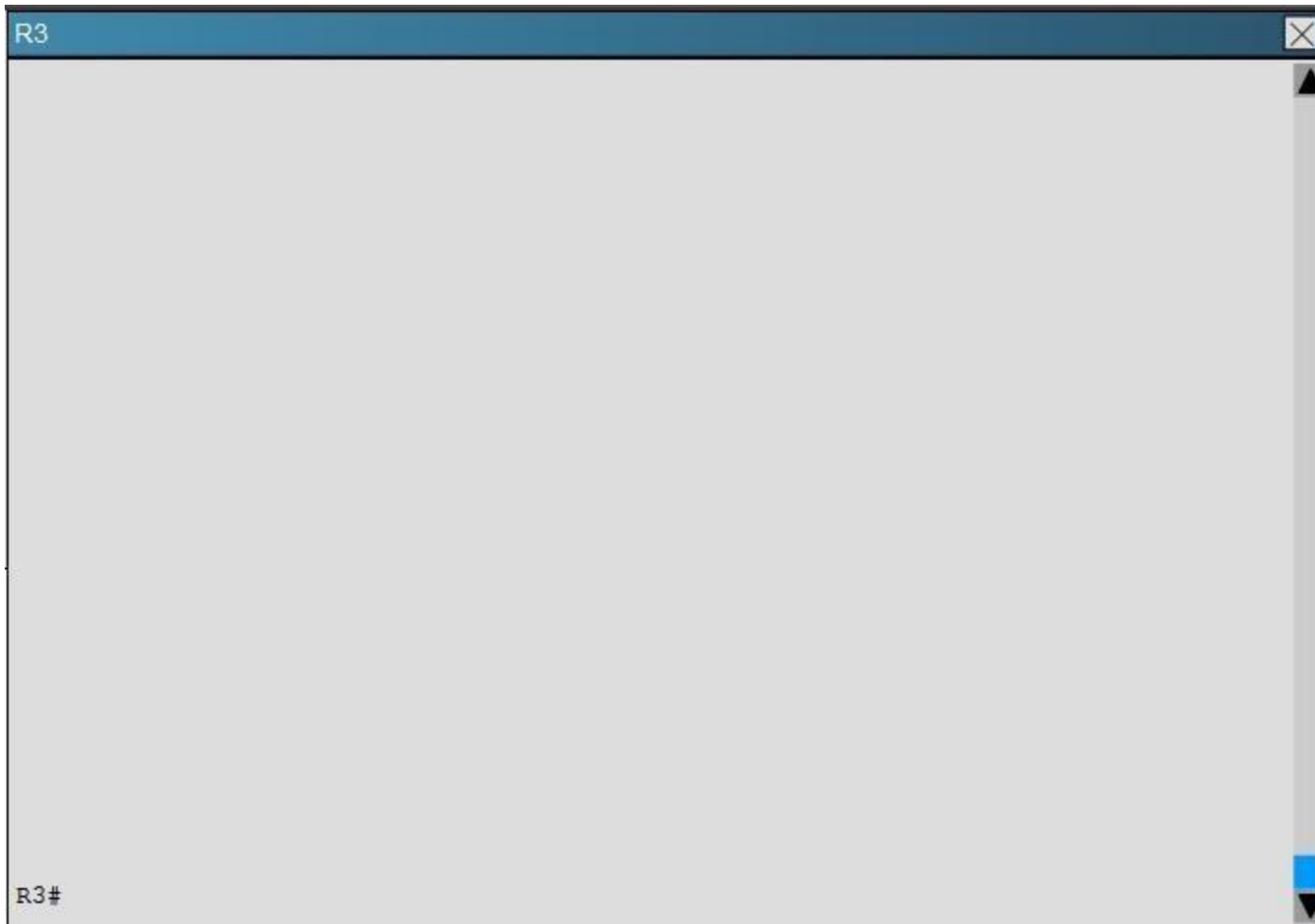
QUESTION 34

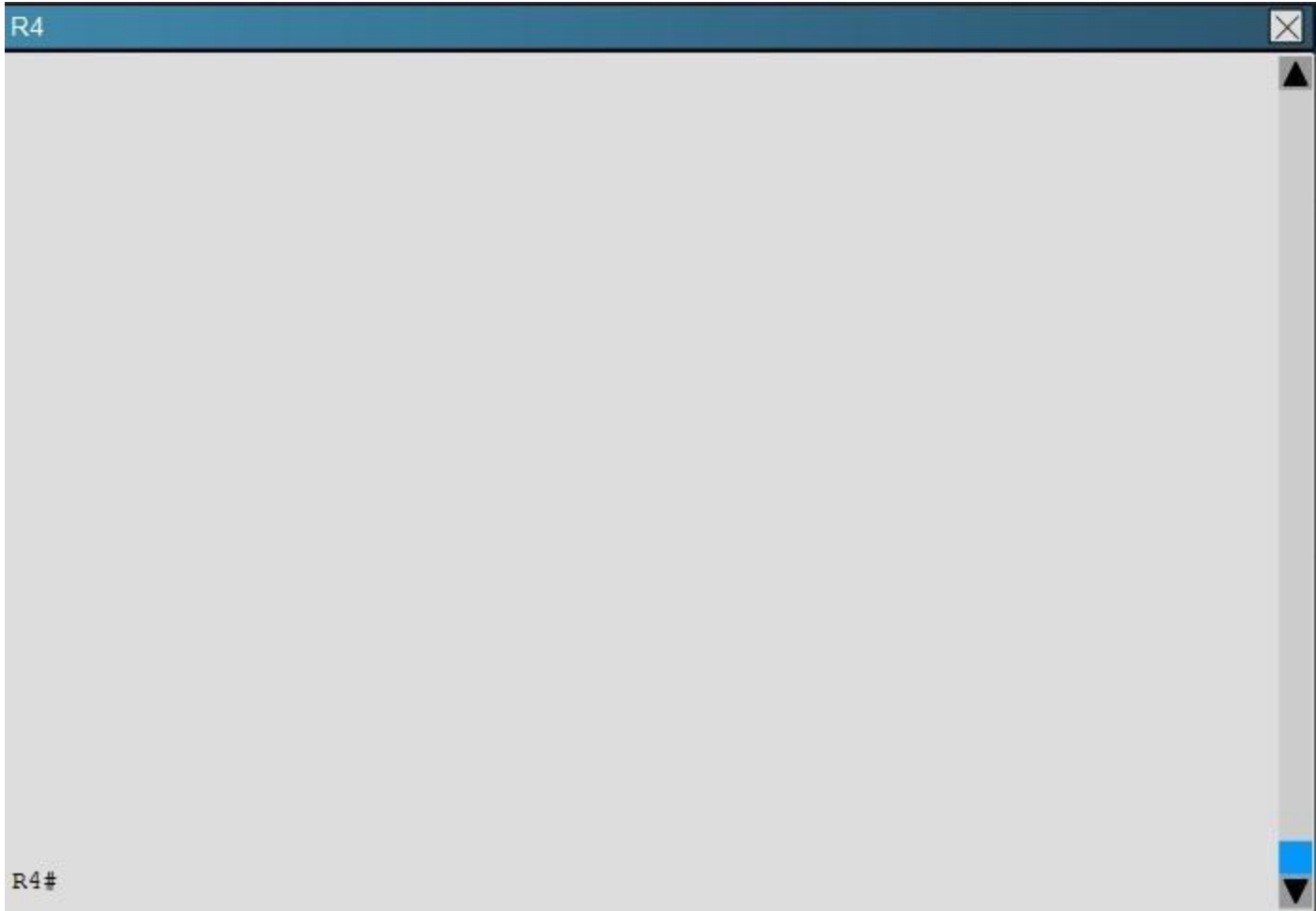
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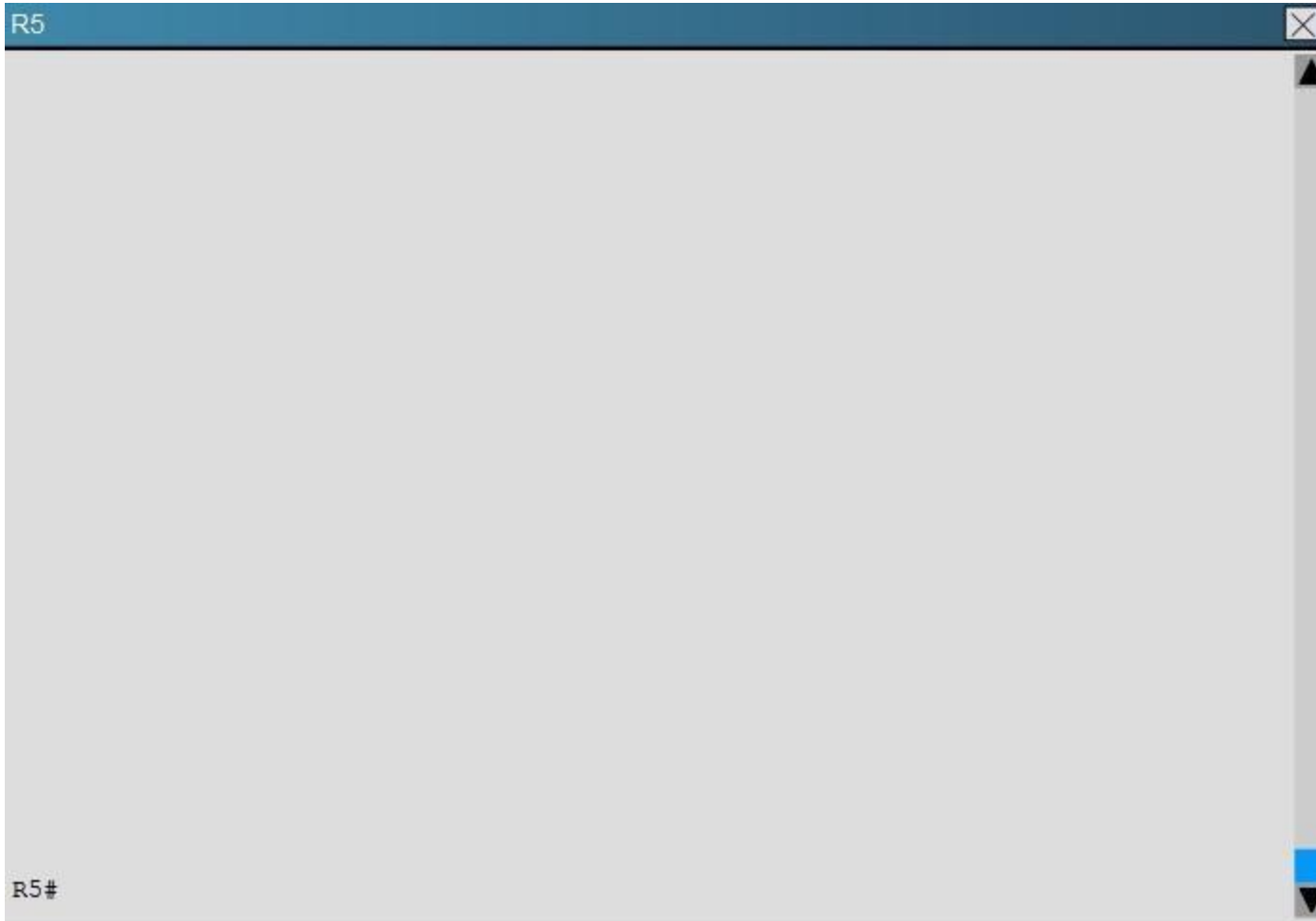














What type of route filtering is occurring on R6

- A. Distribute-list using an ACL
- B. Distribute-list using a prefix-list
- C. Distribute-list using a route-map
- D. An ACL using a distance of 255

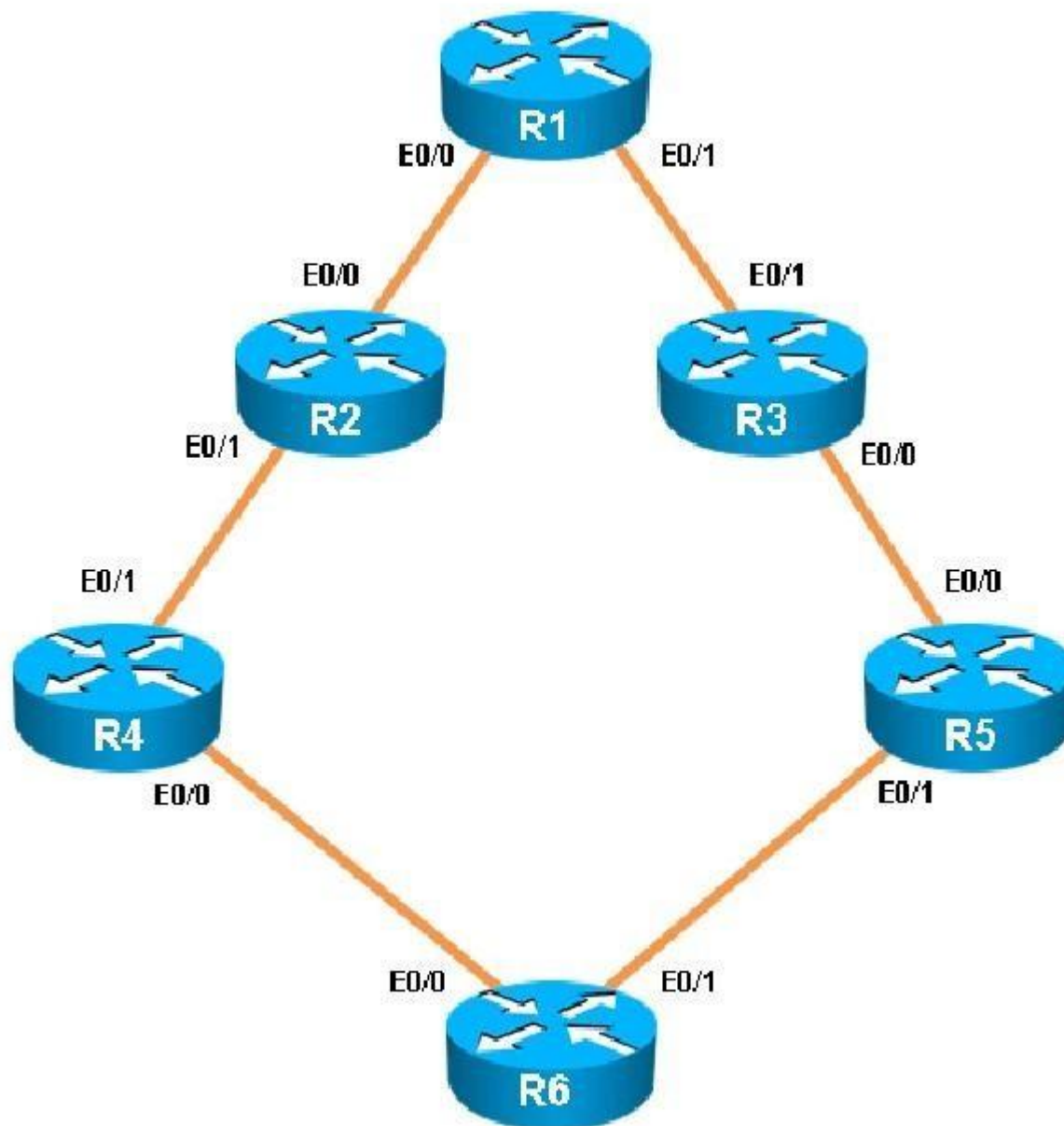
Correct Answer: A

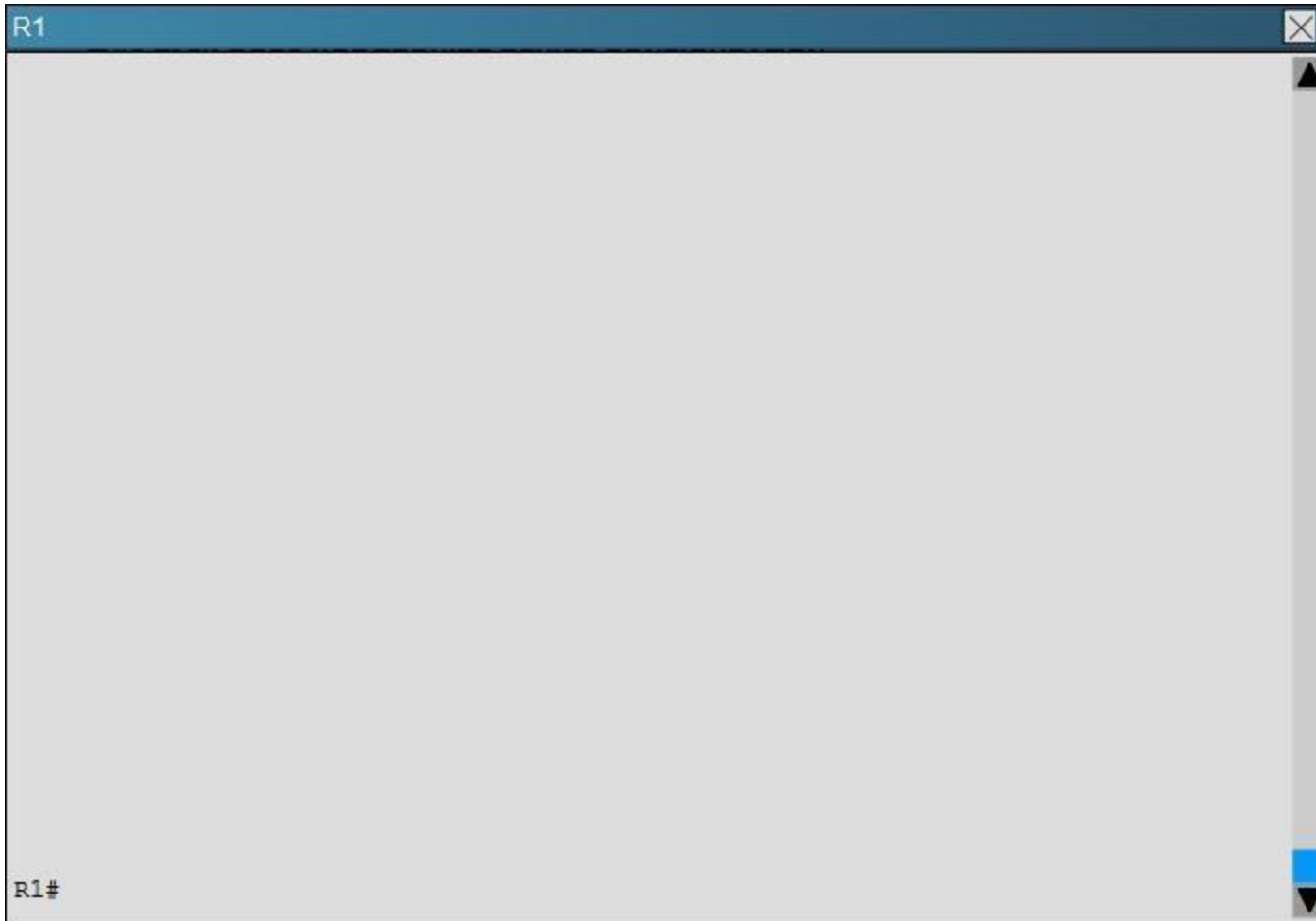
Section: Layer 3 Technologies
Explanation

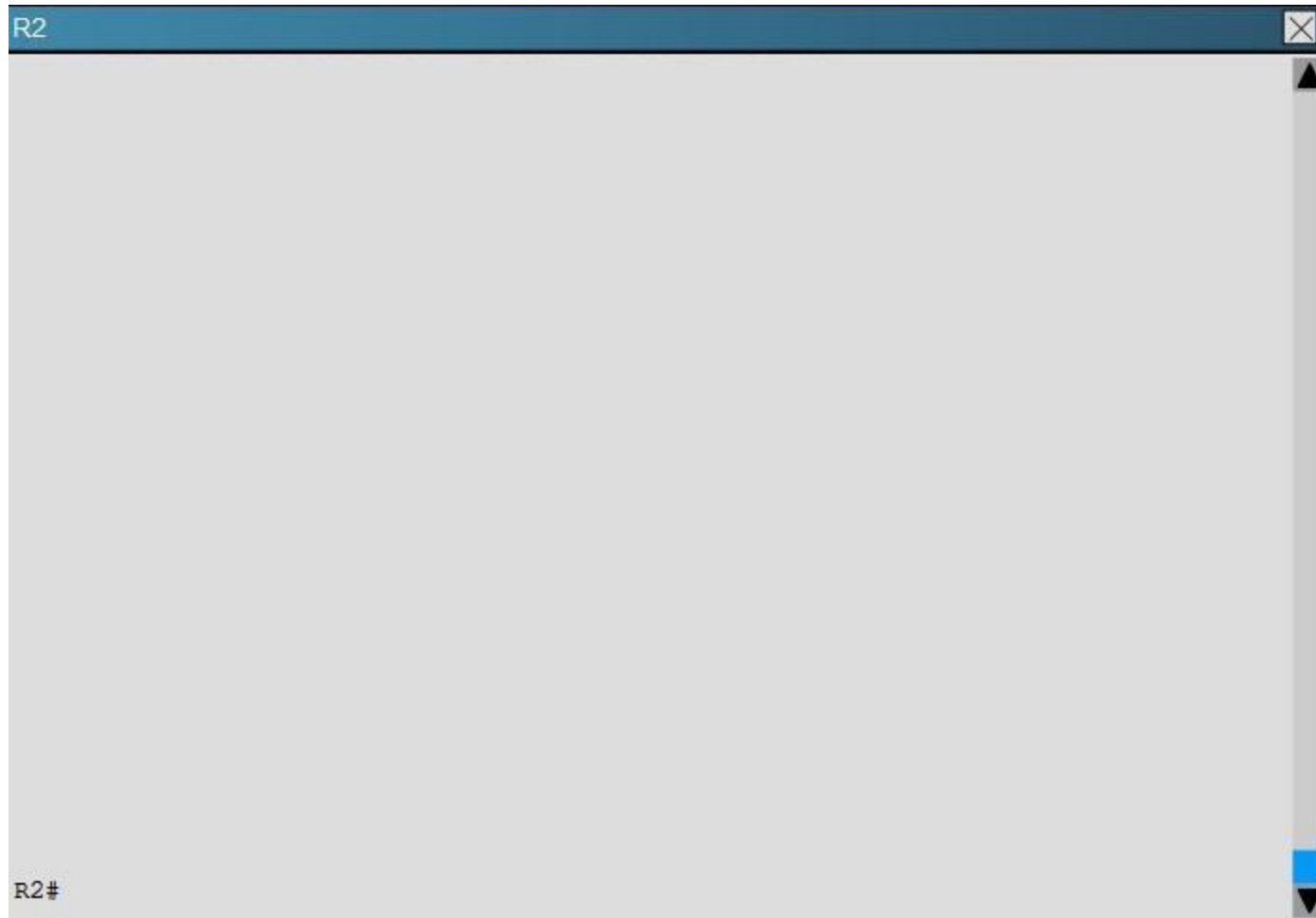
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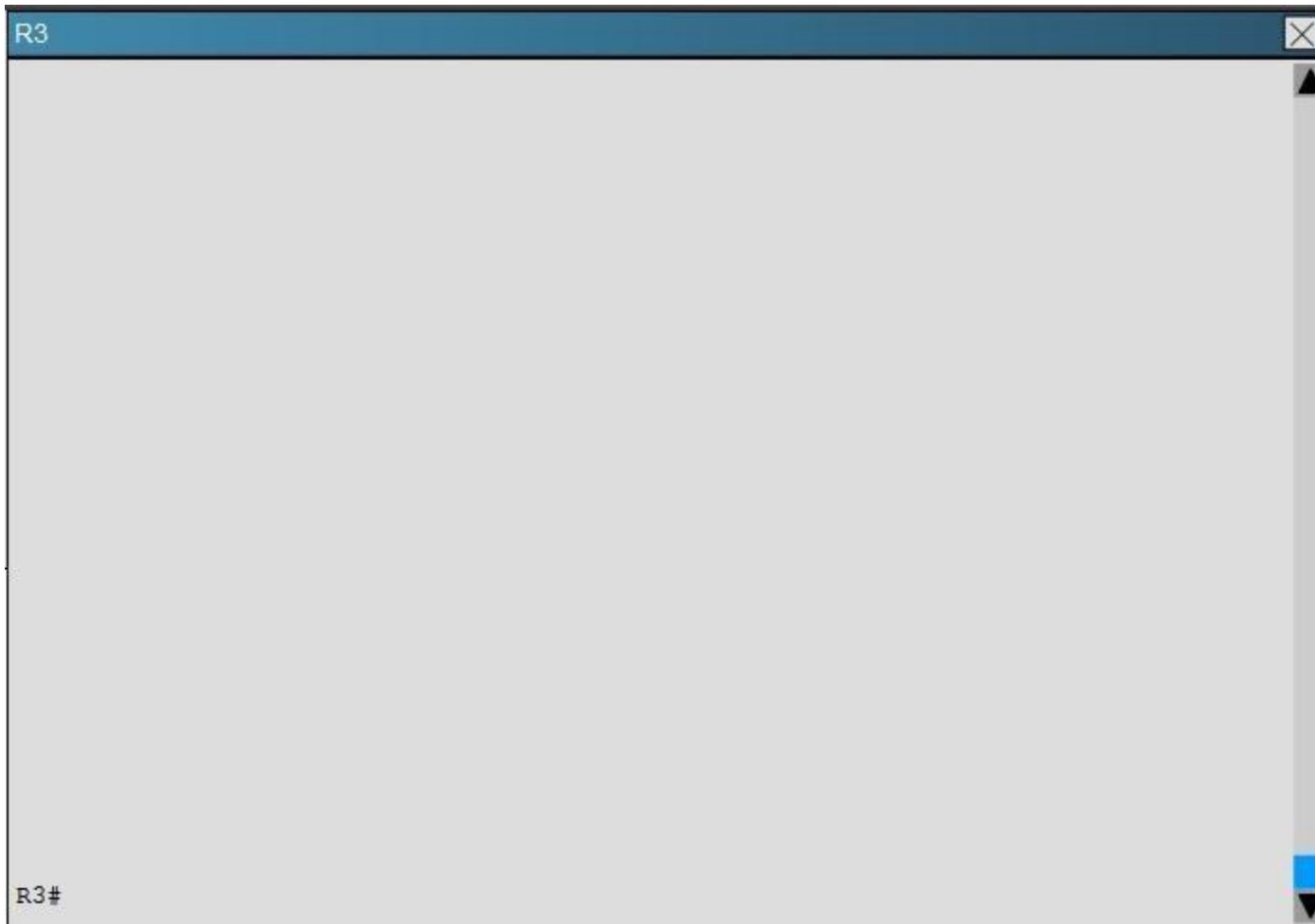
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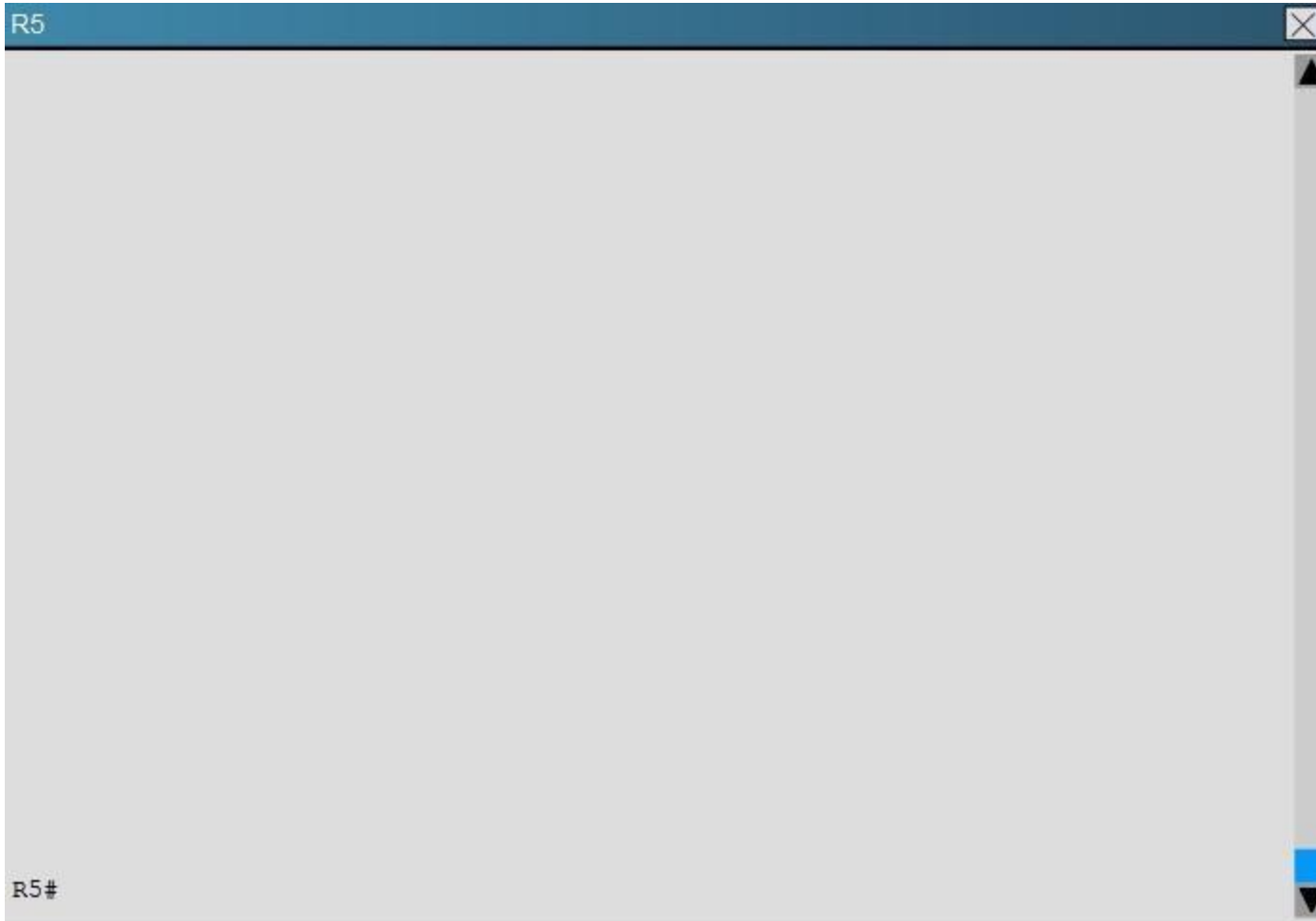














What percent of R1's interfaces bandwidth is EIGRP allowed to use?

- A. 10
- B. 20
- C. 30
- D. 40

Correct Answer: B

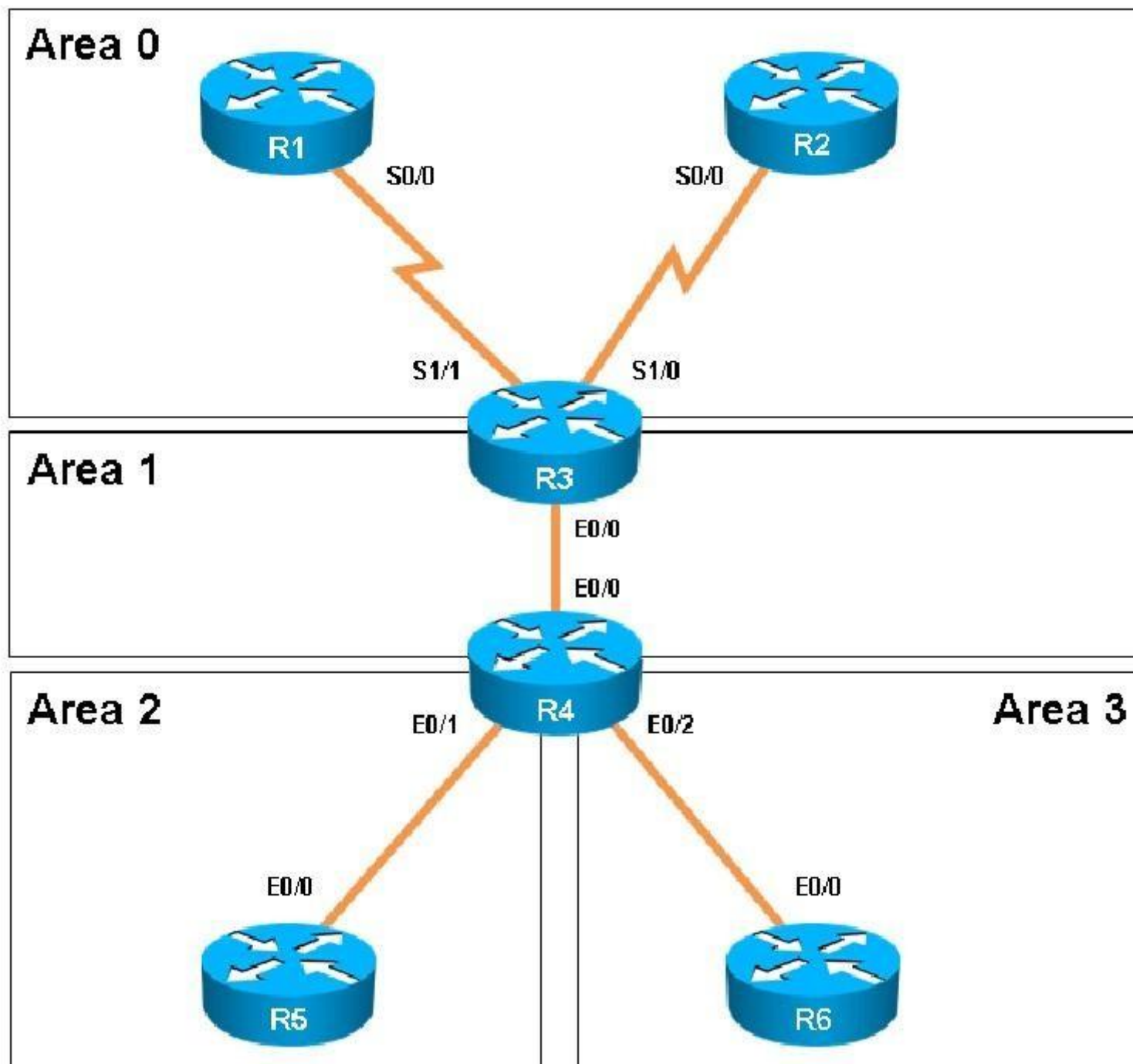
Section: Layer 3 Technologies
Explanation

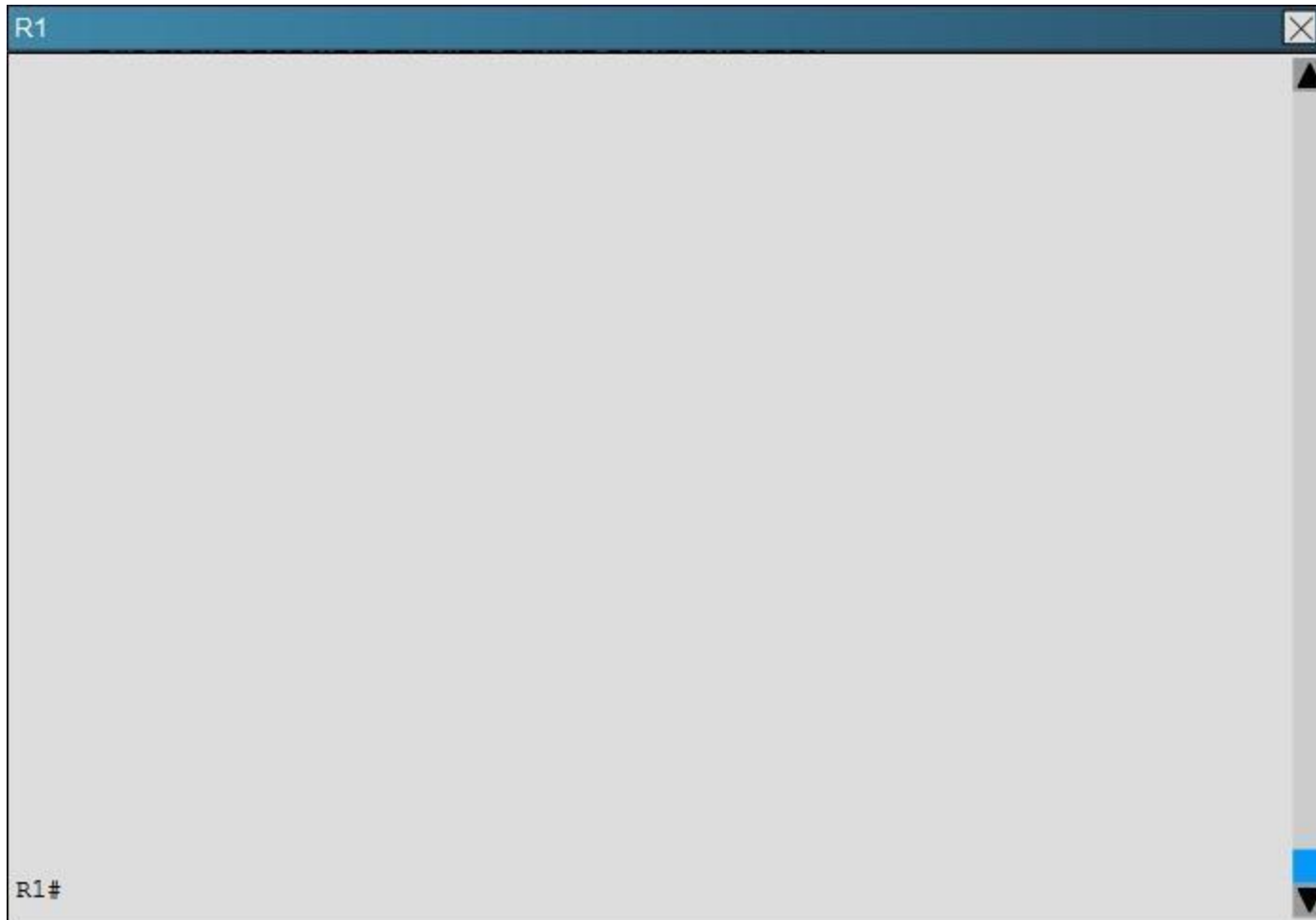
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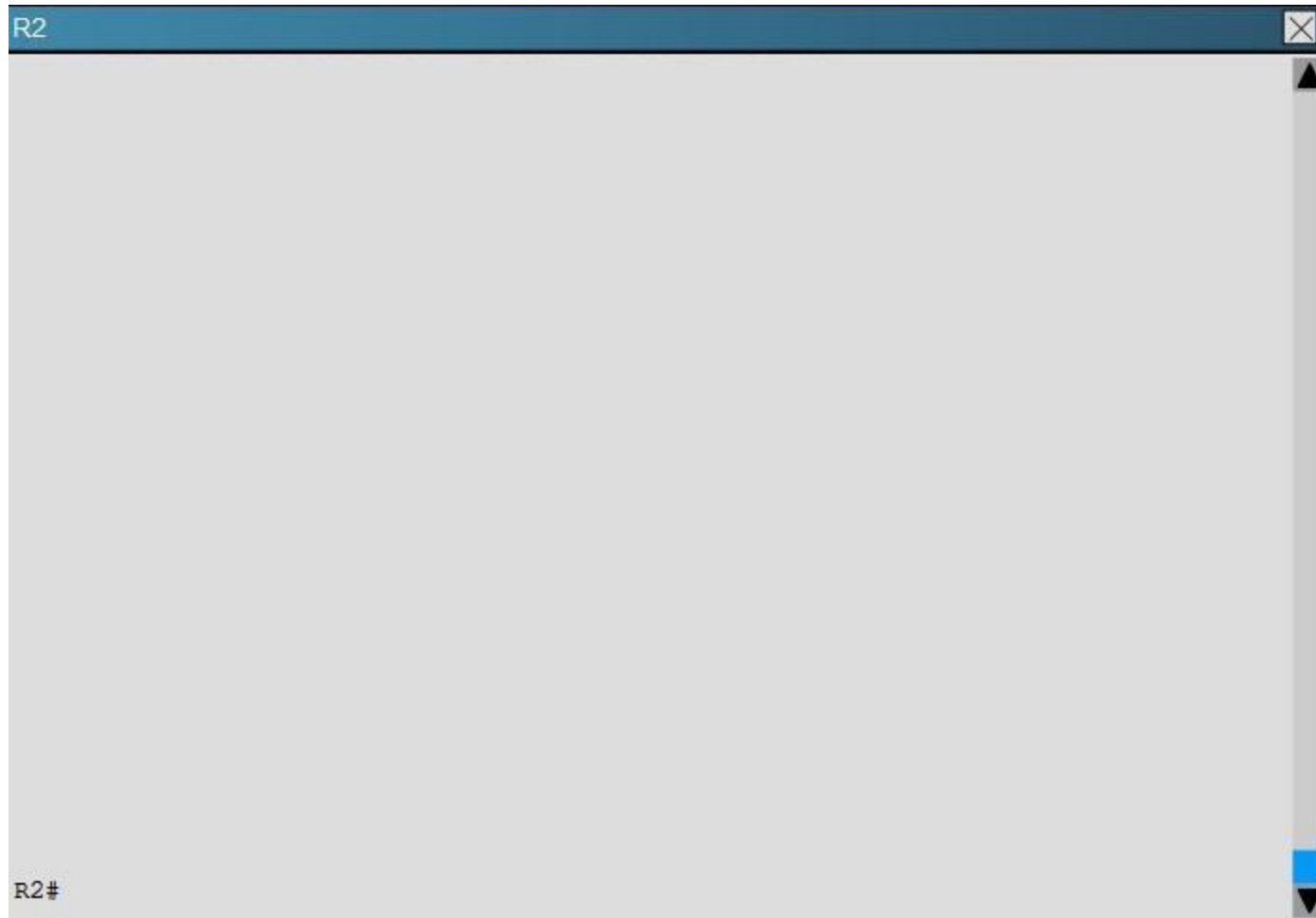
QUESTION 36

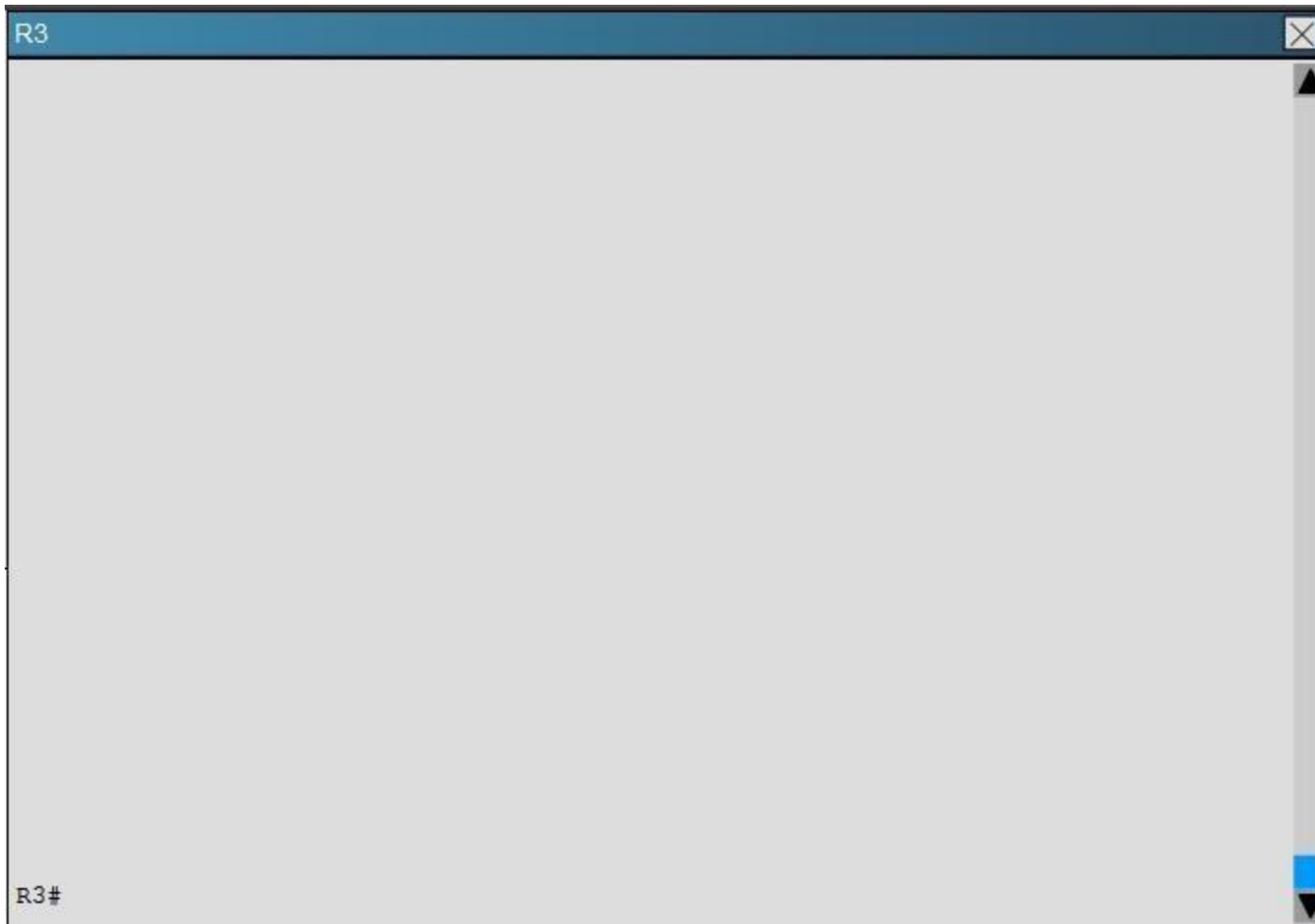
Scenario:

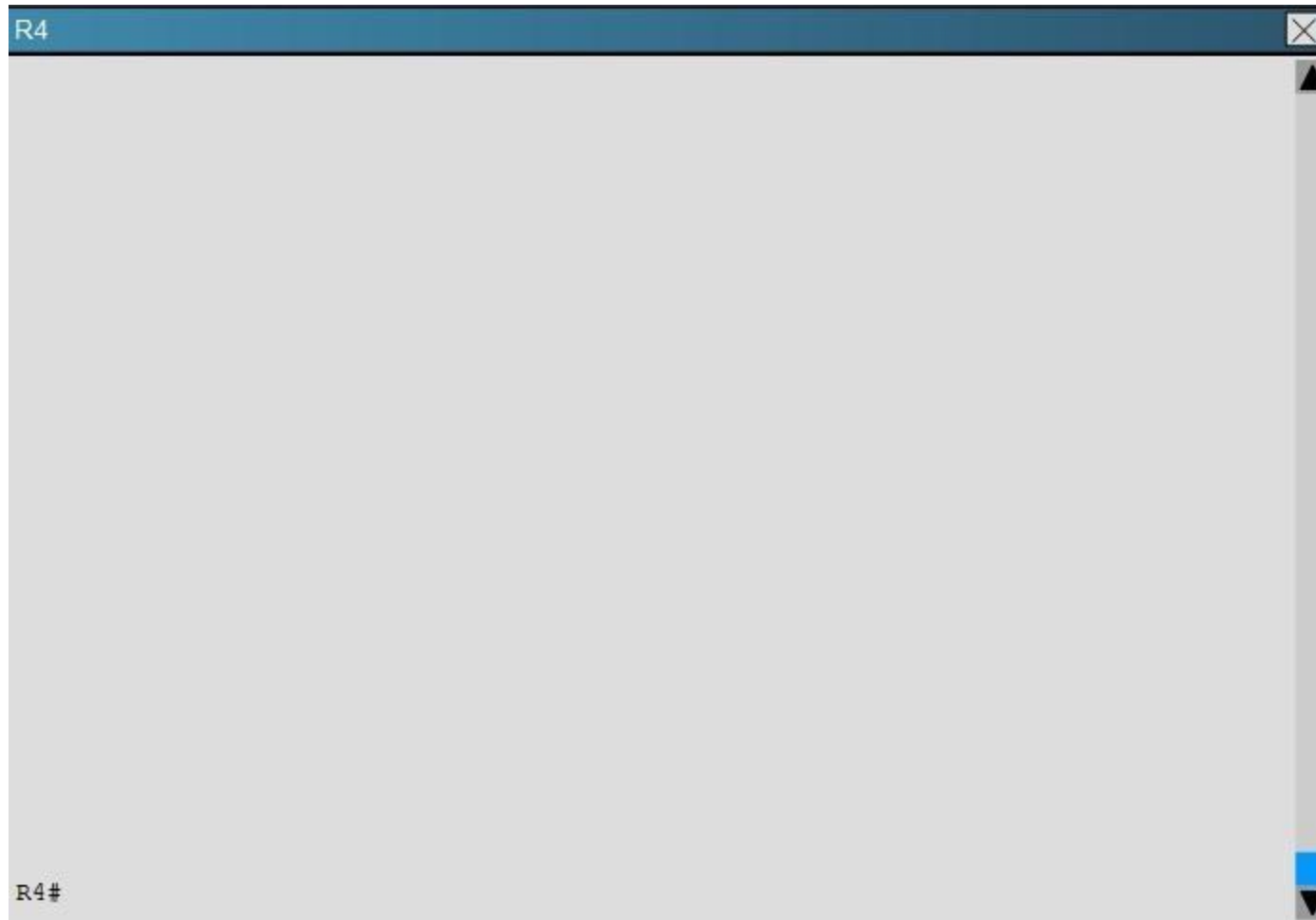
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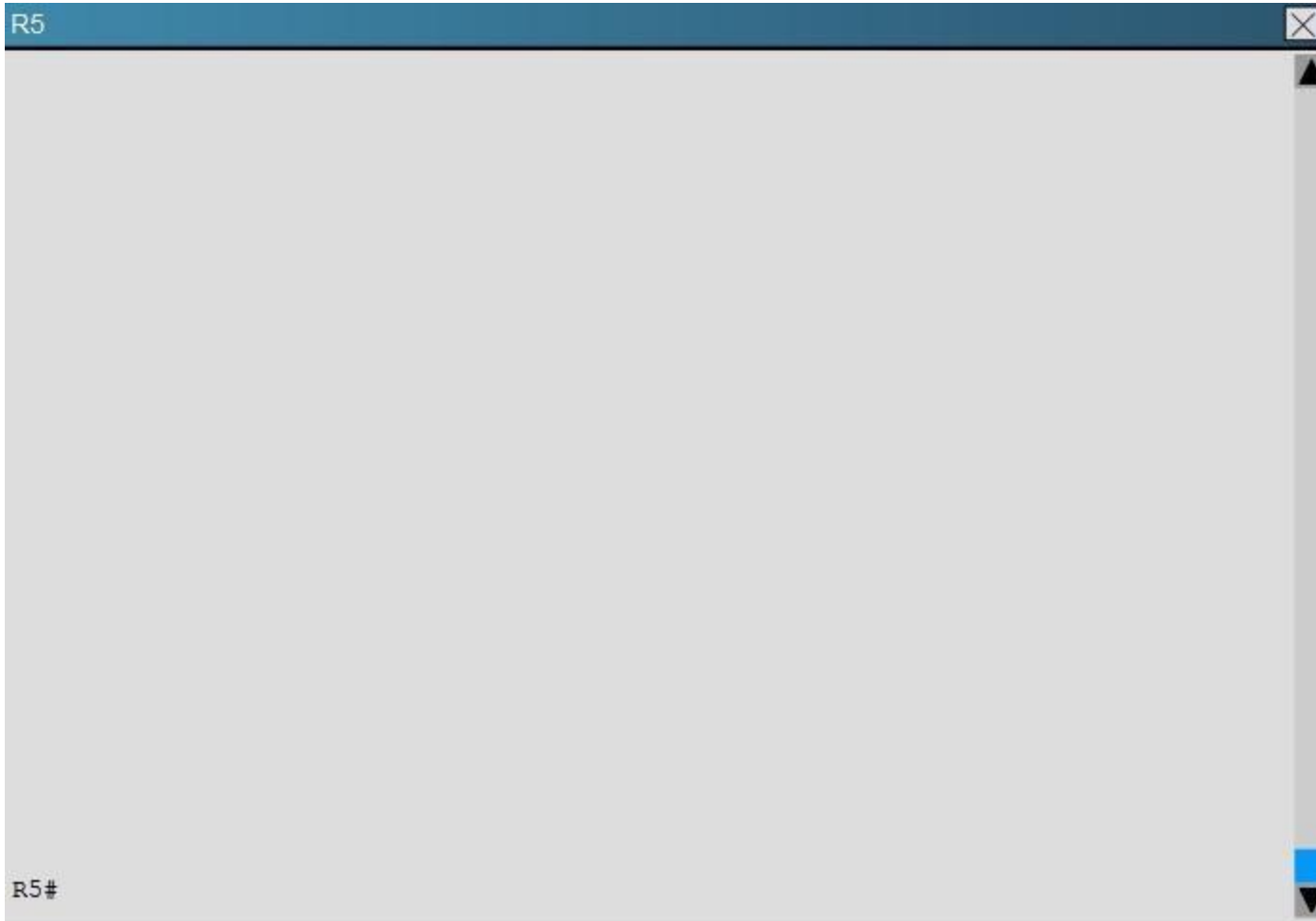














How old is the Type 4 LSA from Router 3 for area 1 on the router R5 based on the output you have examined?

- A. 1858
- B. 1601
- C. 600
- D. 1569

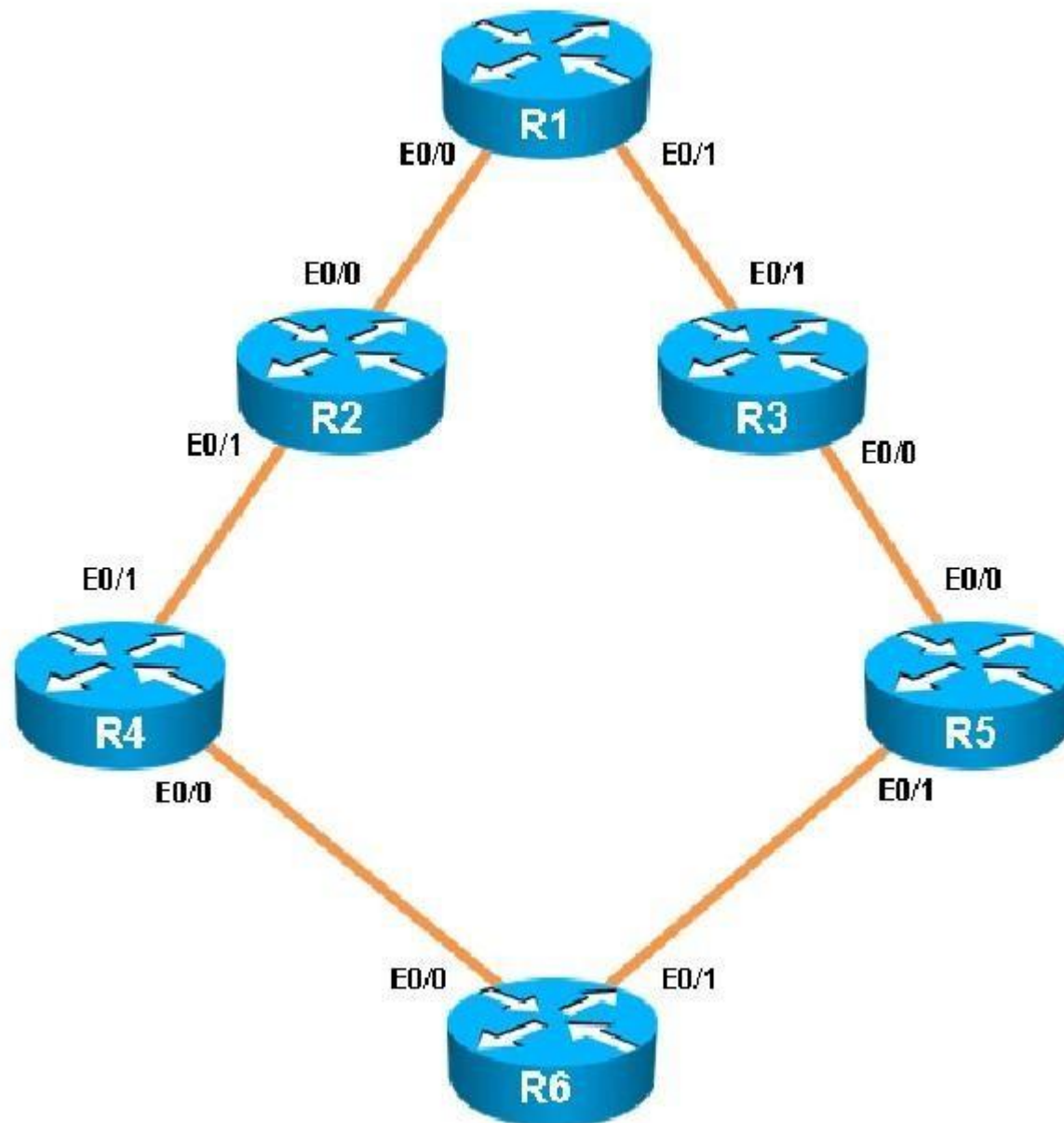
Correct Answer: A

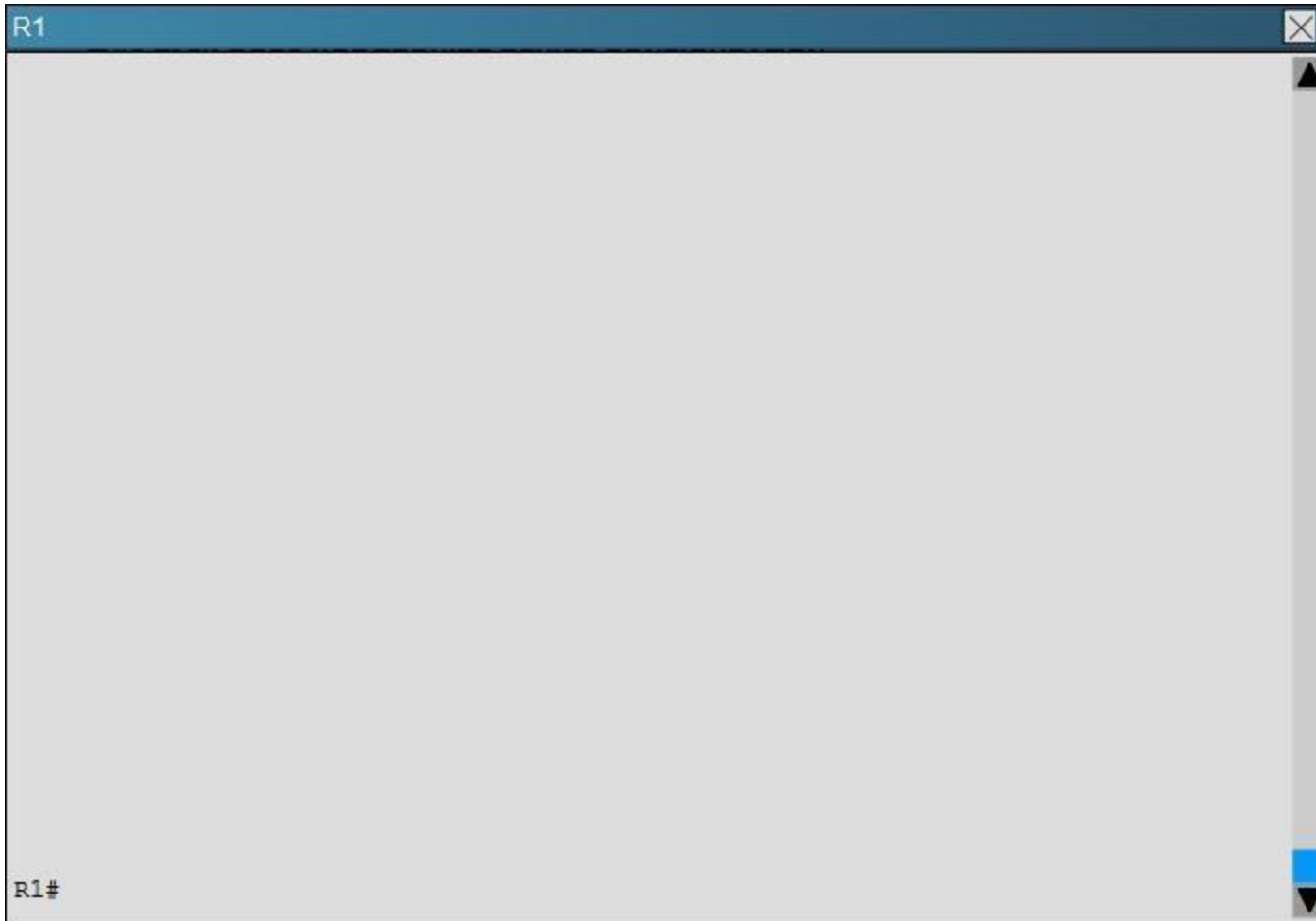
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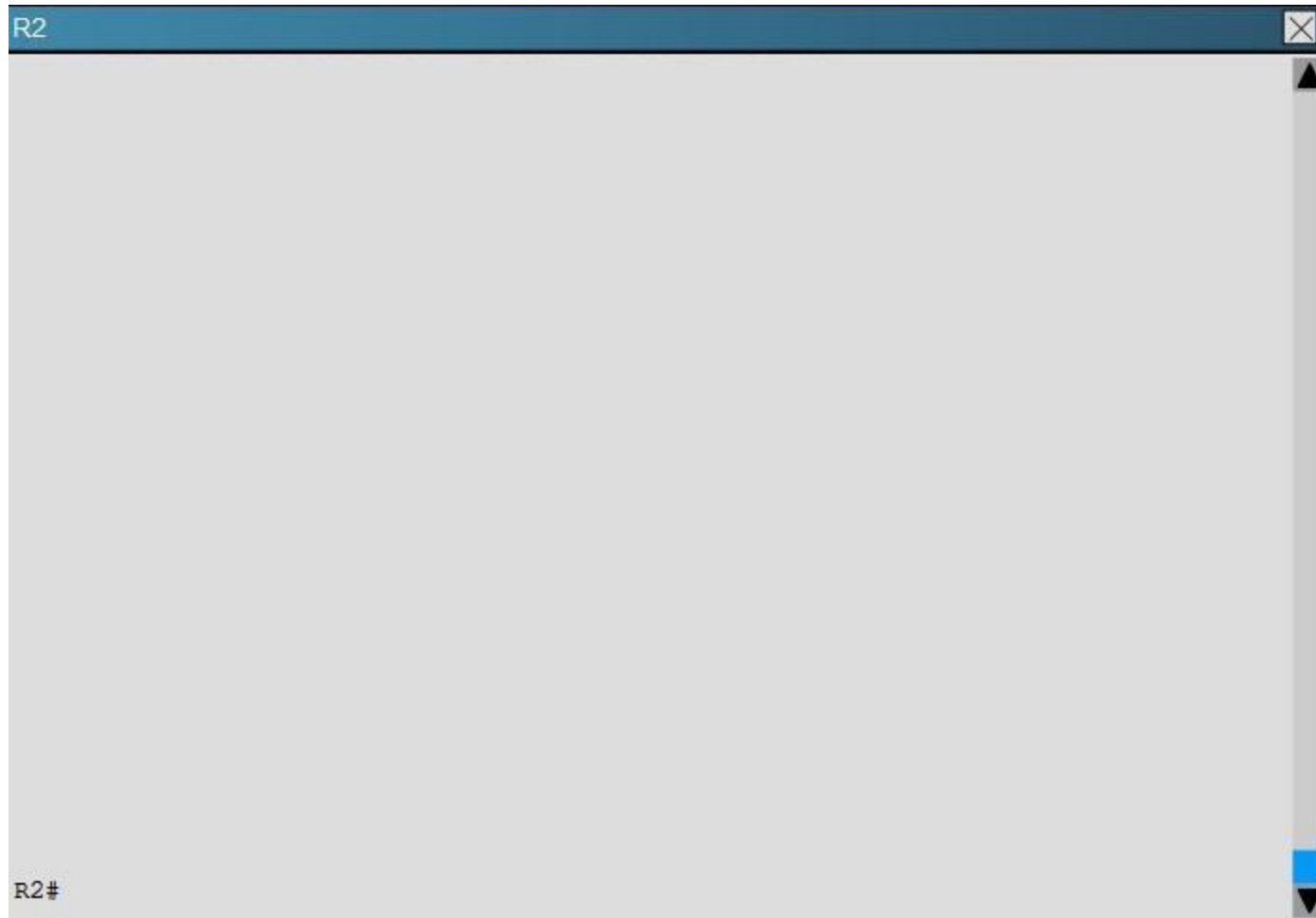
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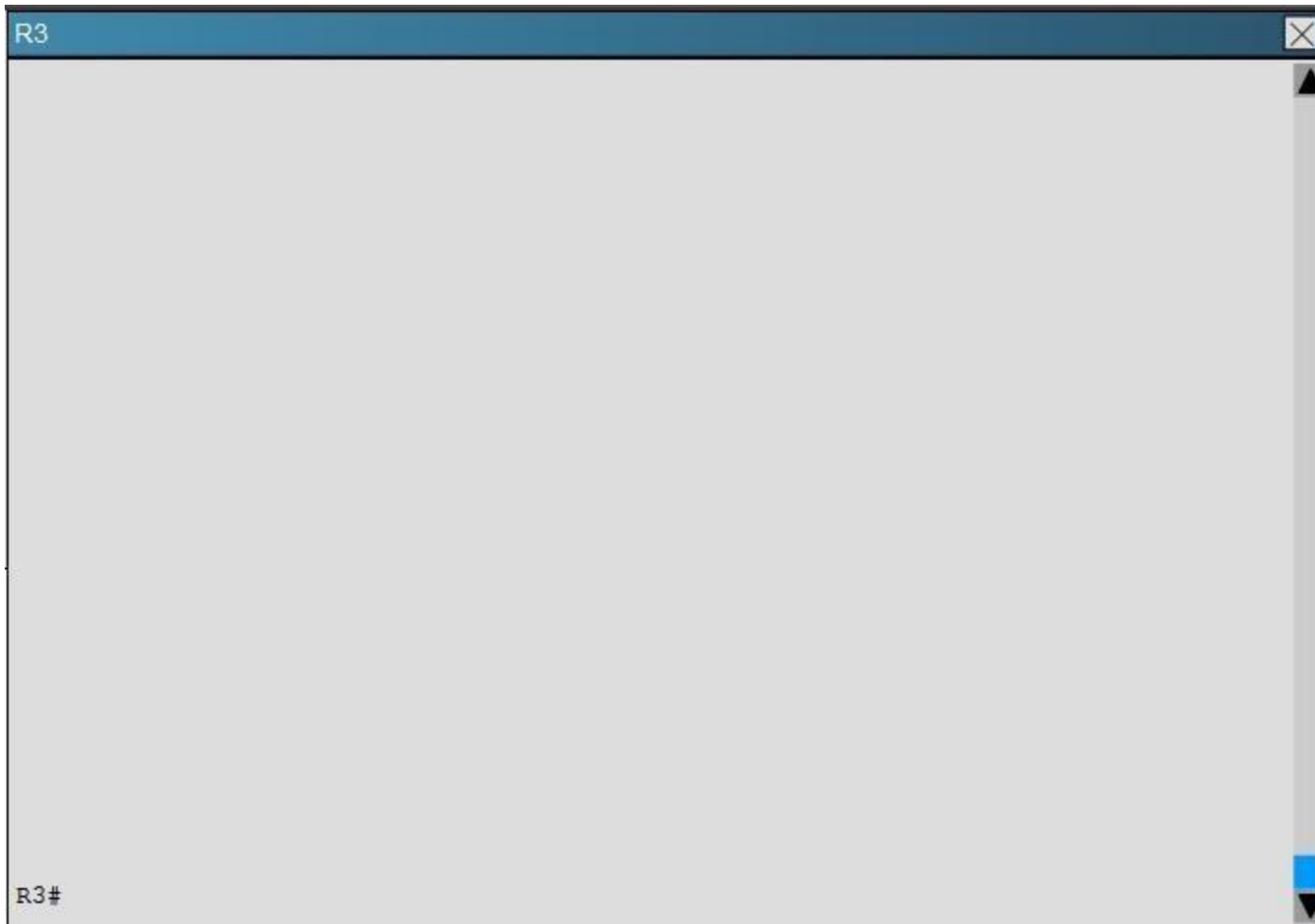
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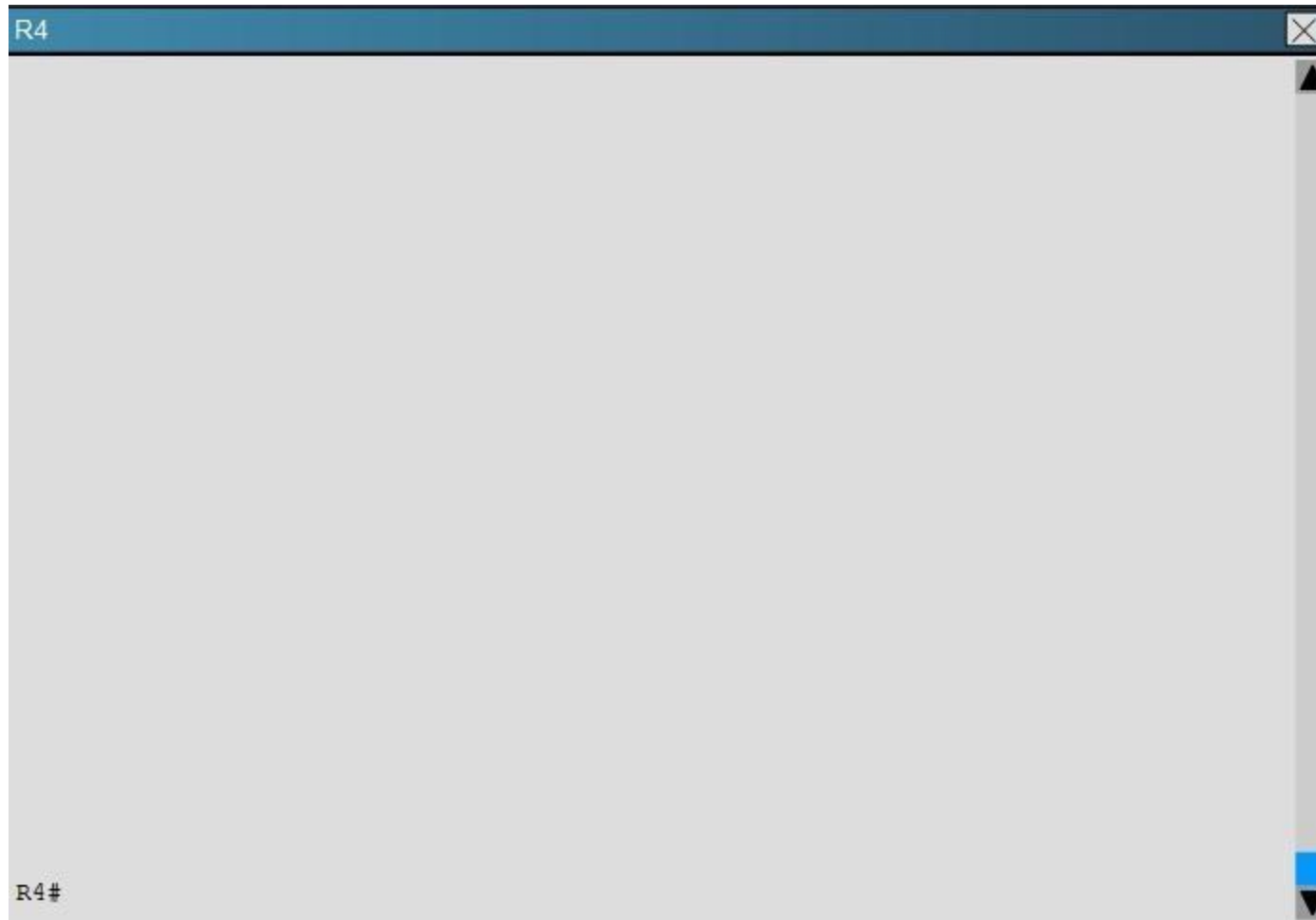
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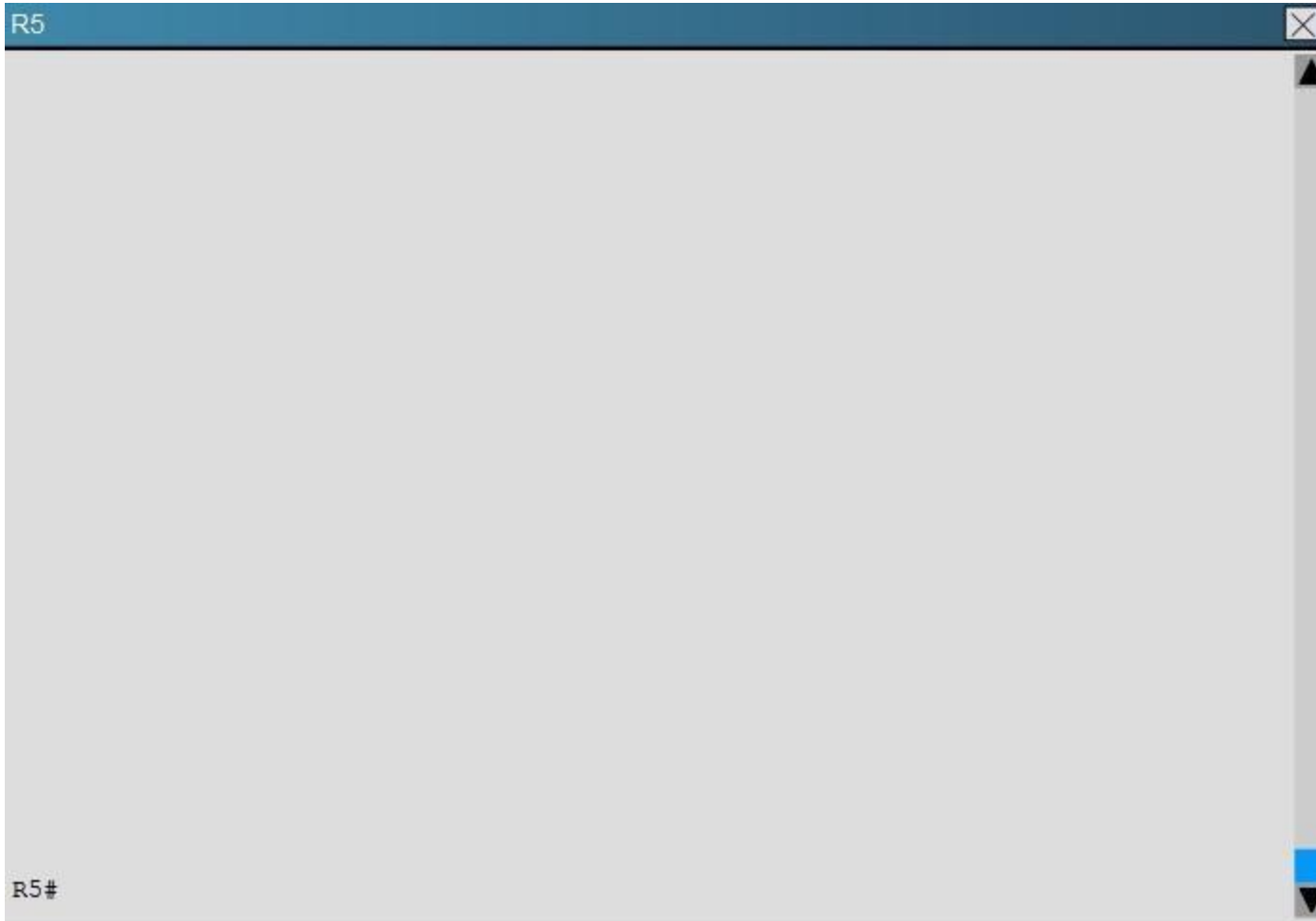














Which key chain is being used for authentication of EIGRP adjacency between R4 and R2?

- A. CISCO
- B. EIGRP
- C. key
- D. MD5

Correct Answer: A

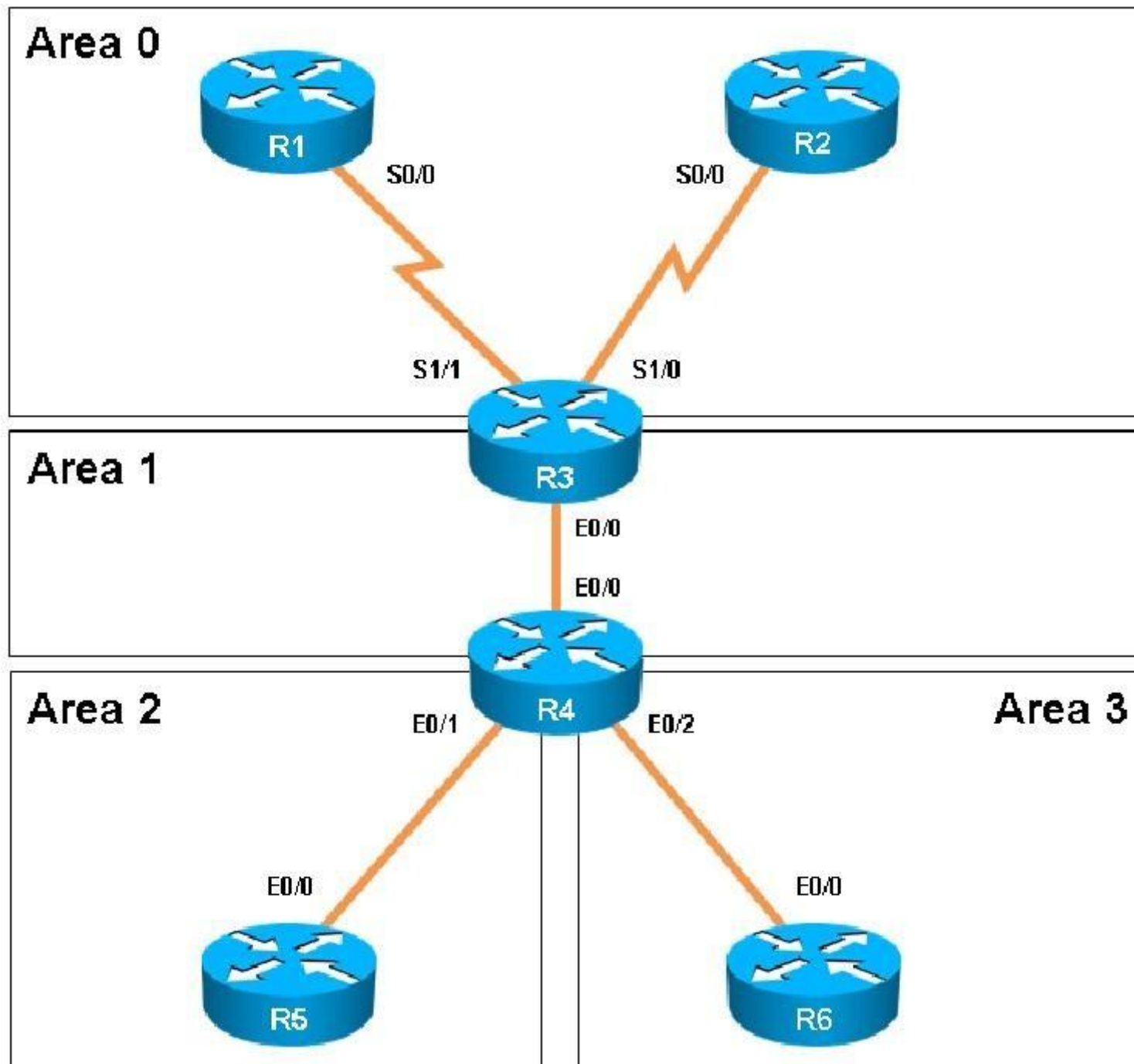
Section: Layer 3 Technologies
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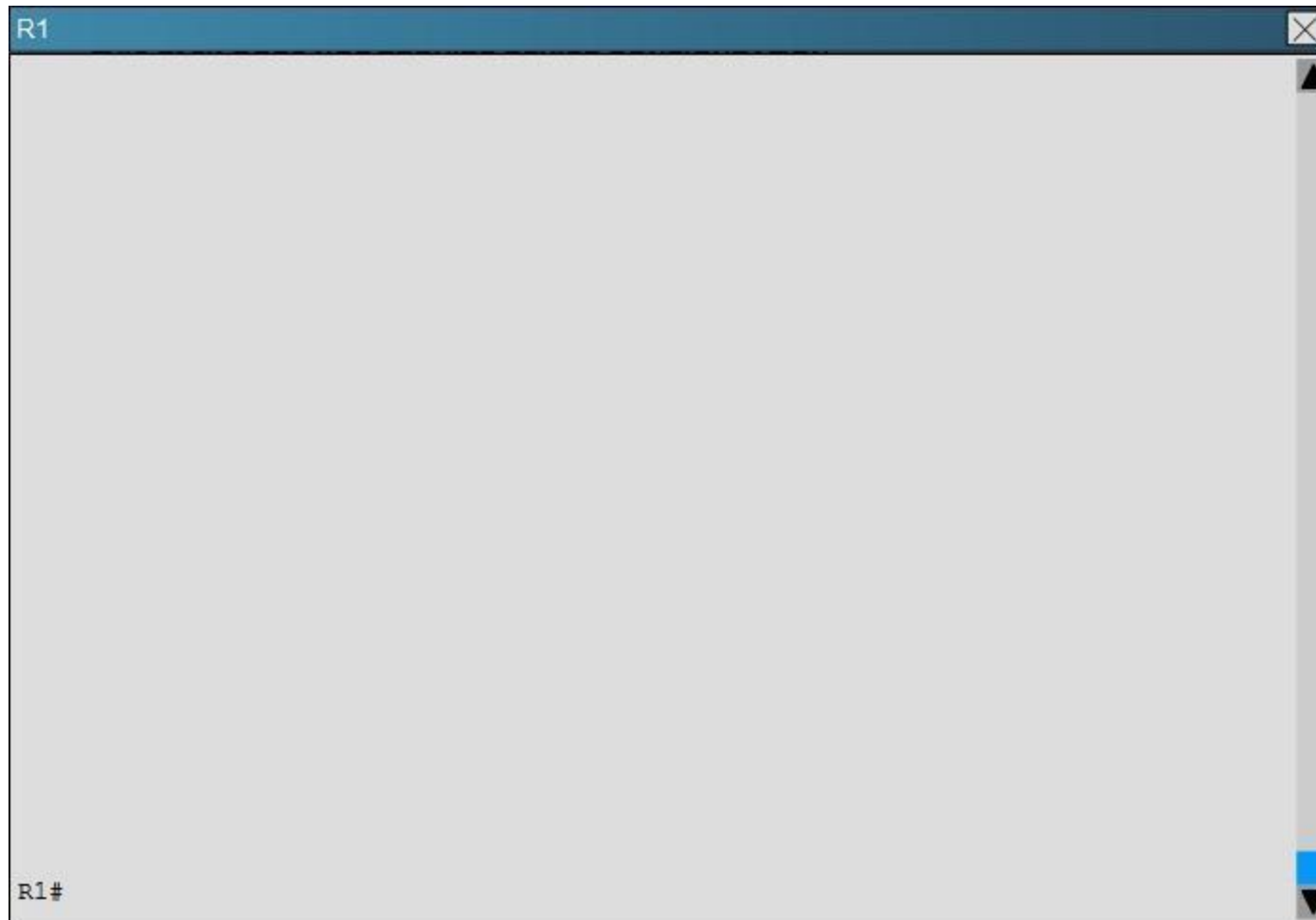
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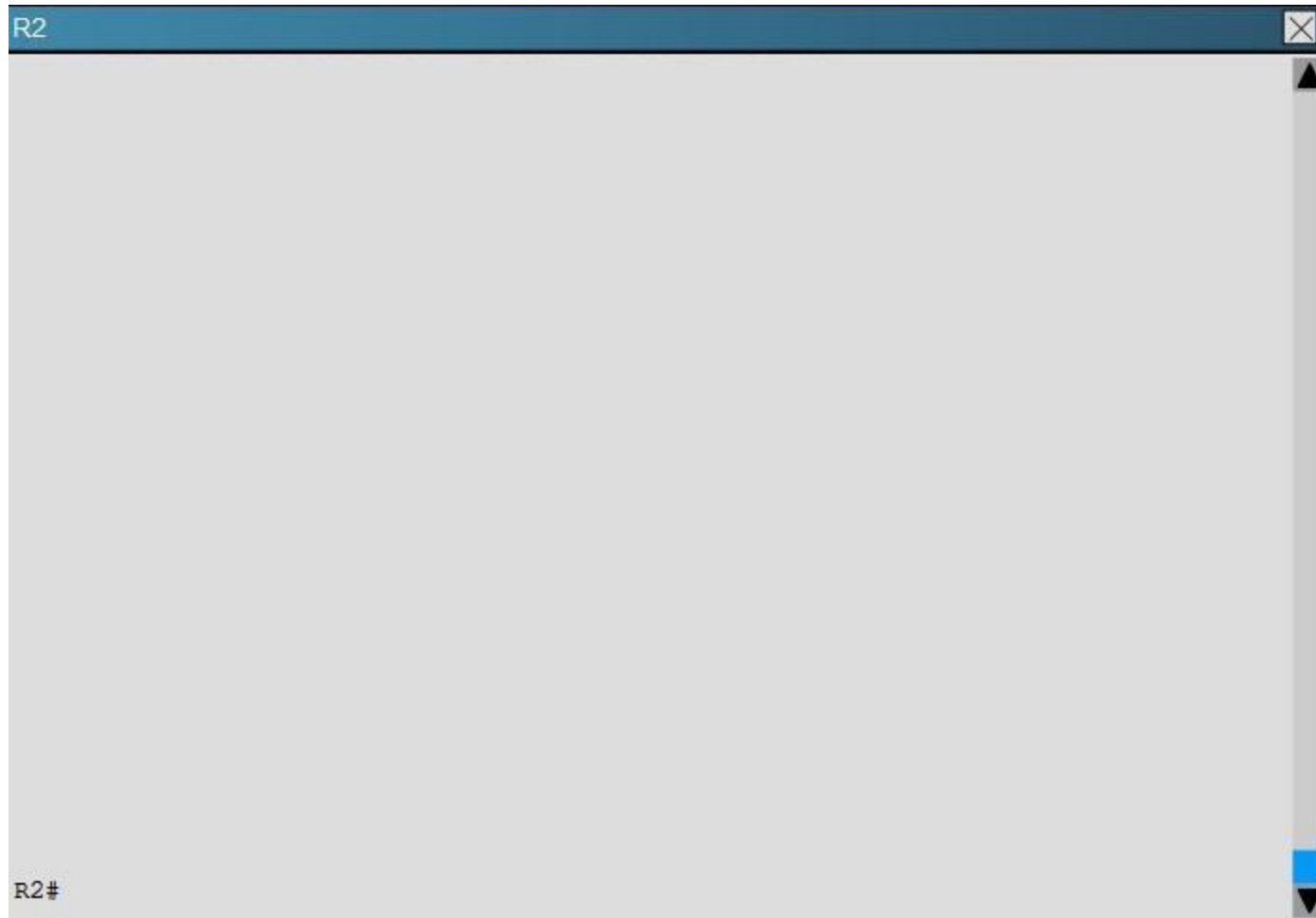
QUESTION 38

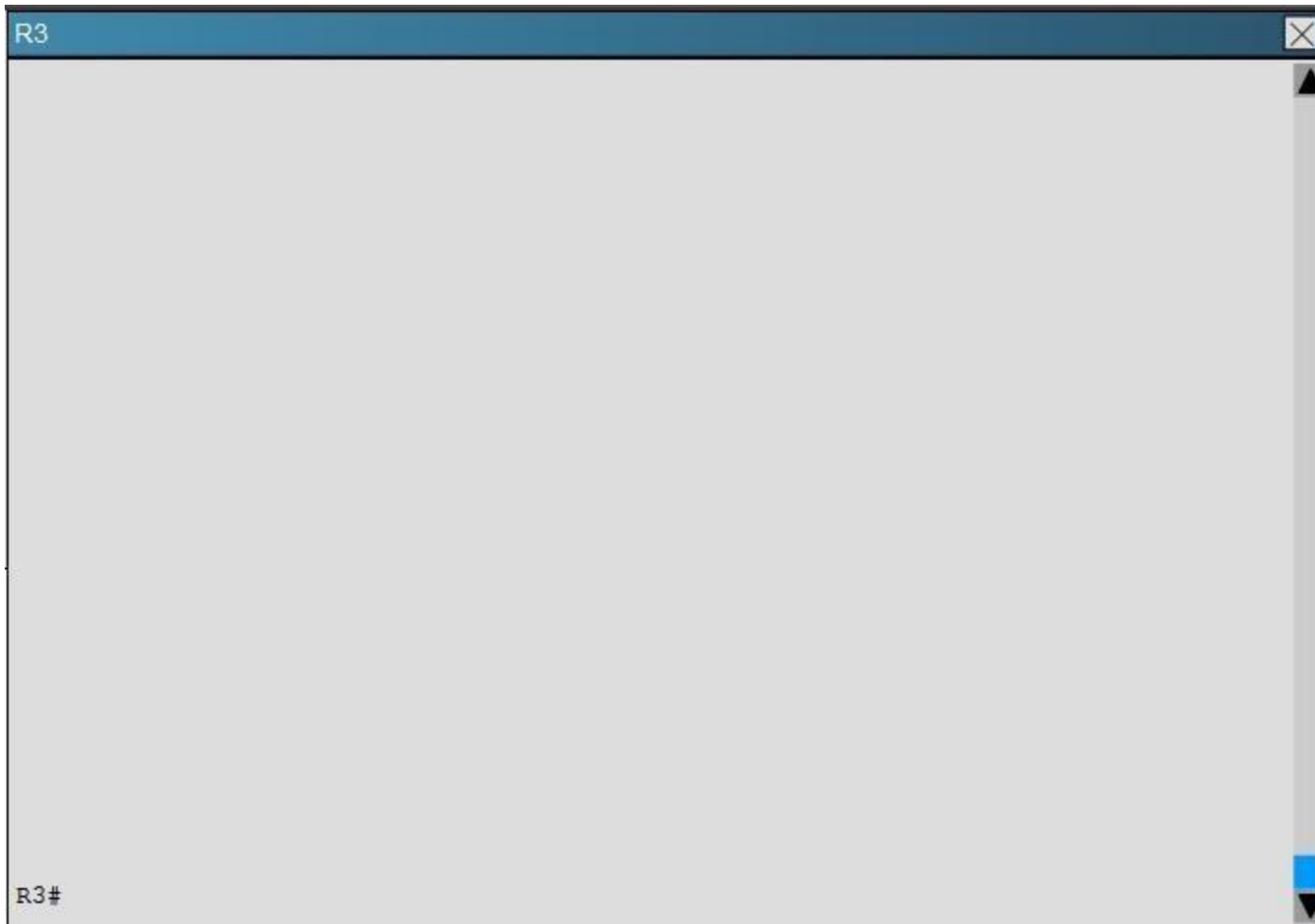
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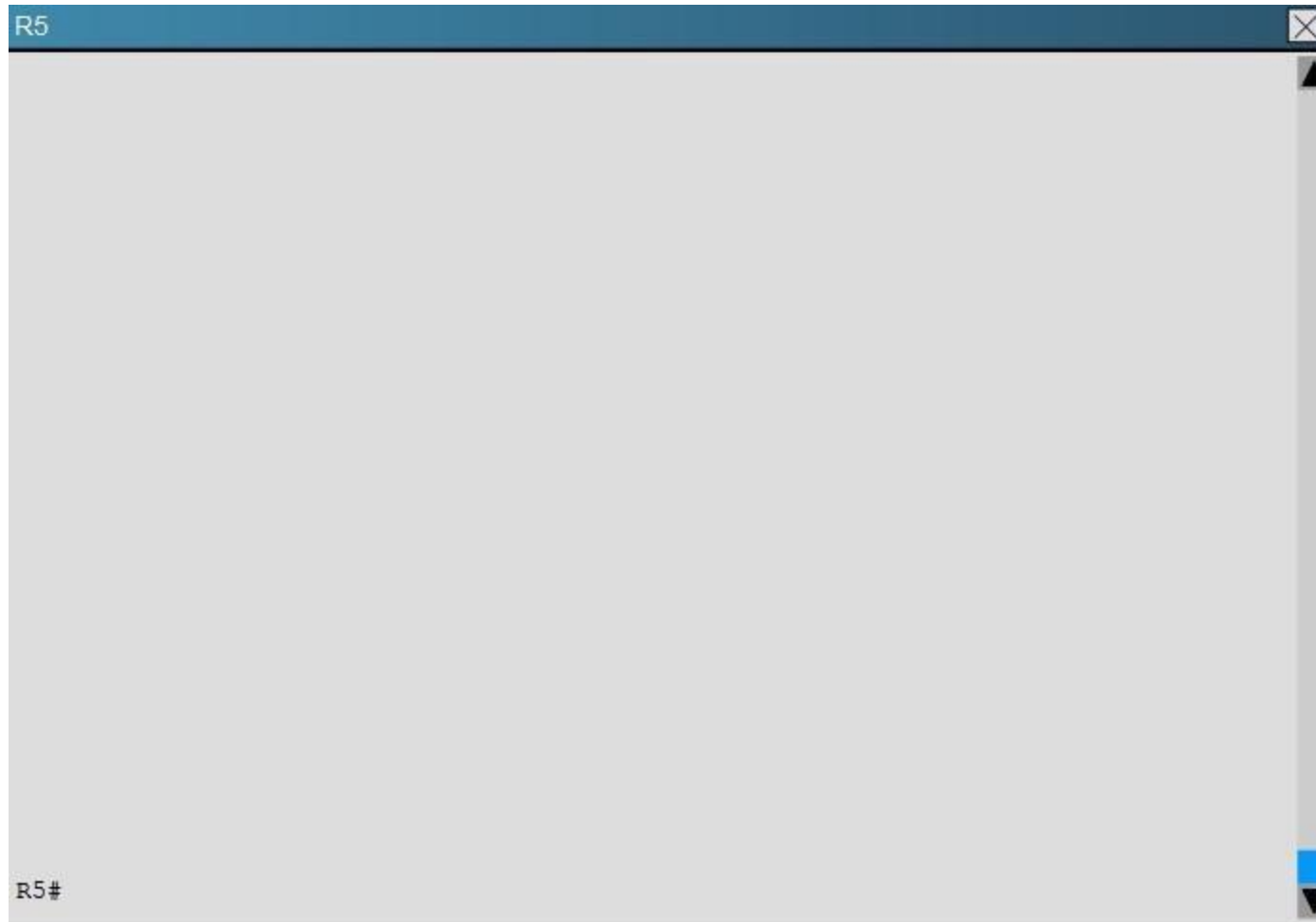














How many times was SPF algorithm executed on R4 for Area 1?

- A. 1
- B. 5
- C. 9
- D. 20
- E. 54
- F. 224

Correct Answer: C

Section: Layer 3 Technologies

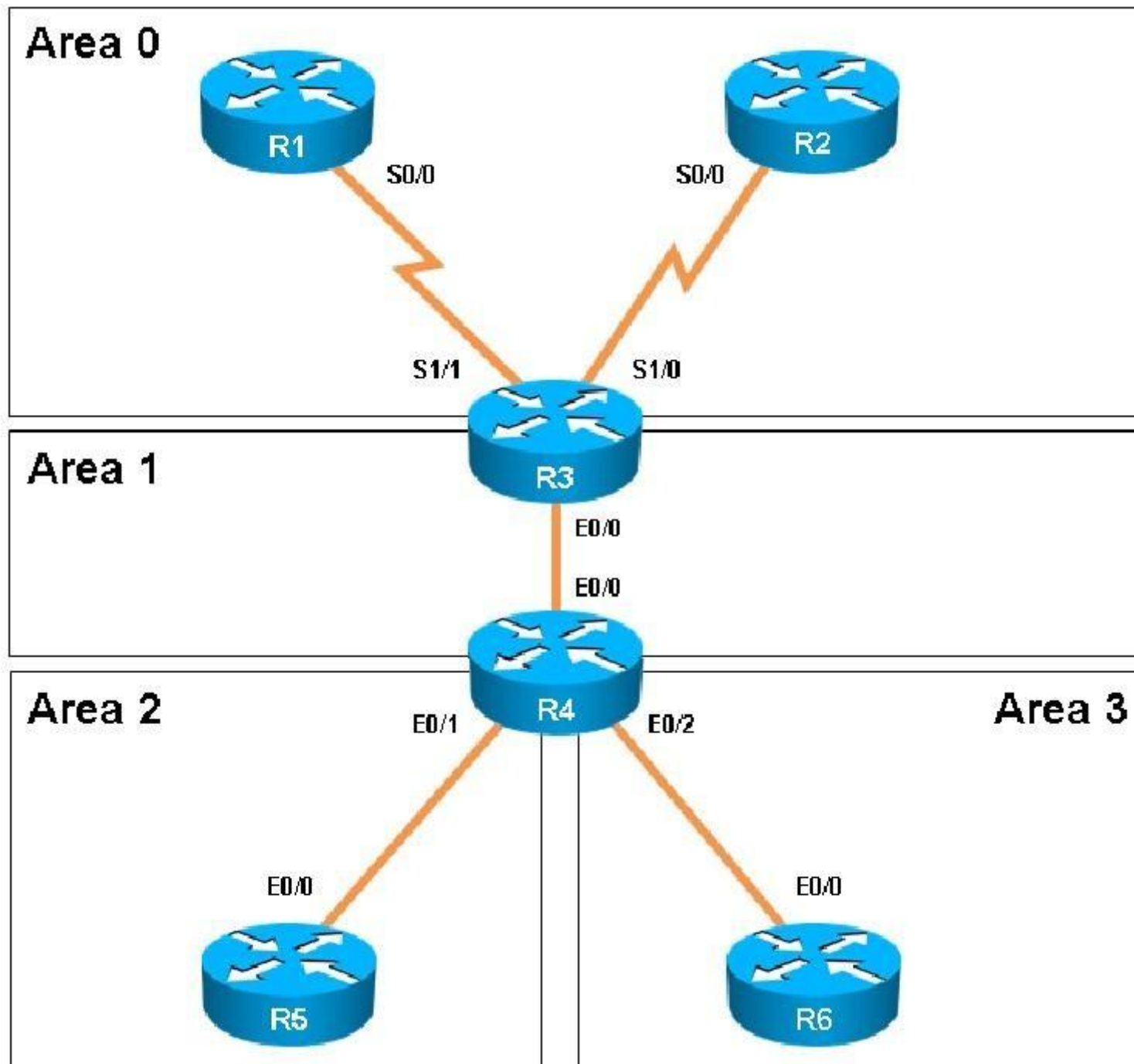
Explanation

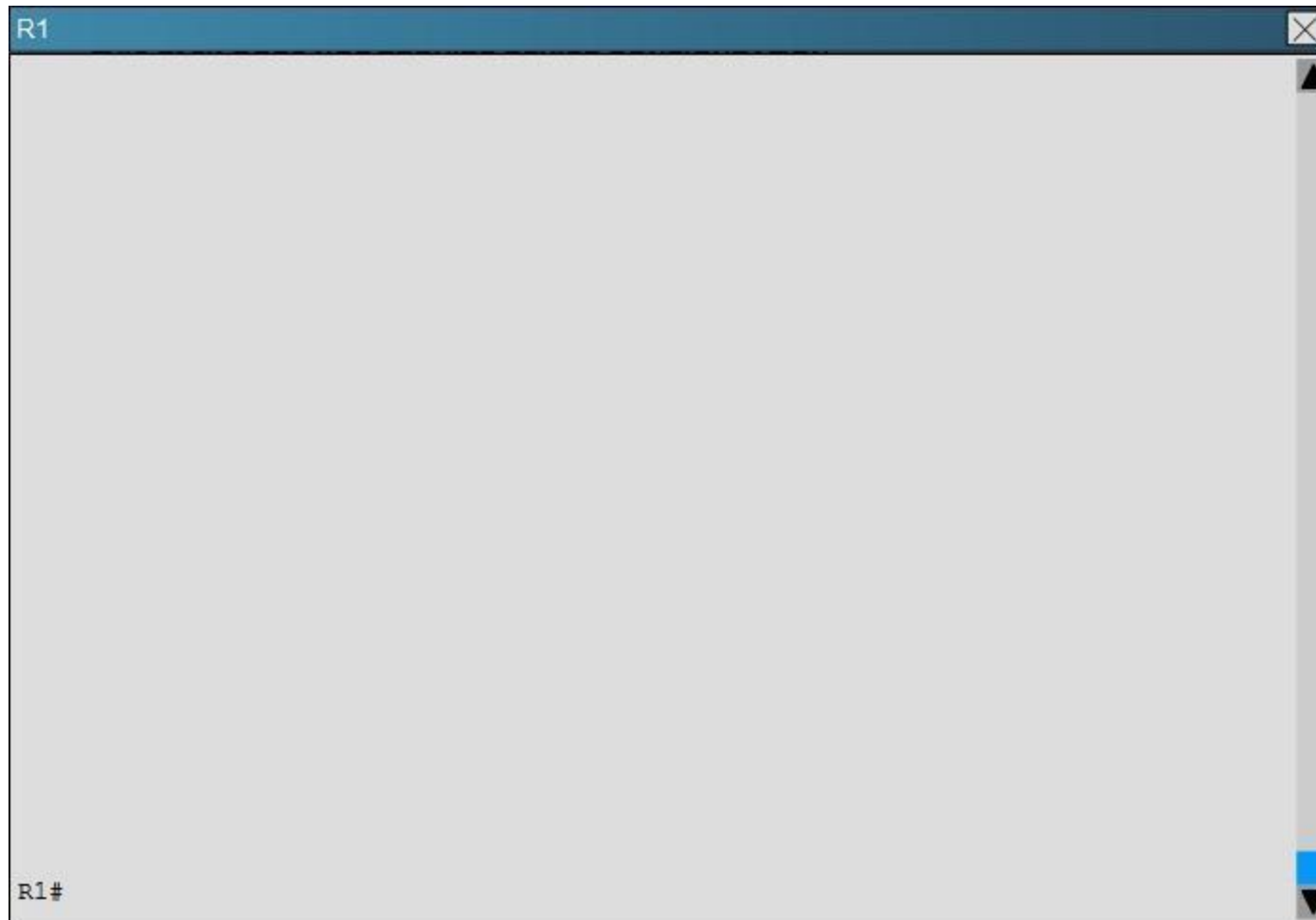
Explanation/Reference:

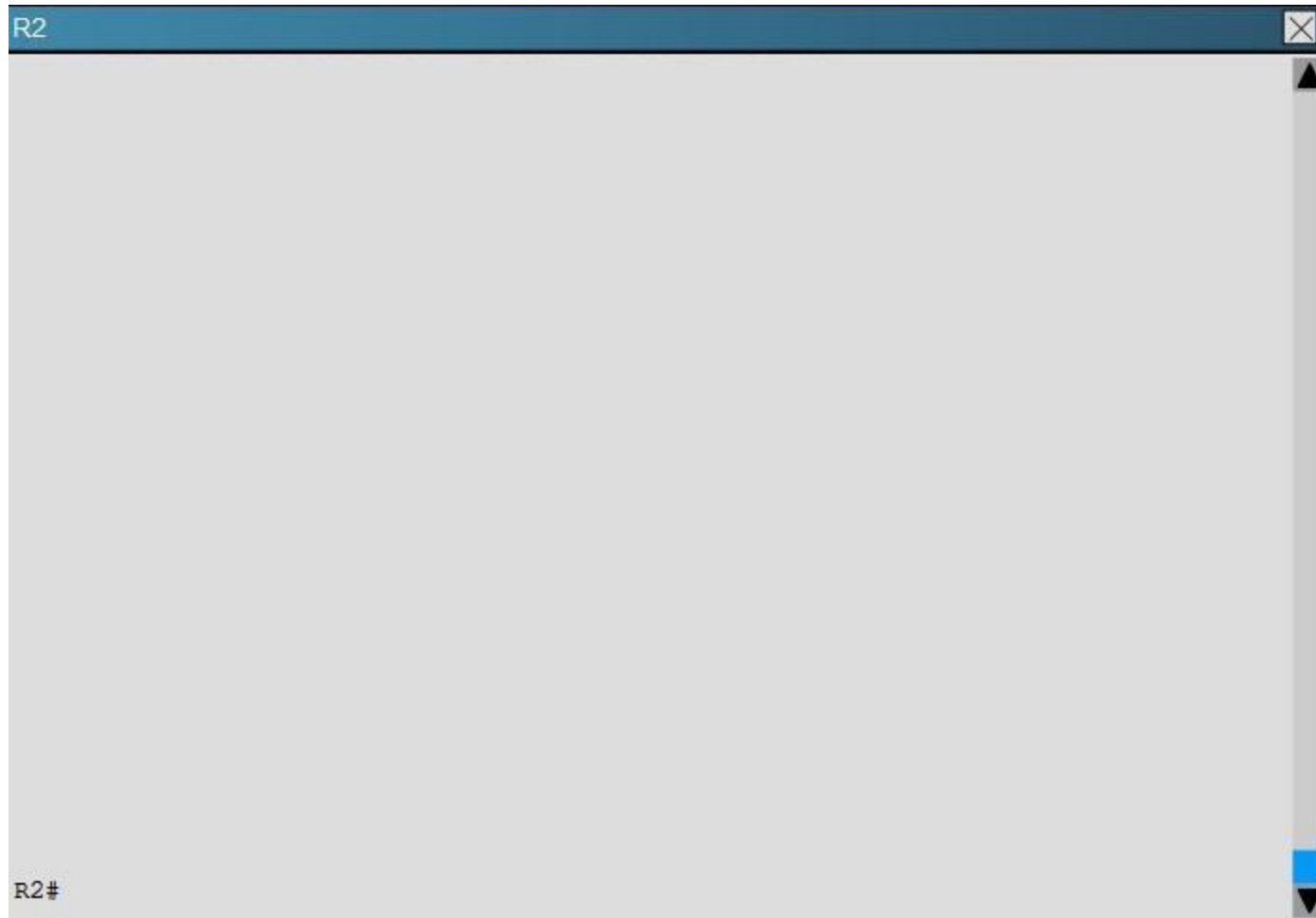
QUESTION 39

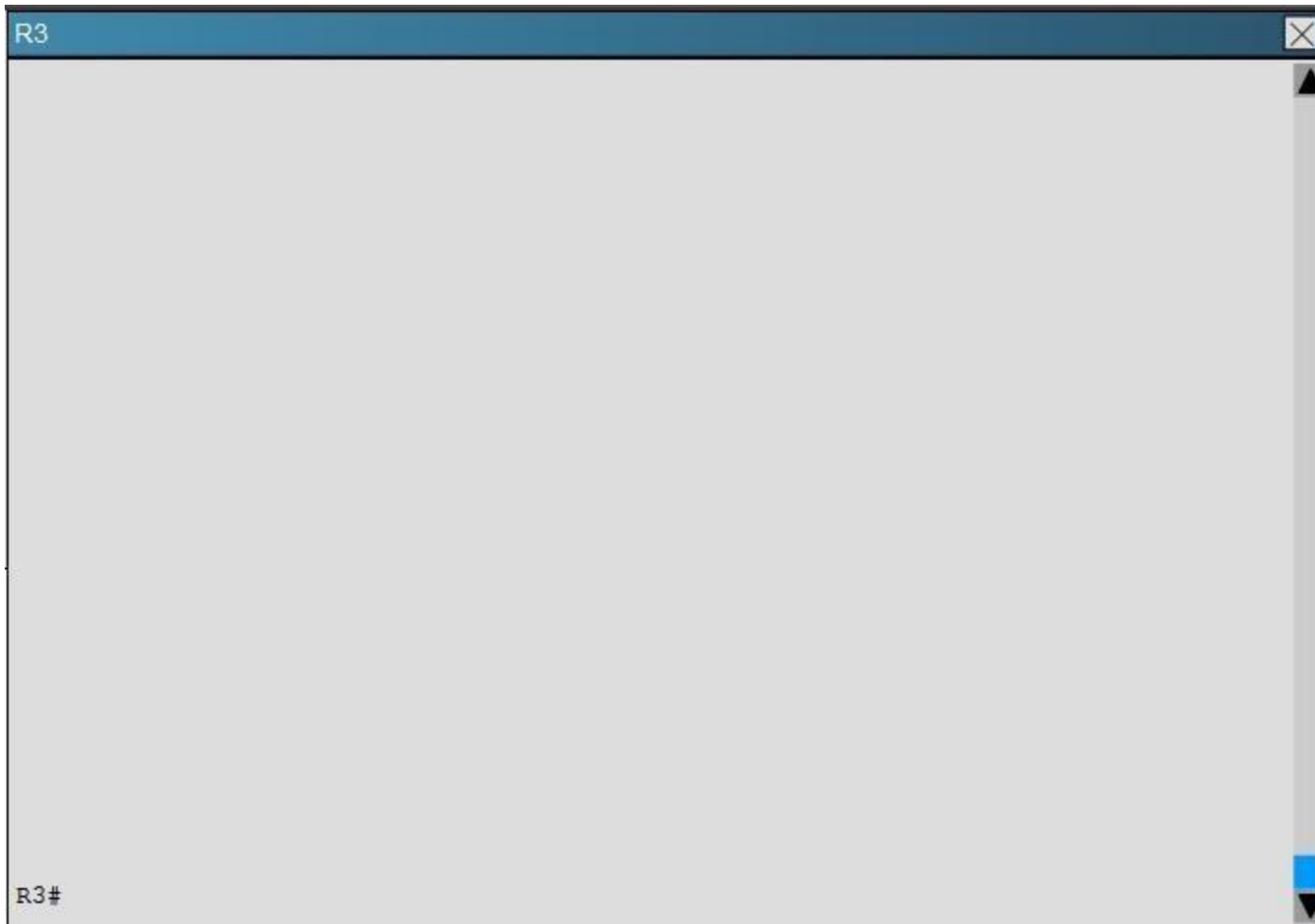
Scenario:

You have been asked to evaluate an OSPF network setup in a test lab and to answer questions a customer has about its operation. The customer has disabled your access to the show running- config command.

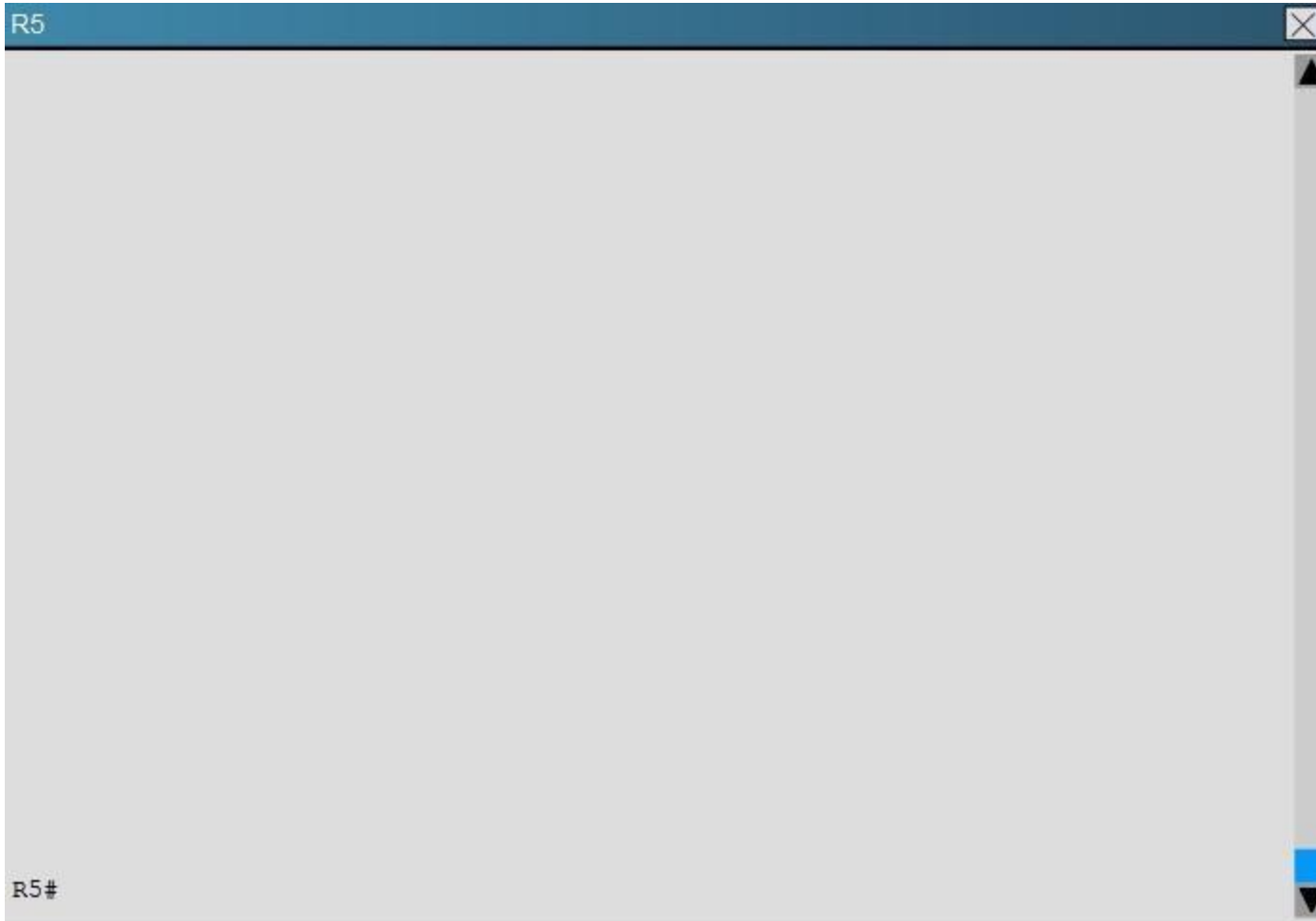














Which of the following statements is true about the serial links that terminate in R3

- A. The R1-R3 link needs the neighbor command for the adjacency to stay up
- B. The R2-R3 link OSPF timer values are 30, 120, 120
- C. The R1-R3 link OSPF timer values should be 10,40,40
- D. R3 is responsible for flooding LSUs to all the routers on the network.

Correct Answer: B

Section: Layer 3 Technologies**Explanation****Explanation/Reference:****QUESTION 40**

Refer to the following output:

```
Router#showipnhrp detail
```

```
10.1.1.2/8 via 10.2.1.2, Tunnel1 created 00:00:12, expire 01:59:47 TypE.dynamic, Flags: authoritative unique nat registered used NBMA address: 10.12.1.2
```

What does the authoritative flag mean in regards to the NHRP information?

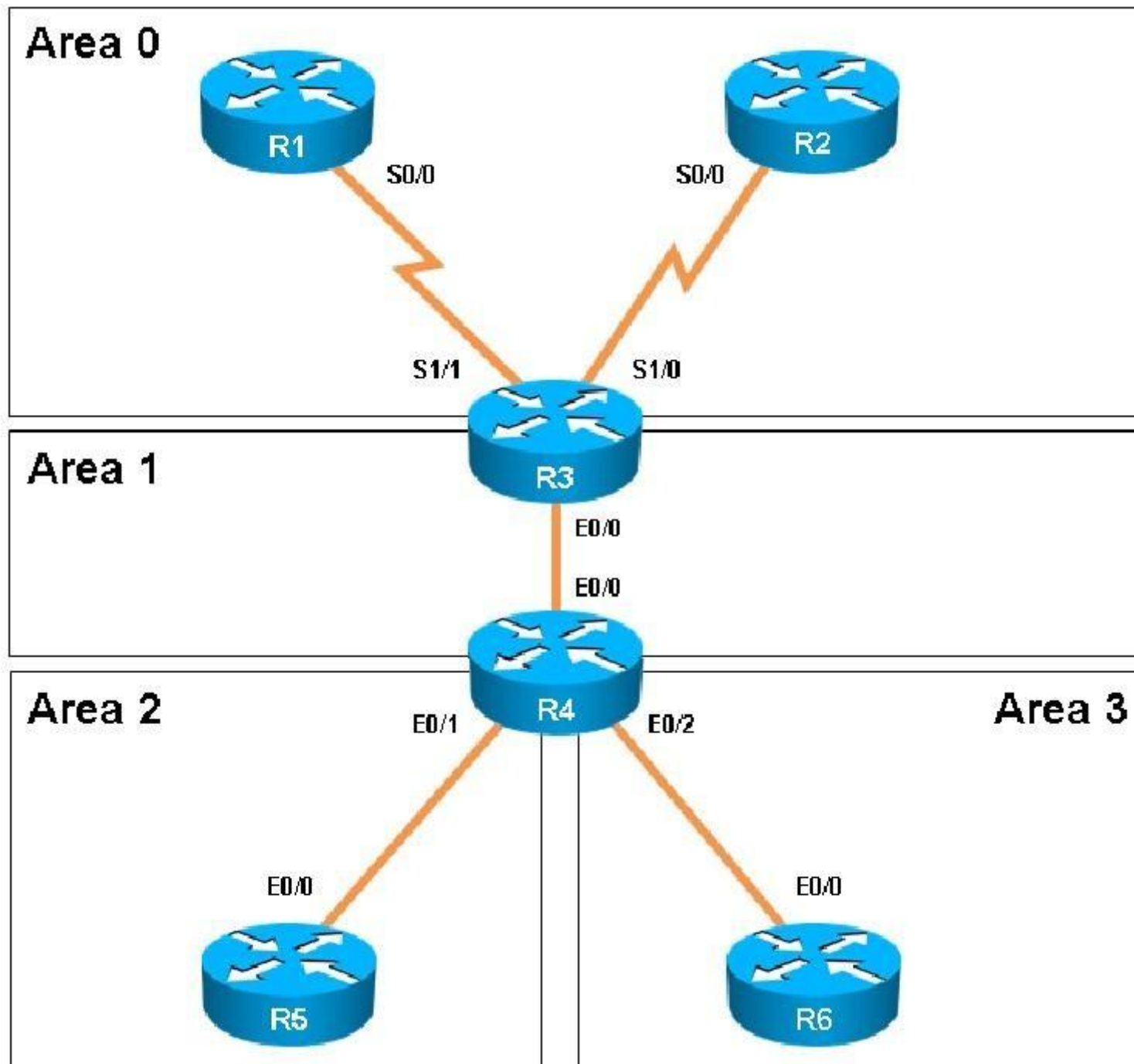
- A. It was obtained directly from the next-hop server.
- B. Data packets are process switches for this mapping entry.
- C. NHRP mapping is for networks that are local to this router.
- D. The mapping entry was created in response to an NHRP registration request.
- E. The NHRP mapping entry cannot be overwritten.

Correct Answer: A

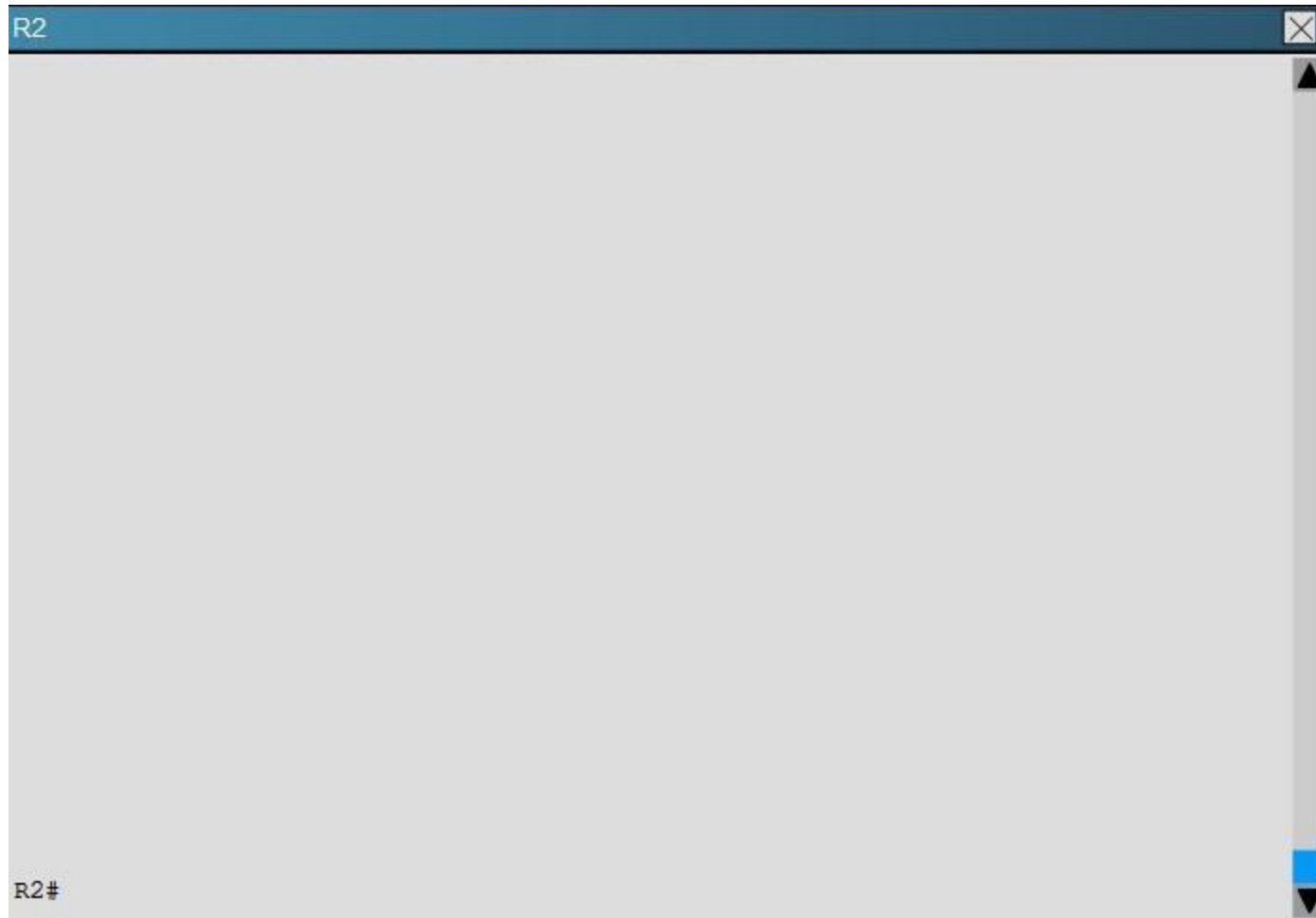
Section: VPN Technologies**Explanation****Explanation/Reference:****QUESTION 41**

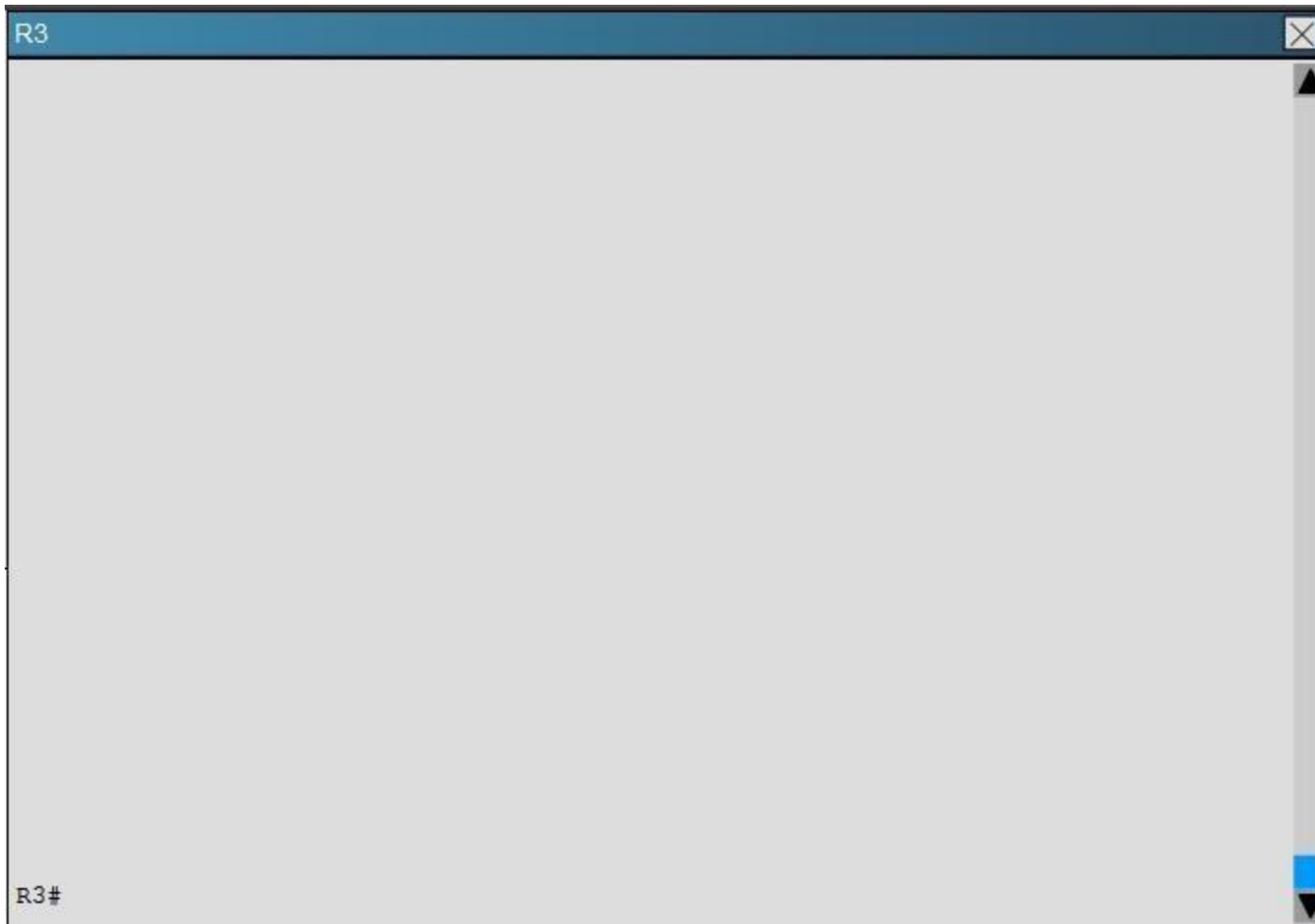
Scenario:

You have been asked to evaluate an OSPF network setup in a test lab and to answer questions a customer has about its operation. The customer has disabled your access to the show running- config command.

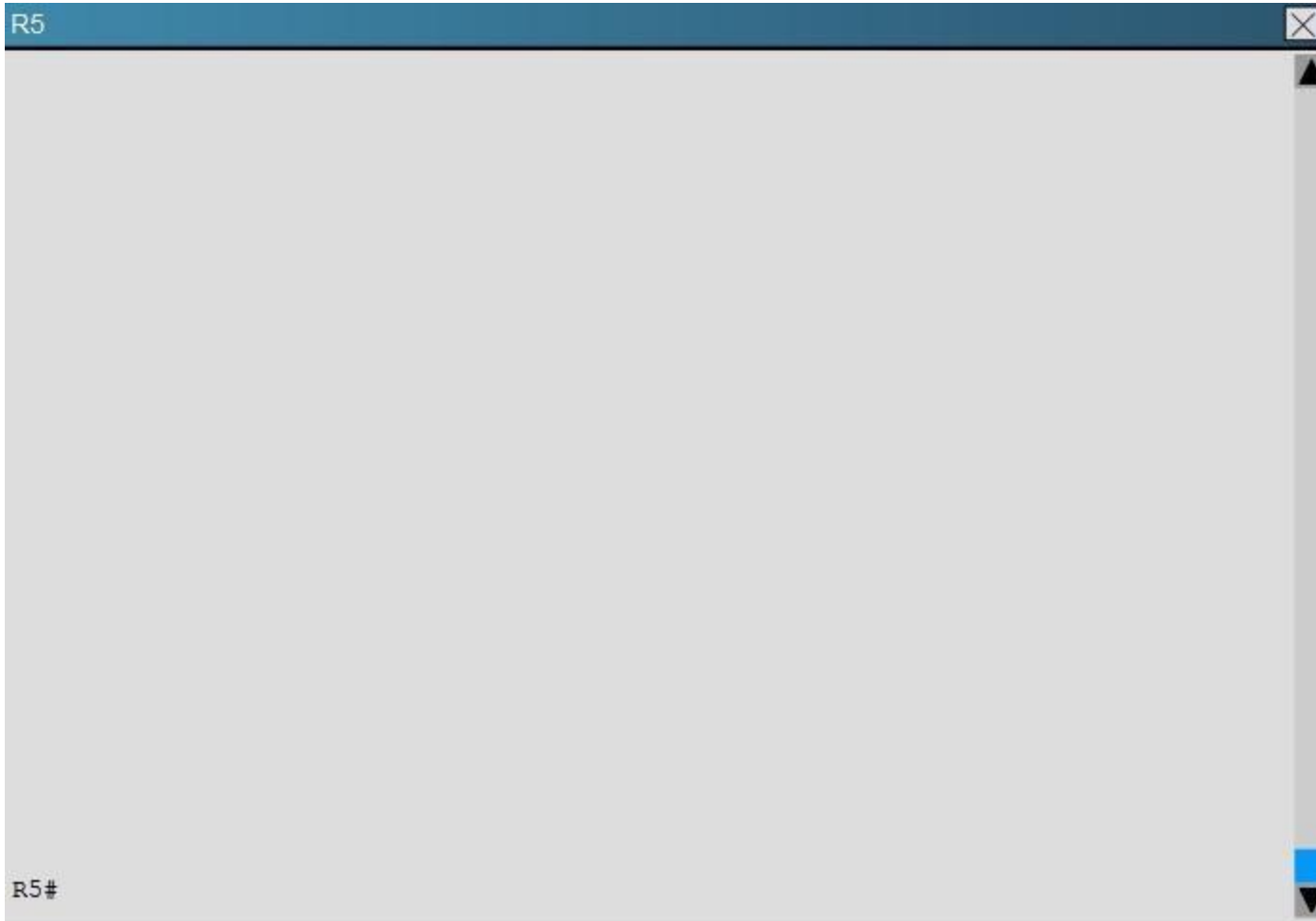














Areas of Router 5 and 6 are not normal areas, inspect their routing tables and determine which statement is true?

- A. R5's Loopback and R6's Loopback are both present in R5's Routing table
- B. R5's Loopback and R6's Loopback are both present in R6's Routing table
- C. Only R5's loopback is present in R5's Routing table
- D. Only R6's loopback is present in R5's Routing table
- E. Only R5's loopback is present in R6's Routing table

Correct Answer: A

Section: Layer 3 Technologies

Explanation

Explanation/Reference:

QUESTION 42

A company has just opened two remote branch offices that need to be connected to the corporate network. Which interface configuration output can be applied to the corporate router to allow communication to the remote sites?

- A. interface Tunnel0
bandwidth 1536
ip address 209.165.200.230 255.255.255.224
tunnel source Serial0/0
tunnel mode gre multipoint
- B. interface fa0/0
bandwidth 1536
ip address 209.165.200.230 255.255.255.224
tunnel mode gre multipoint
- C. interface Tunnel0
bandwidth 1536
ip address 209.165.200.231 255.255.255.224
tunnel source 209.165.201.1
tunnel-mode dynamic
- D. interface fa 0/0
bandwidth 1536
ip address 209.165.200.231 255.255.255.224
tunnel source 192.168.161.2
tunnel destination 209.165.201.1
tunnel-mode dynamic

Correct Answer: A

Section: VPN Technologies

Explanation

Explanation/Reference:

QUESTION 43

A network engineer executes the show crypto ipseca command. Which three pieces of information are displayed in the output? (Choose three.)

- A. inbound crypto map
- B. remaining key lifetime
- C. path MTU
- D. tagged packets
- E. untagged packets
- F. invalid identity packets

Correct Answer: ABC

Section: VPN Technologies

Explanation

Explanation/Reference:

QUESTION 44

Which common issue causes intermittent DMVPN tunnel flaps?

- A. a routing neighbor reachability issue
- B. a suboptimal routing table
- C. interface bandwidth congestion
- D. that the GRE tunnel to hub router is not encrypted

Correct Answer: A

Section: VPN Technologies

Explanation

Explanation/Reference:

QUESTION 45

Which encapsulation supports an interface that is configured for an EVN trunk?

- A. 802.1Q
- B. ISL
- C. PPP
- D. Frame Relay
- E. MPLS
- F. HDLC

Correct Answer: A
Section: VPN Technologies
Explanation

Explanation/Reference:

QUESTION 46

A user is having issues accessing file shares on a network. The network engineer advises the user to open a web browser, input a prescribed IP address, and follow the instructions. After doing this, the user is able to access company shares. Which type of remote access did the engineer enable?

- A. EZVPN
- B. IPsec VPN client access
- C. VPDN client access
- D. SSL VPN client access

Correct Answer: D
Section: VPN Technologies
Explanation

Explanation/Reference:

Explanation:

The Cisco AnyConnect VPN Client provides secure SSL connections to the security appliance for remote users. Without a previously installed client, remote users enter the IP address in their browser of an interface configured to accept SSL VPN connections. Unless the security appliance is configured to redirect http:// requests to https://, users must enter the URL in the form https://<address>.

After entering the URL, the browser connects to that interface and displays the login screen. If the user satisfies the login and authentication, and the security appliance identifies the user as requiring the client, it downloads the client that matches the operating system of the remote computer. After downloading, the client installs and configures itself, establishes a secure SSL connection and either remains or uninstalls itself (depending on the security appliance configuration) when the connection terminates.

Reference: <http://www.cisco.com/c/en/us/support/docs/security/asa-5500-x-series-next-generation-firewalls/100936-asa8x-split-tunnel-anyconnect-config.html>

QUESTION 47

Which three characteristics are shared by subinterfaces and associated EVNs? (Choose three.)

- A. IP address
- B. routing table
- C. forwarding table
- D. access control lists
- E. NetFlow configuration

Correct Answer: ABC
Section: VPN Technologies
Explanation

Explanation/Reference:

QUESTION 48

Which Cisco IOS VPN technology leverages IPsec, mGRE, dynamic routing protocol, NHRP, and Cisco Express Forwarding?

- A. FlexVPN
- B. DMVPN
- C. GETVPN
- D. Cisco Easy VPN

Correct Answer: B
Section: VPN Technologies
Explanation

Explanation/Reference:

QUESTION 49

Which traffic does the following configuration allow?

```
ipv6 access-list cisco
permit ipv6 host 2001:DB8:0:4::32 any eq ssh
line vty 0 4
ipv6 access-class cisco in
```

- A. all traffic to vty 0 4 from source 2001:DB8:0:4::32
- B. only ssh traffic to vty 0 4 from source all
- C. only ssh traffic to vty 0 4 from source 2001:DB8:0:4::32
- D. all traffic to vty 0 4 from source all

Correct Answer: C
Section: Infrastructure Security
Explanation

Explanation/Reference:

QUESTION 50

Refer to the following access list.

```
access-list 100 permit ip any any log
```

After applying the access list on a Cisco router, the network engineer notices that the router CPU utilization has risen to 99 percent. What is the reason for this?

- A. A packet that matches access-list with the "log" keyword is Cisco Express Forwarding switched.
- B. A packet that matches access-list with the "log" keyword is fast switched.
- C. A packet that matches access-list with the "log" keyword is process switched.
- D. A large amount of IP traffic is being permitted on the router.

Correct Answer: C

Section: Infrastructure Security

Explanation

Explanation/Reference:

QUESTION 51

For troubleshooting purposes, which method can you use in combination with the debug ip packet command to limit the amount of output data?

- A. You can disable the IP route cache globally.
- B. You can use the KRON scheduler.
- C. You can use an extended access list.
- D. You can use an IOS parser.
- E. You can use the RITE traffic exporter.

Correct Answer: C

Section: Infrastructure Security

Explanation

Explanation/Reference:

QUESTION 52

Which address is used by the Unicast Reverse Path Forwarding protocol to validate a packet against the routing table?

- A. source address

- B. destination address
- C. router interface
- D. default gateway

Correct Answer: A

Section: Infrastructure Security

Explanation

Explanation/Reference:

QUESTION 53

What are the three modes of Unicast Reverse Path Forwarding?

- A. strict mode, loose mode, and VRF mode
- B. strict mode, loose mode, and broadcast mode
- C. strict mode, broadcast mode, and VRF mode
- D. broadcast mode, loose mode, and VRF mode

Correct Answer: A

Section: Infrastructure Security

Explanation

Explanation/Reference:

QUESTION 54

What does the following access list, which is applied on the external interface FastEthernet 1/0 of the perimeter router, accomplish?

```
router(config)#access-list 101 deny ip 10.0.0.0 0.255.255.255 any log
router (config)#access-list 101 deny ip 192.168.0.0 0.0.255.255 any log
router (config)#access-list 101 deny ip 172.16.0.0 0.15.255.255 any log
router (config)#access-list 101 permit ip any any
router (config)#interface fastEthernet 1/0
router (config-if)#ip access-group 101 in
```

- A. It prevents incoming traffic from IP address ranges 10.0.0.0-10.0.0.255, 172.16.0.0- 172.31.255.255, 192.168.0.0-192.168.255.255 and logs any intrusion attempts.
- B. It prevents the internal network from being used in spoofed denial of service attacks and logs any exit to the Internet.
- C. It filters incoming traffic from private addresses in order to prevent spoofing and logs any intrusion attempts.
- D. It prevents private internal addresses to be accessed directly from outside.

Correct Answer: C

Section: Infrastructure Security

Explanation

Explanation/Reference:

QUESTION 55

Refer to the following command:

```
router(config)# ip http secure-port 4433
```

Which statement is true?

- A. The router will listen on port 4433 for HTTPS traffic.
- B. The router will listen on port 4433 for HTTP traffic.
- C. The router will never accept any HTTP and HTTPS traffic.
- D. The router will listen to HTTP and HTTP traffic on port 4433.

Correct Answer: A

Section: Infrastructure Security

Explanation

Explanation/Reference:

QUESTION 56

A network engineer is configuring a routed interface to forward broadcasts of UDP 69, 53, and 49 to 172.20.14.225. Which command should be applied to the configuration to allow this?

- A. router(config-if)#ip helper-address 172.20.14.225
- B. router(config-if)#udp helper-address 172.20.14.225
- C. router(config-if)#ipudp helper-address 172.20.14.225
- D. router(config-if)#ip helper-address 172.20.14.225 69 53 49

Correct Answer: A

Section: Infrastructure Security

Explanation

Explanation/Reference:

QUESTION 57

When using SNMPv3 with NoAuthNoPriv, which string is matched for authentication?

- A. username
- B. password
- C. community-string
- D. encryption-key

Correct Answer: A

Section: Infrastructure Services

Explanation

Explanation/Reference:

QUESTION 58

After a recent DoS attack on a network, senior management asks you to implement better logging functionality on all IOS-based devices. Which two actions can you take to provide enhanced logging results? (Choose two.)

- A. Use the msec option to enable service time stamps.
- B. Increase the logging history
- C. Set the logging severity level to 1.
- D. Specify a logging rate limit.
- E. Disable event logging on all noncritical items.

Correct Answer: AB

Section: Infrastructure Services

Explanation

Explanation/Reference:

QUESTION 59

A network engineer is trying to implement broadcast-based NTP in a network and executes the ntp broadcast client command. Assuming that an NTP server is already set up, what is the result of the command?

- A. It enables receiving NTP broadcasts on the interface where the command was executed.
- B. It enables receiving NTP broadcasts on all interfaces globally.
- C. It enables a device to be an NTP peer to another device.

D. It enables a device to receive NTP broadcast and unicast packets.

Correct Answer: A

Section: Infrastructure Services

Explanation

Explanation/Reference:

QUESTION 60

A network engineer finds that a core router has crashed without warning. In this situation, which feature can the engineer use to create a crash collection?

- A. secure copy protocol
- B. core dumps
- C. warm reloads
- D. SNMP
- E. NetFlow

Correct Answer: B

Section: Infrastructure Services

Explanation

Explanation/Reference:

QUESTION 61

A network engineer is configuring SNMP on network devices to utilize one-way SNMP notifications. However, the engineer is not concerned with authentication or encryption. Which command satisfies the requirements of this scenario?

- A. `router(config)#snmp-server host 172.16.201.28 traps version 2c CISCORO`
- B. `router(config)#snmp-server host 172.16.201.28 informs version 2c CISCORO`
- C. `router(config)#snmp-server host 172.16.201.28 traps version 3 auth CISCORO`
- D. `router(config)#snmp-server host 172.16.201.28 informs version 3 auth CISCORO`

Correct Answer: A

Section: Infrastructure Services

Explanation

Explanation/Reference:

QUESTION 62

IPv6 has just been deployed to all of the hosts within a network, but not to the servers. Which feature allows IPv6 devices to communicate with IPv4 servers?

- A. NAT
- B. NATng
- C. NAT64
- D. dual-stack NAT
- E. DNS64

Correct Answer: C

Section: Infrastructure Services

Explanation

Explanation/Reference:

QUESTION 63

What is a function of NPTv6?

- A. It interferes with encryption of the full IP payload.
- B. It maintains a per-node state.
- C. It is checksum-neutral.
- D. It rewrites transport layer headers.

Correct Answer: C

Section: Infrastructure Services

Explanation

Explanation/Reference:

QUESTION 64

A network engineer initiates the ipsla responder tcp-connect command in order to gather statistics for performance gauging. Which type of statistics does the engineer see?

- A. connectionless-oriented
- B. service-oriented

- C. connection-oriented
- D. application-oriented

Correct Answer: C

Section: Infrastructure Services

Explanation

Explanation/Reference:

QUESTION 65

A network engineer executes the ipv6 flowset command. What is the result?

- A. Flow-label marking in 1280-byte or larger packets is enabled.
- B. Flow-set marking in 1280-byte or larger packets is enabled.
- C. IPv6 PMTU is enabled on the router.
- D. IPv6 flow control is enabled on the router.

Correct Answer: A

Section: Infrastructure Services

Explanation

Explanation/Reference:

QUESTION 66

A network engineer executes the show ip flow export command. Which line in the output indicates that the send queue is full and export packets are not being sent?

- A. output drops
- B. enqueueing for the RP
- C. fragmentation failures
- D. adjacency issues

Correct Answer: A

Section: Infrastructure Services

Explanation

Explanation/Reference:

QUESTION 67

A network engineer is asked to configure a "site-to-site" IPsec VPN tunnel. One of the last things that the engineer does is to configure an access list (access-list 1 permit any) along with the command ipnat inside source list 1 int s0/0 overload. Which functions do the two commands serve in this scenario?

- A. The command access-list 1 defines interesting traffic that is allowed through the tunnel.
- B. The command ipnat inside source list 1 int s0/0 overload disables "many-to-one" access for all devices on a defined segment to share a single IP address upon exiting the external interface.
- C. The command access-list 1 permit any defines only one machine that is allowed through the tunnel.
- D. The command ipnat inside source list 1 int s0/0 overload provides "many-to-one" access for all devices on a defined segment to share a single IP address upon exiting the external interface.

Correct Answer: D

Section: Infrastructure Services

Explanation

Explanation/Reference:

QUESTION 68

A network engineer is configuring a solution to allow failover of HSRP nodes during maintenance windows, as an alternative to powering down the active router and letting the network respond accordingly. Which action will allow for manual switching of HSRP nodes?

- A. Track the up/down state of a loopback interface and shut down this interface during maintenance.
- B. Adjust the HSRP priority without the use of preemption.
- C. Disable and enable all active interfaces on the active HSRP node.
- D. Enable HSRPv2 under global configuration, which allows for maintenance mode.

Correct Answer: A

Section: Infrastructure Services

Explanation

Explanation/Reference:

QUESTION 69

A network engineer is notified that several employees are experiencing network performance related issues, and bandwidth-intensive applications are identified as the root cause. In order to identify which specific type of traffic is causing this slowness, information such as the source/destination IP and Layer 4 port numbers is required. Which feature should the engineer use to gather the required information?

- A. SNMP
- B. Cisco IOS EEM
- C. NetFlow
- D. Syslog
- E. WCCP

Correct Answer: C

Section: Infrastructure Services

Explanation

Explanation/Reference:

QUESTION 70

An organization decides to implement NetFlow on its network to monitor the fluctuation of traffic that is disrupting core services. After reviewing the output of NetFlow, the network engineer is unable to see OUT traffic on the interfaces. What can you determine based on this information?

- A. Cisco Express Forwarding has not been configured globally.
- B. NetFlow output has been filtered by default.
- C. Flow Export version 9 is in use.
- D. The command ip flow-capture fragment-offset has been enabled.

Correct Answer: A

Section: Infrastructure Services

Explanation

Explanation/Reference:

QUESTION 71

A company's corporate policy has been updated to require that stateless, 1-to-1, and IPv6 to IPv6 translations at the Internet edge are performed. What is the best solution to ensure compliance with this new policy?

- A. NAT64
- B. NAT44
- C. NATv6
- D. NPTv4
- E. NPTv6

Correct Answer: E

Section: Infrastructure Services

Explanation

Explanation/Reference:

QUESTION 72

A network engineer has left a NetFlow capture enabled over the weekend to gather information regarding excessive bandwidth utilization. The following command is entered:

```
switch#show flow exporter Flow_Exporter-1
```

What is the expected output?

- A. configuration of the specified flow exporter
- B. current status of the specified flow exporter
- C. status and statistics of the specified flow monitor
- D. configuration of the specified flow monitor

Correct Answer: B

Section: Infrastructure Services

Explanation

Explanation/Reference:

QUESTION 73

Which two functions are completely independent when implementing NAT64 over NAT-PT? (Choose two.)

- A. DNS
- B. NAT
- C. port redirection
- D. stateless translation
- E. session handling

Correct Answer: AB

Section: Infrastructure Services

Explanation

Explanation/Reference:

QUESTION 74

Which two methods of deployment can you use when implementing NAT64? (Choose two.)

- A. stateless
- B. stateful
- C. manual
- D. automatic
- E. static
- F. functional
- G. dynamic

Correct Answer: AB

Section: Infrastructure Services

Explanation

Explanation/Reference:

QUESTION 75

Which NetFlow component is applied to an interface and collects information about flows?

- A. flow monitor
- B. flow exporter
- C. flow sampler
- D. flow collector

Correct Answer: A

Section: Infrastructure Services

Explanation

Explanation/Reference:

QUESTION 76

What is the result of the command `ip flow-export destination 10.10.10.1 5858`?

- A. It configures the router to export cache flow information to IP 10.10.10.1 on port UDP/5858.
- B. It configures the router to export cache flow information about flows with destination IP 10.10.10.1 and port UDP/5858.
- C. It configures the router to receive cache flow information from IP 10.10.10.1 on port UDP/5858.

D. It configures the router to receive cache flow information about flows with destination IP 10.10.10.1 and port UDP/5858.

Correct Answer: A

Section: Infrastructure Services

Explanation

Explanation/Reference:

QUESTION 77

Refer to the exhibit.

```
Sampler : mysampler, id : 1, packets matched : 10, mode :  
random sampling mode
```

Which statement about the output of the show flow-sampler command is true?

- A. The sampler matched 10 packets, each packet randomly chosen from every group of 100 packets.
- B. The sampler matched 10 packets, one packet every 100 packets.
- C. The sampler matched 10 packets, each one randomly chosen from every 100-second interval.
- D. The sampler matched 10 packets, one packet every 100 seconds.

Correct Answer: A

Section: Infrastructure Services

Explanation

Explanation/Reference:

QUESTION 78

Route.com is a small IT corporation that is attempting to implement the network shown in the exhibit. Currently the implementation is partially completed. OSPF has been configured on routers Chicago and NewYork. The SO/O interface on Chicago and the SO/1 interface on NewYork are in Area 0. The loopback0 interface on NewYork is in Area 1. However, they cannot ping from the serial interface of the Seattle router to the loopback interface of the NewYork router. You have been asked to complete the implementation to allow this ping.

ROUTE.com's corporate implementation guidelines require:

- The OSPF process ID for all routers must be 10.
- The routing protocol for each interface must be enabled under the routing process.
- The routing protocol must be enabled for each interface using the most specific wildcard mask possible.
- The serial link between Seattle and Chicago must be in OSPF area 21.

- OSPF area 21 must not receive any inter-area or external routes.

Network Information

Seattle

S0/0 192.168.16.5/30 - Link between Seattle and Chicago

Secret Password: cisco

Chicago

S0/0 192.168.54.9/30 - Link between Chicago and NewYork

S0/1 192.168.16.6/30 - Link between Seattle and Chicago

Secret Password: cisco

NewYork

S0/1 192.168.54.10/30 - Link between Chicago and NewYork

Loopback0 172.16.189.189

Secret Password: cisco

Name : Seattle

S0/0 : 192.168.16.5/30

Secret Password : cisco

Name : Chicago

S0/0 : 192.168.54.9/30

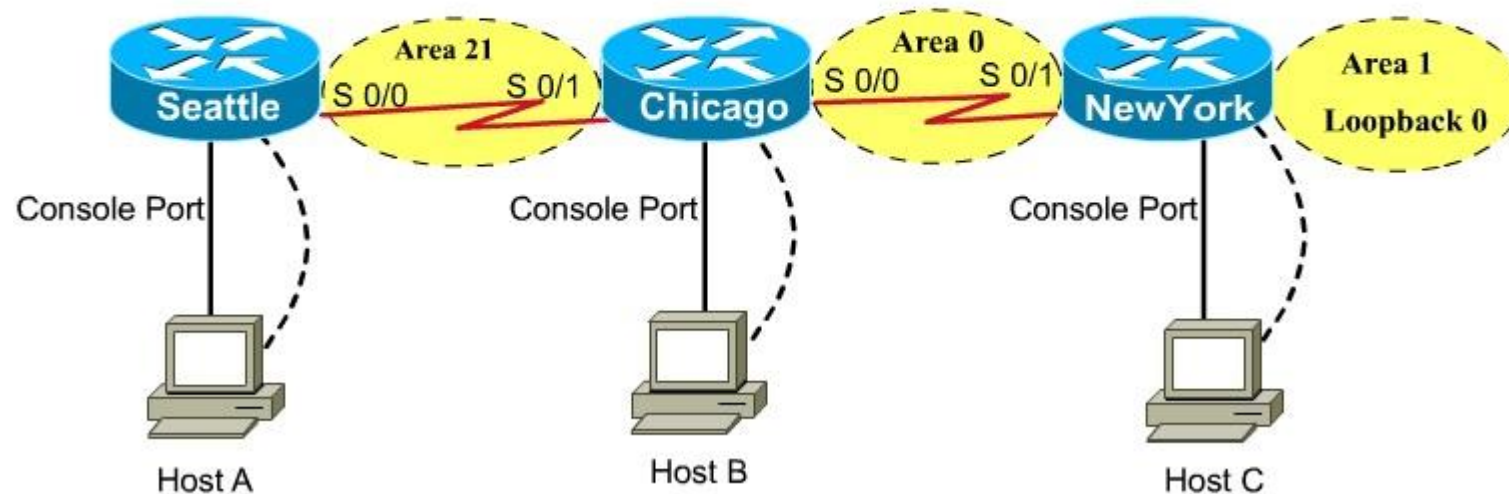
S0/1 : 192.168.16.6/30

Secret Password : cisco

Name : NewYork

S0/1 : 192.168.54.10/30

Loopback0 : 172.16.189.189/32



CiscoTerminal

Seattle con0 is now available

Press RETURN to get started.

Seattle>

CiscoTerminal

Chicago con0 is now available

Press RETURN to get started.

Chicago>

CiscoTerminal

NewYork con0 is now available

Press RETURN to get started.

NewYork#

Correct Answer: Answer: Here is the solution below:

Section: Layer 3 Technologies

Explanation

Explanation/Reference:

Explanation:

Note: In actual exam, the IP addressing, OSPF areas and process ID, and router hostnames may change, but the overall solution is the same.

Seattle's S0/0 IP Address is 192.168.16.5/30. So, we need to find the network address and wildcard mask of 192.168.16.5/30 in order to configure the OSPF.

IP Address: 192.168.16.5 /30
Subnet Mask: 255.255.255.252

Here subtract 252 from 256, $256 - 252 = 4$, hence the subnets will increment by 4.

First, find the 4th octet of the Network Address:

Subnet	Network	Broadcast
0	0	3
1	4	7
2	8	11
3	12	15
4	16	19
5

The 4th octet of IP address (192.168.16.5) belongs to subnet 1 (4 to 7).

Network Address: 192.168.16.4
Broadcast Address: 192.168.16.7

Lets find the wildcard mask of /30.

Subnet Mask: (Network Bits – 1's, Host Bits – 0's)

Lets find the wildcard mask of /30.

Subnet Mask: (Network Bits – 1's, Host Bits – 0's)

/30	11111111	11111111	11111111	11111100
	255	255	255	252

Wildcard Mask : (Network Bits – 0's, Host Bits – 1's)

/30	00000000	00000000	00000000	00000011
	0	0	0	3

Now we configure OSPF using process ID 10 (note the process ID may change to something else in real exam).

```
Seattle>enable
Password:
Seattle#conf t
Seattle(config)#router ospf 10
```

```
Seattle(config-router)#network 192.168.16.4 0.0.0.3 area 21
```

One of the tasks states that area 21 should not receive any external or inter-area routes (except the default route).

```
Seattle(config-router)#area 21 stub
Seattle(config-router)#end
Seattle#copy run start
```

Chicago Configuration:

```
Chicago>enable
Password: cisco
Chicago#conf t
Chicago(config)#router ospf 10
```

We need to add Chicago's S0/1 interface to Area 21

```
Chicago(config-router)#network 192.168.16.4 0.0.0.3 area 21
```

Again, area 21 should not receive any external or inter-area routes (except the default route).

In order to accomplish this, we must stop LSA Type 5 if we don't want to send external routes. And if we don't want to send inter-area routes, we have to stop LSA Type 3 and Type 4. Therefore we want to configure area 21 as a totally stubby area.

```
Chicago(config-router)#area 21 stub no-summary
```

```
Chicago(config-router)#end
```

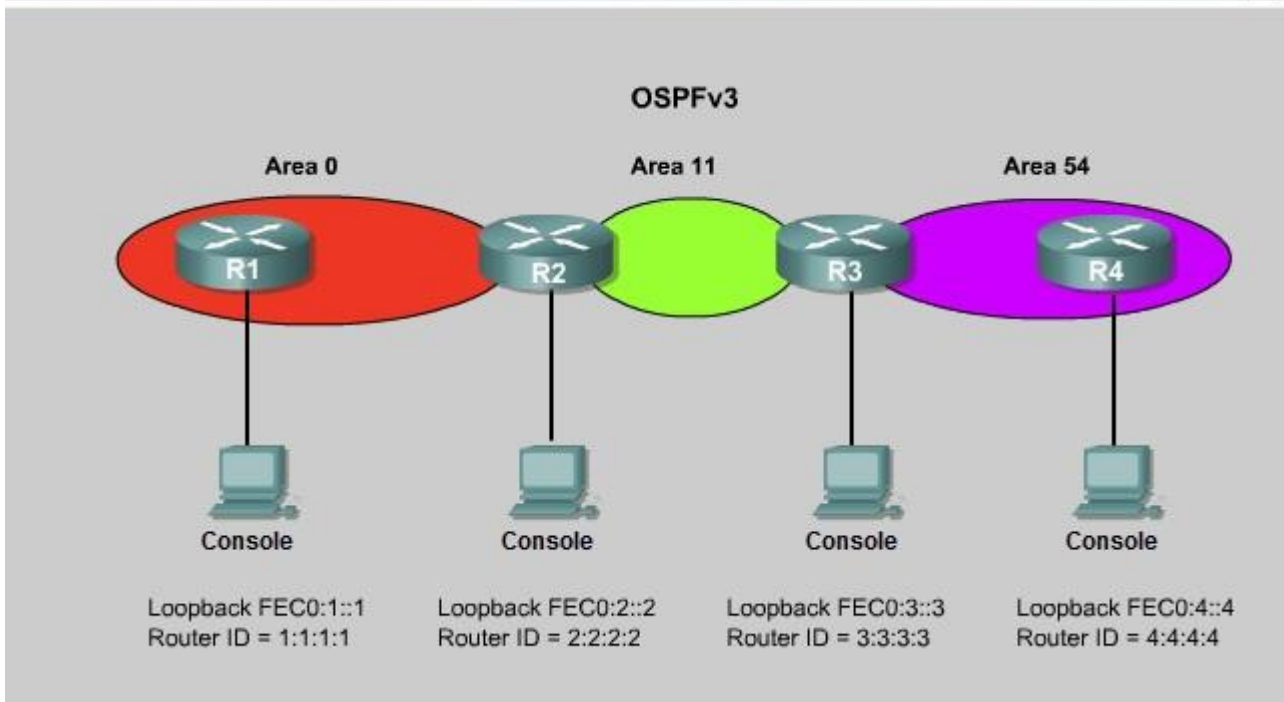
```
Chicago#copy run start
```

The other interface on the Chicago router is already configured correctly in this scenario, as well as the New York router so there is nothing that needs to be done on that router.

QUESTION 79

ROUTE.com is a small IT corporation that has an existing enterprise network that is running IPv6 OSPFv3. Currently OSPF is configured on all routers. However, R4's loopback address (FEC0:4:4) cannot be seen in R1's IPv6 routing table. You are tasked with identifying the cause of this fault and implementing the needed corrective actions that uses OPSF features and does not change the current area assignments. You will know that you have corrected the fault when R4's loopback address (FEC0:4:4) can be seen in RTs IPv6 routing table.

Special Note: To gain the maximum number of points you must remove all incorrect or unneeded configuration statements related to this issue.



```
R1
% Some configuration options may have changed
%LINK-3-UPDOWN: Interface FastEthernet0/1, changed state to administratively down
*Wed Oct 15 15:22:47.273: %OSPFv3-5-ADJCHG: Process 1, Nbr 2.2.2.2 on FastEthernet0/1 from FULL to DOWN, Neighbor Down: Interface down or detached
%LINK-3-UPDOWN: Interface FastEthernet0/0, changed state to up
*Wed Oct 15 15:22:57.273: %OSPFv3-5-ADJCHG: Process 1, Nbr 2.2.2.2 on FastEthernet0/0 from LOADING to FULL, Loading Done
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
*Wed Oct 15 15:22:57.273: %OSPFv3-5-ADJCHG: Process 1, Nbr 2.2.2.2 on FastEthernet0/0 from LOADING to FULL, Loading Done
Press RETURN to get started!
R1>
```



```
R2

% Some configuration options may have changed
%LINK-3-UPDOWN: Interface FastEthernet0/1, changed state to administratively down
*Wed Oct 15 15:22:47.273: %OSPFv3-5-ADJCHG: Process 1, Nbr 2.2.2.2 on FastEthernet0/1 from FULL to DOWN, Neighbor Down: Interface down or detached
%LINK-3-UPDOWN: Interface FastEthernet0/0, changed state to up
*Wed Oct 15 15:22:57.273: %OSPFv3-5-ADJCHG: Process 1, Nbr 2.2.2.2 on FastEthernet0/0 from LOADING to FULL, Loading Done
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
*Wed Oct 15 15:22:57.273: %OSPFv3-5-ADJCHG: Process 1, Nbr 2.2.2.2 on FastEthernet0/0 from LOADING to FULL, Loading Done
Press RETURN to get started!
R2>
```

R3

```
% Some configuration options may have changed
*Wed Oct 15 15:22:47.367: %OSPFv3-5-ADJCHG: Process 1, Nbr 4.4.4.4 on OSPFv3_VL0
  from LOADING to FULL, Loading Done
%LINK-3-UPDOWN: Interface FastEthernet0/1, changed state to administratively down
*Wed Oct 15 15:22:47.273: %OSPFv3-5-ADJCHG: Process 1, Nbr 2.2.2.2 on FastEthernet0/1
  from FULL to DOWN, Neighbor Down: Interface down or detached
%LINK-3-UPDOWN: Interface FastEthernet0/0, changed state to up
*Wed Oct 15 15:22:57.273: %OSPFv3-5-ADJCHG: Process 1, Nbr 2.2.2.2 on FastEthernet0/0
  from LOADING to FULL, Loading Done
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
*Wed Oct 15 15:22:57.273: %OSPFv3-5-ADJCHG: Process 1, Nbr 2.2.2.2 on FastEthernet0/0
  from LOADING to FULL, Loading Done
Press RETURN to get started!
R3>
```

```
R4

% Some configuration options may have changed
%LINK-3-UPDOWN: Interface FastEthernet0/1, changed state to administratively down
*Wed Oct 15 15:22:47.273: %OSPFv3-5-ADJCHG: Process 1, Nbr 2.2.2.2 on FastEthernet0/1 from FULL to DOWN, Neighbor Down: Interface down or detached
*Wed Oct 15 15:22:47.367: %OSPFv3-5-ADJCHG: Process 1, Nbr 3.3.3.3 on OSPFv3_VL0 from LOADING to FULL, Loading Done
%LINK-3-UPDOWN: Interface FastEthernet0/0, changed state to up
*Wed Oct 15 15:22:57.273: %OSPFv3-5-ADJCHG: Process 1, Nbr 2.2.2.2 on FastEthernet0/0 from LOADING to FULL, Loading Done
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
*Wed Oct 15 15:22:57.273: %OSPFv3-5-ADJCHG: Process 1, Nbr 2.2.2.2 on FastEthernet0/0 from LOADING to FULL, Loading Done
Press RETURN to get started!
R4>
```

The output of the "show running-config" command of R3:

```
<output omitted>
!
ipv6 router ospf 1
router-id 3.3.3.3
log-adjacency-changes
area 54 virtual-link 4.4.4.4
!
<output omitted>
```

We knew that all areas in an Open Shortest Path First (OSPF) autonomous system must be physically connected to the backbone area (Area 0). In

some cases, where this is not possible, we can use a virtual link to connect to the backbone through a non-backbone area. The area through which you configure the virtual link is known as a transit area. In this case, the area 11 will become the transit area. Therefore, routers R2 and R3 must be configured with the area <area id> virtual-link <neighbor router-id>command. + Configure virtual link on R2 (from the first output above, we learned that the OSPF process ID of R2 is 1):

```
R2>enable
```

```
R2#configure terminal
```

```
R2(config)#ipv6 router ospf 1
```

```
R2(config-rtr)#area 11 virtual-link 3.3.3.3
```

Save the configuration:

```
R2(config-rtr)#end
```

```
R2#copy running-config startup-config
```

(Notice that we have to use neighbor router-id 3.3.3.3, not R2's router-id 2.2.2.2) + Configure virtual link on R3 (from the second output above, we learned that the OSPF process ID of R3 is 1 and we have to disable the wrong configuration of "area 54 virtual-link 4.4.4.4"):

```
R3>enable
```

```
R3#configure terminal
```

```
R3(config)#ipv6 router ospf 1
```

```
R3(config-rtr)#no area 54 virtual-link 4.4.4.4
```

```
R3(config-rtr)#area 11 virtual-link 2.2.2.2
```

Save the configuration:

```
R3(config-rtr)#end
```

```
R3#copy running-config startup-config
```

You should check the configuration of R4, too. Make sure to remove the incorrect configuration statements to get the full points.

```
R4(config)#ipv6 router ospf 1
```

```
R4(config-router)#no area 54 virtual-link 3.3.3.3
```

```
R4(config-router)#end
```

After finishing the configuration doesn't forget to ping between R1 and R4 to make sure they work.

Note. If you want to check the routing information, use the show ipv6 route command, not "show ip route".

Correct Answer: Answer: Here is the solution below:

Section: Layer 3 Technologies

Explanation

Explanation/Reference:

Explanation:

To troubleshoot the problem, first issue the show running-config on all of 4 routers. Pay more attention to the outputs of routers R2 and R3 The output of the "show running-config" command of R2:

```
<output omitted>
!
ipv6 router ospf 1
router-id 2.2.2.2
log-adjacency-changes
!
<output omitted>
```

The output of the "show running-config" command of R3:

```
<output omitted>
!
ipv6 router ospf 1
router-id 3.3.3.3
log-adjacency-changes
area 54 virtual-link 4.4.4.4
!
<output omitted>
```

We knew that all areas in an Open Shortest Path First (OSPF) autonomous system must be physically connected to the backbone area (Area 0). In some cases, where this is not possible, we can use a virtual link to connect to the backbone through a non-backbone area. The area through which you configure the virtual link is known as a transit area. In this case, the area 11 will become the transit area. Therefore, routers R2 and R3 must be configured with the area <area id> virtual-link <neighbor router-id> command. + Configure virtual link on R2 (from the first output above, we learned that the OSPF process ID of R2 is 1):

R2>enable

R2#configure terminal

R2(config)#ipv6 router ospf 1

R2(config-rtr)#area 11 virtual-link 3.3.3.3

Save the configuration:

R2(config-rtr)#end

R2#copy running-config startup-config

(Notice that we have to use neighbor router-id 3.3.3.3, not R2's router-id 2.2.2.2) + Configure virtual link on R3 (from the second output above, we learned that the OSPF process ID of R3 is 1 and we have to disable the wrong configuration of "area 54 virtual-link 4.4.4.4"):

R3>enable

R3#configure terminal

R3(config)#ipv6 router ospf 1

R3(config-rtr)#no area 54 virtual-link 4.4.4.4

R3(config-rtr)#area 11 virtual-link 2.2.2.2

Save the configuration:

R3(config-rtr)#end

R3#copy running-config startup-config

You should check the configuration of R4, too. Make sure to remove the incorrect configuration statements to get the full points.

```
R4(config)#ipv6 router ospf 1
```

```
R4(config-router)#no area 54 virtual-link 3.3.3.3
```

```
R4(config-router)#end
```

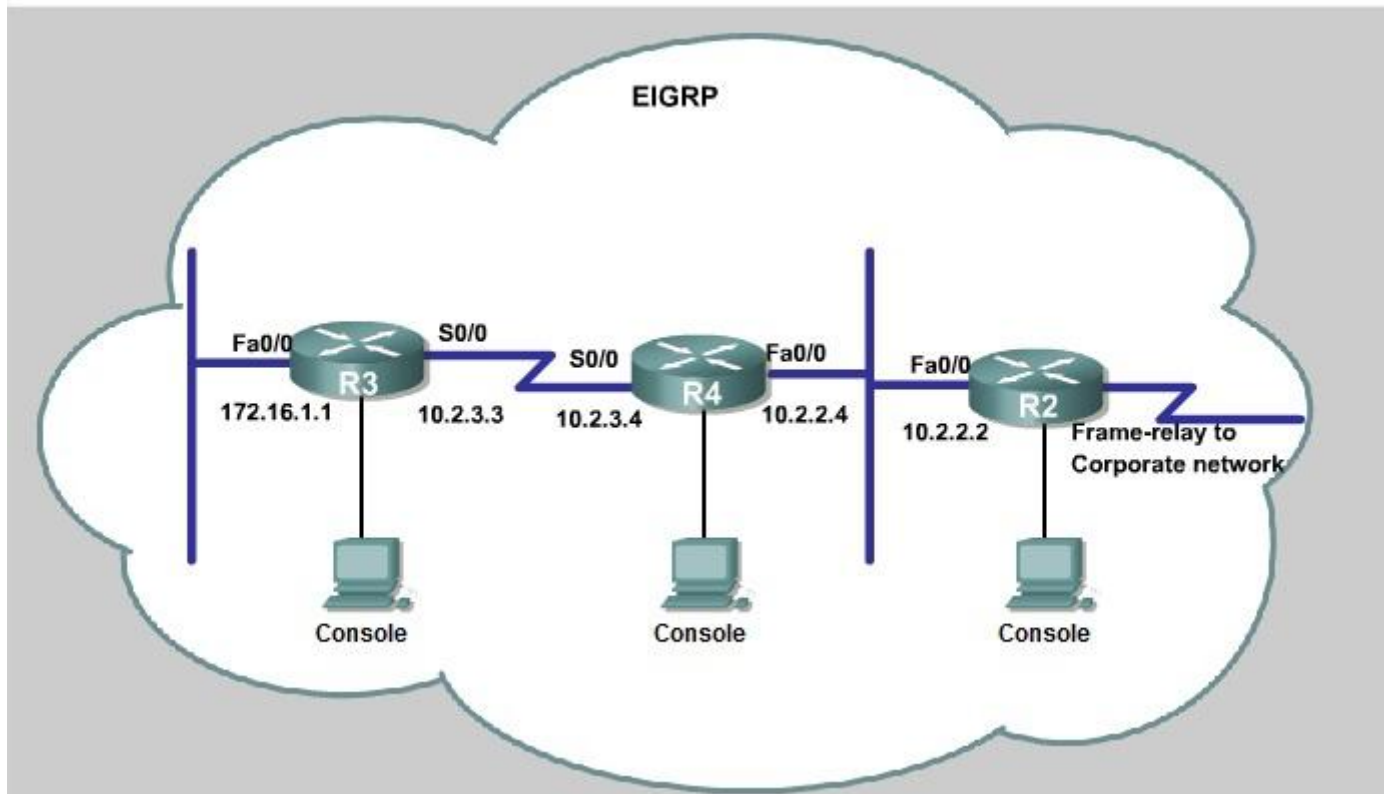
After finishing the configuration doesn't forget to ping between R1 and R4 to make sure they work.

Note. If you want to check the routing information, use the show ipv6 route command, not "show ip route".

QUESTION 80

S Industries has expanded their business with the addition of their first remote office. The remote office router (R3) was previously configured and all corporate subnets were reachable from R3. JS Industries is interested in using route summarization along with the EIGRP Stub Routing feature to increase network stability while reducing the memory usage and bandwidth utilization to R3. Another network professional was tasked with implementing this solution. However, in the process of configuring EIGRP stub routing connectivity with the remote network devices off of R3 has been lost. Currently EIGRP is configured on all routers R2, R3, and R4 in the network. Your task is to identify and resolve the cause of connectivity failure with the remote office router R3. Once the issue has been resolved you should complete the task by configuring route summarization only to the remote office router R3.

You have corrected the fault when pings from R2 to the R3 LAN interface are successful, and the R3 IP routing table only contains 2 10.0.0.0 subnets.



R3

```
% Some configuration options may have changed
%LINK-3-UPDOWN: Interface FastEthernet0/1, changed state to administratively down
%LINK-3-UPDOWN: Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
%LINK-3-UPDOWN: Interface Serial0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0, changed state to up
Press RETURN to get started!
R3>
```

R4

```
% Some configuration options may have changed
%LINK-3-UPDOWN: Interface FastEthernet0/1, changed state to administratively down
%LINK-3-UPDOWN: Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
%LINK-3-UPDOWN: Interface Serial0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0, changed state to up
Press RETURN to get started!
R4>
```



```
R2

% Some configuration options may have changed
%LINK-3-UPDOWN: Interface FastEthernet0/1, changed state to administratively down
%LINK-3-UPDOWN: Interface Serial0/0, changed state to up
%LINK-3-UPDOWN: Interface Serial0/0.1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0.1, changed state to up
%LINK-3-UPDOWN: Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
Press RETURN to get started!
R2>
```

Correct Answer: Answer: Here are the solution as below:

Section: Layer 3 Technologies

Explanation

Explanation/Reference:

Explanation:

First we have to figure out why R3 and R4 can not communicate with each other. Use the show running-config command on router R3.

```
R3#show run
```

```
<output omitted>
```

```
!
```

```
!
```

```
router eigrp 123
```

```
network 10.0.0.0
```

```
network 172.16.0.0
```

```
no auto-summary
```

```
eigrp stub receive-only
```

```
!
```

```
<output omitted>
```

Notice that R3 is configured as a stub receive-only router. The receive-only keyword will restrict the router from sharing any of its routes with any other router in that EIGRP autonomous system. This keyword will also prevent any type of route from being sent. Therefore we will remove this command and replace it with the eigrp stub command:

```
R3# configure terminal R3(config)# router eigrp 123 R3(config-router)# no eigrp stub receive-only R3(config-router)# eigrp stub
```

```
R3(config-router)# end
```

Now R3 will send updates containing its connected and summary routes to other routers. Notice that the eigrp stub command equals to the eigrp stub connected summary because the connected and summary options are enabled by default.

Next we will configure router R3 so that it has only 2 subnets of 10.0.0.0 network. Use the show ip route command on R3 to view its routing table:

```
R3#show ip route
```

```
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
```

```
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
```

```
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
```

```
E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
```

```
i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
```

```
* - candidate default, U - per-user static route, o - ODR
```

```
P - periodic downloaded static route
```

Gateway of last resort is not set

```
10.0.0.0/8 is variably subnetted, 9 subnets, 2 masks
```

```
D 10.2.2.0/24 [90/30720] via 10.2.3.4, 00:00:06, Serial0/0
```

```
C 10.2.3.0/24 is directly connected, Serial0/1
```

```
D 10.2.4.0/24 [90/161280] via 10.2.3.4, 00:00:03, Serial0/0
```

```
D 10.2.5.0/24 [90/161280] via 10.2.3.4, 00:00:03, Serial0/0
```

```
D 10.2.6.0/24 [90/161280] via 10.2.3.4, 00:00:03, Serial0/0
```

```
D 10.2.7.0/24 [90/161280] via 10.2.3.4, 00:00:03, Serial0/0
```

```
D 10.2.8.0/24 [90/161280] via 10.2.3.4, 00:00:03, Serial0/0
```

```
D 10.2.9.0/24 [90/161280] via 10.2.3.4, 00:00:03, Serial0/0
```

```
172.16.0.0/16 is variably subnetted, 2 subnets, 2 masks
```

```
D 172.16.0.0/16 is a summary, 02:04:06, Null0
```

```
C 172.16.1.0/24 is directly connected, FastEthernet0/0
```

Because we want the routing table of R3 only have 2 subnets so we have to summary sub-networks at the interface which is connected with R3, the s0/0 interface of R4.

There is one interesting thing about the output of the show ip route shown above: the 10.2.3.0/24, which is a directly connected network of R3. We can't get rid of it in the routing table no matter what technique we use to summary the networks. Therefore, to make the routing table of R3 has only 2 subnets we have to summary other subnets into one subnet.

In the output if we don't see the summary line (like 10.0.0.0/8 is a summary...) then we should use the command ip summary-address eigrp 123 10.2.0.0 255.255.0.0 so that all the ping can work well.

In conclusion, we will use the ip summary-address eigrp 123 10.2.0.0 255.255.0.0 at the interface s0/0 of R4 to summary.

```
R4> enable R4# conf t
```

```
R4(config)# interface s0/0 R4(config-if)# ip summary-address eigrp 123 10.2.0.0 255.255.0.0
```

Now we jump back to R3 and use the show ip route command to verify the effect, the output is shown below:

```
R3#show ip route
```

Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP

D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area

N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2

E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP

i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area

* - candidate default, U - per-user static route, o - ODR

P - periodic downloaded static route

Gateway of last resort is not set

```
10.0.0.0/8 is variably subnetted, 3 subnets, 3 masks
D    10.0.0.0/8 is a summary, 00:18:43, Null0
D    10.2.0.0/16 [90/161280] via 10.2.3.4, 00:00:11, Serial0/0
C    10.2.3.0/24 is directly connected, Serial0/1
D    172.16.0.0/16 is variably subnetted, 2 subnets, 2 masks
D    172.16.0.0/16 is a summary, 02:04:06, Null0
C    172.16.1.0/24 is directly connected, FastEthernet0/0
```

Note: Please notice that the IP addresses and the subnet masks in your real exam might be different so you might use different ones to solve this question.

Just for your information, notice that if you use another network than 10.0.0.0/8 to summary, for example, if you use the command ip summary-address eigrp 123 10.2.0.0 255.255.0.0 you will leave a /16 network in the output of the show ip route command.

```
R3#show ip route
```

Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP

D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area

N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2

E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP

i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area

* - candidate default, U - per-user static route, o - ODR

P - periodic downloaded static route

Gateway of last resort is not set

```
10.0.0.0/8 is variably subnetted, 3 subnets, 3 masks
D    10.0.0.0/8 is a summary, 00:18:43, Null0
D    10.2.0.0/16 [90/161280] via 10.2.3.4, 00:00:11, Serial0/0
C    10.2.3.0/24 is directly connected, Serial0/1
D    172.16.0.0/16 is variably subnetted, 2 subnets, 2 masks
D    172.16.0.0/16 is a summary, 02:04:06, Null0
C    172.16.1.0/24 is directly connected, FastEthernet0/0
```

But in your real exam, if you don't see the line "10.0.0.0/8 is a summary, Null0" then you can summarize using the network 10.2.0.0/16. This summarization is better because all the pings can work well.

Finally don't forget to use the copy run start command on routers R3 and R4 to save the configurations.

```
R3(config-if)# end
```

```
R3# copy run start
```

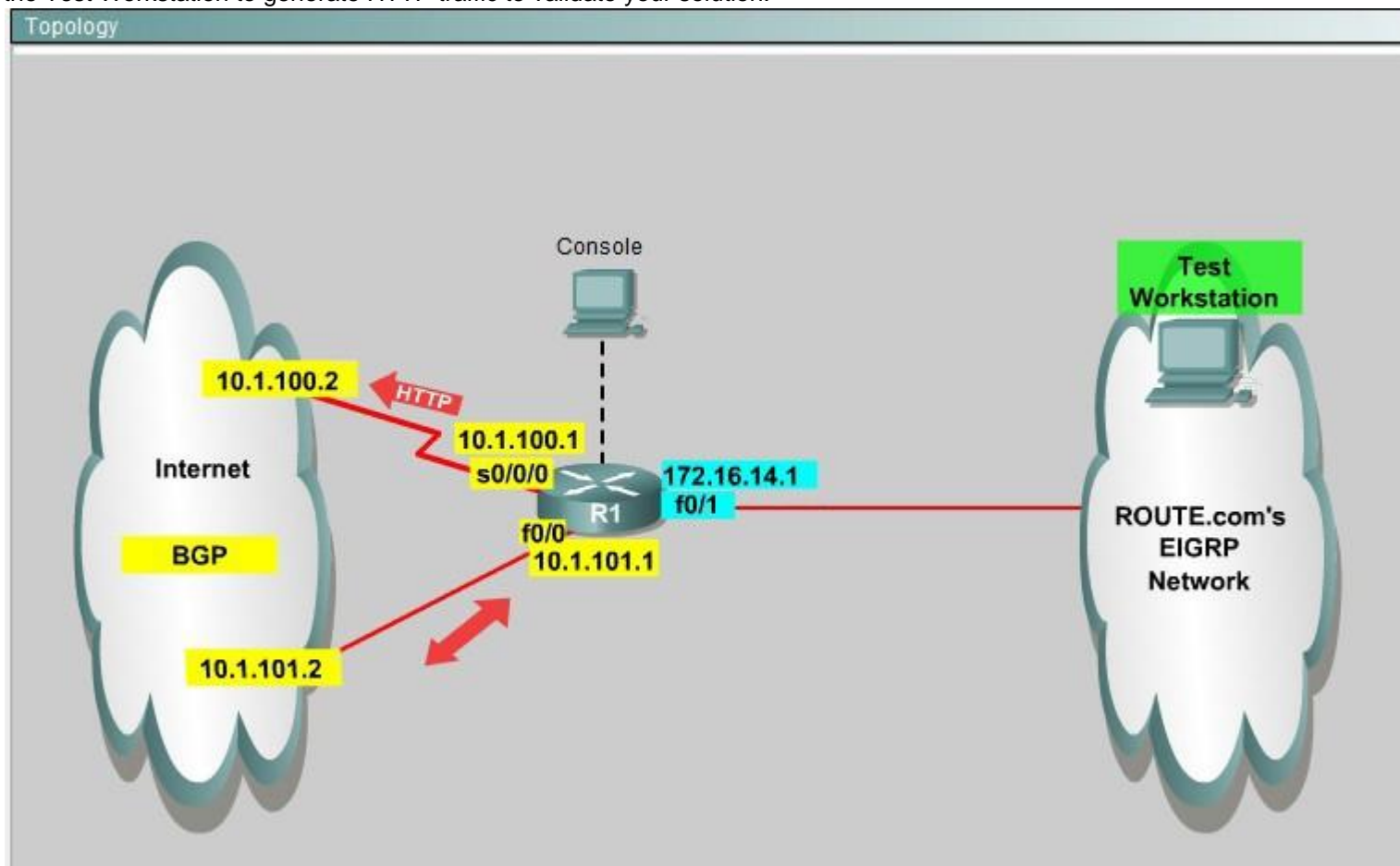
```
R4(config-if)# end
R4# copy run start
```

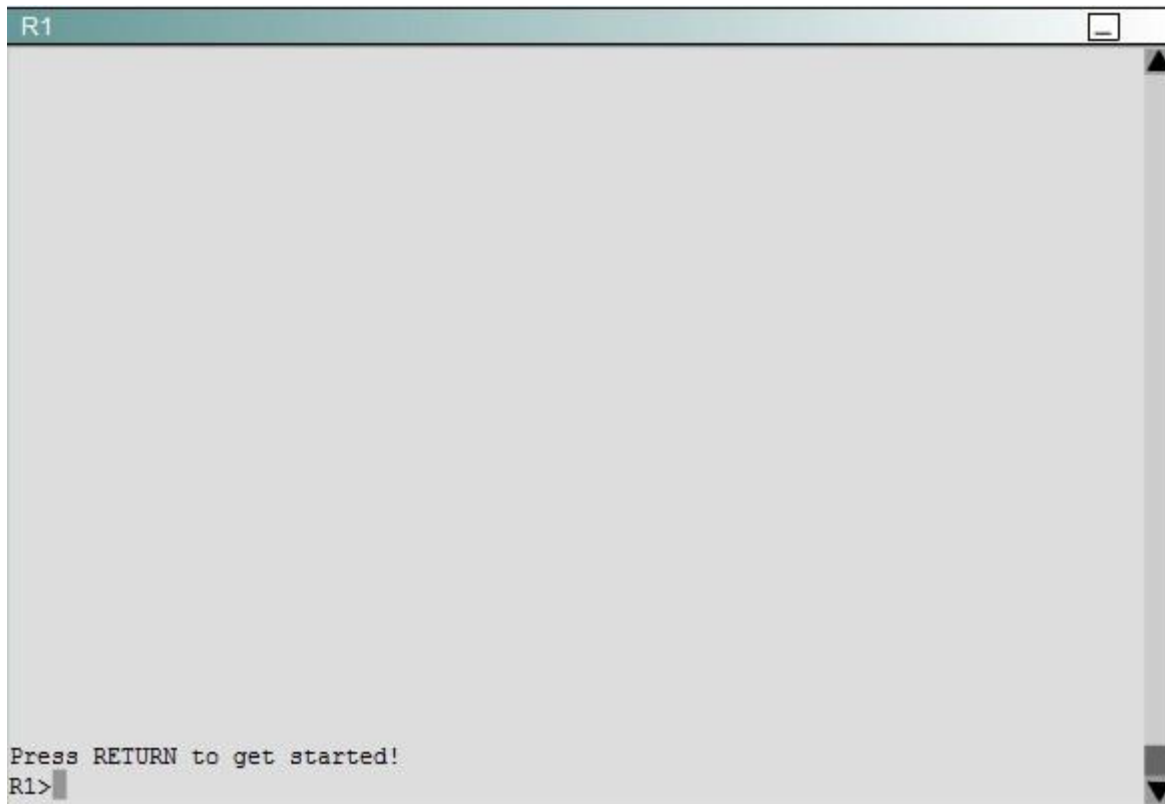
If the “copy run start” command doesn’t work then use “write memory.”

QUESTION 81

You are a network engineer with ROUTE.com, a small IT company. ROUTE.com has two connections to the Internet; one via a frame relay link and one via an EoMPLS link. IT policy requires that all outbound HTTP traffic use the frame relay link when it is available. All other traffic may use either link. No static or default routing is allowed.

Choose and configure the appropriate path selection feature to accomplish this task. You may use the Test Workstation to generate HTTP traffic to validate your solution.





Correct Answer: Answer: We need to configure policy based routing to send specific traffic along a path that is different from the best path in the routing table.

Section: Layer 3 Technologies

Explanation

Explanation/Reference:

Here are the step by Step Solution for this:

1) First create the access list that catches the HTTP traffic:

R1(config)#access-list 101 permit tcp any any eq www

2) Configure the route map that sets the next hop address to be ISP1 and permits the rest of the traffic:

R1(config)#route-map pbr permit 10

R1(config-route-map)#match ip address 101

R1(config-route-map)#set ip next-hop 10.1.100.2

```
R1(config-route-map)#exit
R1(config)#route-map pbr permit 20
3) Apply the route-map on the interface to the server in the EIGRP Network:
R1(config-route-map)#exit
R1(config)#int fa0/1
R1(config-if)#ip policy route-map pbr
R1(config-if)#exit
R1(config)#exit
```

Explanation:

First you need to configure access list to HTTP traffic and then configure that access list. After that configure the route map and then apply it on the interface to the server in EIGRP network.

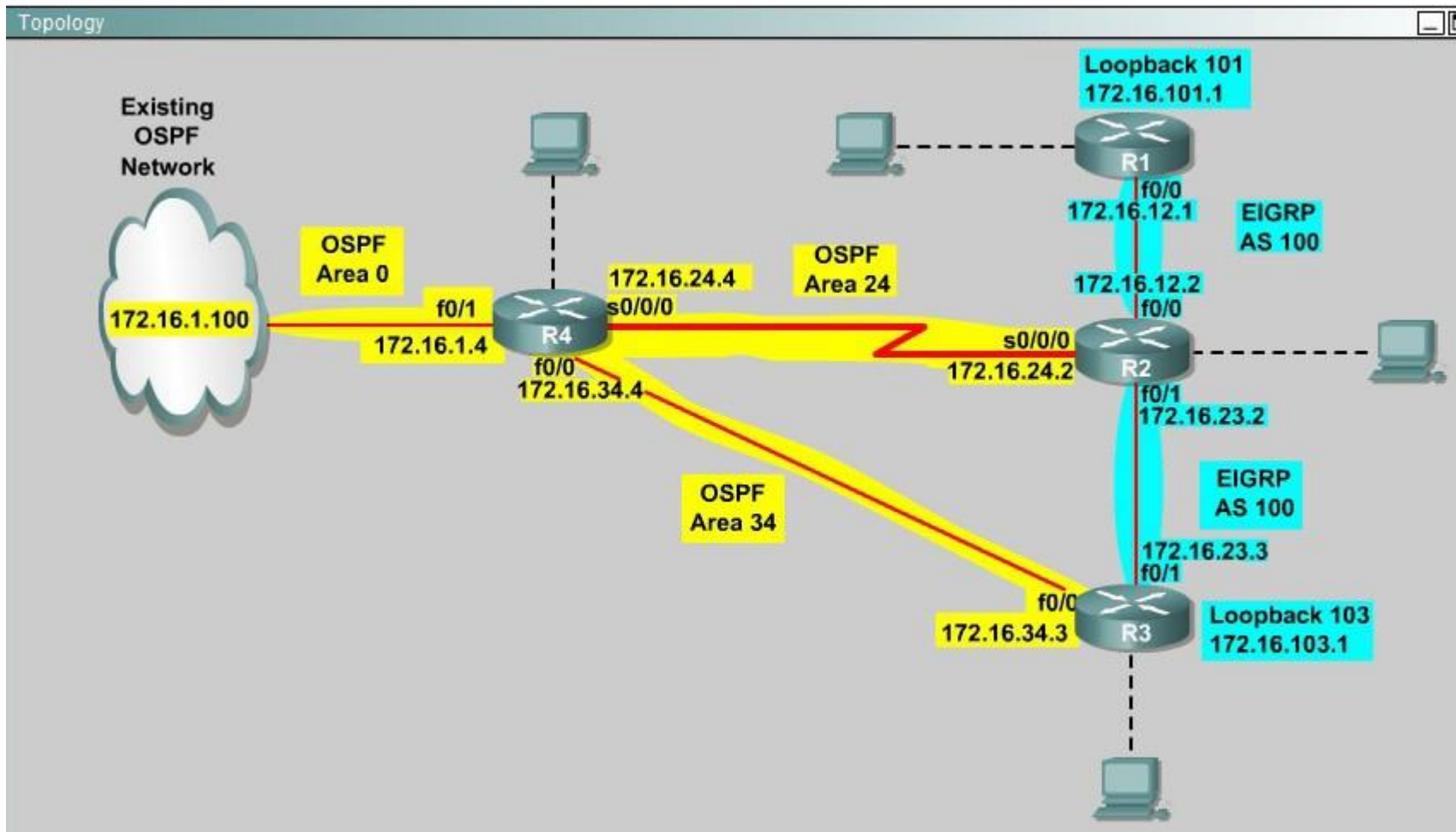
QUESTION 82

You are a network engineer with ROUTE.com, a small IT company. They have recently merged two organizations and now need to merge their networks as shown in the topology exhibit. One network is using OSPF as its IGP and the other is using EIGRP as its IGP. R4 has been added to the existing OSPF network to provide the interconnect between the OSPF and EIGRP networks.

Two links have been added that will provide redundancy.

The network requirements state that you must be able to ping and telnet from loopback 101 on R1 to the OPSF domain test address of 172.16.1.100. All traffic must use the shortest path that provides the greatest bandwidth. The redundant paths from the OSPF network to the EIGRP network must be available in case of a link failure. No static or default routing is allowed in either network.

A previous network engineer has started the merger implementation and has successfully assigned and verified all IP addressing and basic IGP routing. You have been tasked with completing the implementation and ensuring that the network requirements are met. You may not remove or change any of the configuration commands currently on any of the routers. You may add new commands or change default values.



Correct Answer: Answer: First we need to find out 5 parameters (Bandwidth, Delay, Reliability, Load, MTU) of the s0/0/0 interface (the interface of R2 connected to R4) for redistribution:

Section: Layer 3 Technologies

Explanation

Explanation/Reference:

R2#show interface s0/0/0

Write down these 5 parameters, notice that we have to divide the Delay by 10 because the metric unit is in tens of microsecond. For example, we get Bandwidth=1544 Kbit, Delay=20000 us,

Reliability=255, Load=1, MTU=1500 bytes then we would redistribute as follows:

R2#config terminal

R2(config)# router ospf 1

R2(config-router)# redistribute eigrp 100 metric-type 1 subnets

R2(config-router)#exit

R2(config-router)#router eigrp 100

R2(config-router)#redistribute ospf 1 metric 1544 2000 255 1 1500

Note: In fact, these parameters are just used for reference and we can use other parameters with no problem.

If the delay is 20000us then we need to divide it by 10, that is $20000 / 10 = 2000$

For R3 we use the show interface fa0/0 to get 5 parameters too

R3#show interface fa0/0

For example we get Bandwidth=10000 Kbit, Delay=1000 us, Reliability=255, Load=1, MTU=1500 bytes

R3#config terminal

R3(config)#router ospf 1

R3(config-router)#redistribute eigrp 100 metric-type 1 subnets

R3(config)#exit

R3(config-router)#router eigrp 100

R3(config-router)#redistribute ospf 1 metric 10000 100 255 1 1500

Finally you should try to "show ip route" to see the 172.16.100.1 network (the network behind R4) in the routing table of R1 and make a ping from R1 to this network.

Note: If the link between R2 and R3 is FastEthernet link, we must put the command below under EIGRP process to make traffic from R1 to go through R3 (R1 -> R2 -> R3 -> R4), which is better than R1 -> R2 -> R4.

R2(config-router)# distance eigrp 90 105

This command sets the Administrative Distance of all EIGRP internal routes to 90 and all EIGRP external routes to 105, which is smaller than the Administrative Distance of OSPF (110) -> the link between R2 & R3 will be preferred to the serial link between R2 & R4.

Note: The actual OPSF and EIGRP process numbers may change in the actual exam so be sure to use the actual correct values, but the overall solution is the same.

QUESTION 83

After DUAL calculations, a router has identified a successor route, but no routes have qualified as a feasible successor. In the event that the current successor goes down, what process will EIGRP use in the selection of a new successor?

- A. EIGRP will find the interface with the lowest MAC address
- B. The route will transition to the active state
- C. The route will transition to the passive state

D. EIGRP will automatically use the route with the lowest feasible distance(FD)

Correct Answer: B

Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 84

Which three statements about the EIGRP routing protocol are true? (Choose three)

- A. EIGRP sends periodic hello packets to the multicast IP address 224.0.0.10.
- B. EIGRP will not form a neighbor relationship with another peer when their AS number and K values, either or both are mismatched.
- C. EIGRP will form a neighbor relationship with another peer even when their K values are mismatched.
- D. EIGRP supports five generic packet types, including Hello, Update, Query, Reply, and ACK packets.

Correct Answer: ABD

Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 85

Which two routing protocols require a metric to be configured when redistributing routes from other protocols? (Choose two.)

- A. RIP
- B. IS-IS
- C. OSPF
- D. EIGRP

Correct Answer: AD

Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 86

Which condition must be satisfied before an EIGRP neighbor can be considered a feasible successor?

- A. The neighbor's advertised distance must be less than or equal to the feasible distance of the current successor.
- B. The neighbor's advertised distance must be less than the feasible distance of the current successor.
- C. The neighbor's advertised distance must be greater than the feasible distance of the current successor.
- D. The neighbor's advertised distance must be equal to the feasible distance of the current successor.

Correct Answer: B

Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 87

Your network consists of a large hub-and-spoke Frame Relay network with a CIR of 56 kb/s for each spoke. Which statement about the selection of a dynamic protocol is true?

- A. EIGRP would be appropriate if LMI type ANSI is NOT used.
- B. EIGRP would be appropriate, because the Frame Relay spokes could be segmented into their own areas.
- C. EIGRP would be appropriate, because by default, queries are not propagated across the slow speed Frame Relay links.
- D. EIGRP would be appropriate, because you can manage how much bandwidth is consumed over the Frame Relay interface.

Correct Answer: D

Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 88

You have implemented mutual route redistribution between OSPF and EIGRP on a border router. When checking the routing table on one of the OSPF routers within the OSPF routing domain, you are seeing some, but not all of the expected routes.

Which two things should you verify to troubleshoot this problem? (Choose two.)

- A. The border router is using a proper seed metric for EIGRP.
- B. The administrative distance is set for OSPF and EIGRP.
- C. The missing EIGRP routes are present in the routing table of the border router.
- D. The subnet keyword on the border router in the redistribute EIGRP command.

Correct Answer: CD

Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 89

Which command will display EIGRP packets sent and received, as well as statistics on hello packets, updates, queries, replies, and acknowledgments?

- A. debug eigrp packets
- B. show ip eigrp traffic
- C. debug ip eigrp
- D. show ip eigrp interfaces

Correct Answer: B

Section: Infrastructure Services

Explanation

Explanation/Reference:

QUESTION 90

Which of the below mentioned conditions form a neighbor relationship in EIGRP? (Choose three)

- A. Hello or ACK received
- B. AS number match
- C. Hello timer match
- D. Identical metric (k values)

Correct Answer: ABD

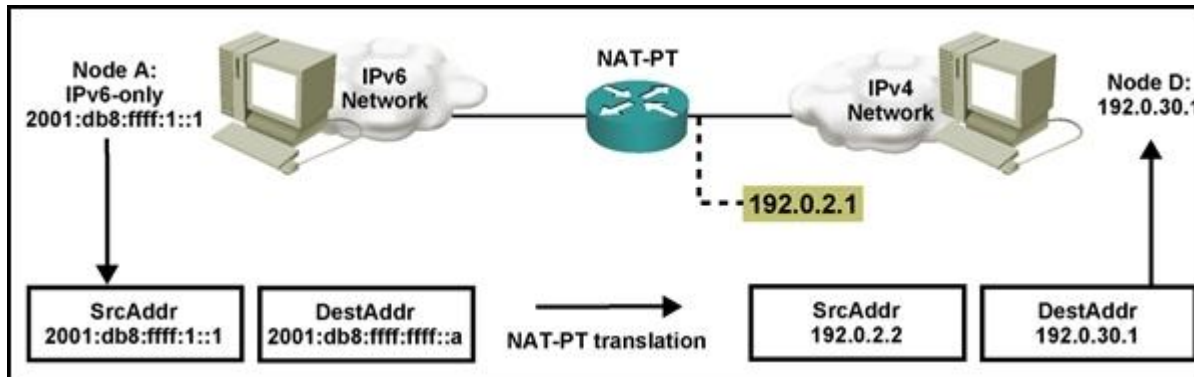
Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 91

Refer to the exhibit.



Which statement is correct regarding the operation of NAT-PT between the IPv4 and IPv6 networks shown?

- A. The router will determine the IPv4 destination address.
- B. The source IPv6 host can use DNS to determine the IPv6-to-IPv4 address mapping.
- C. The host is statically configured with the IPv6-to-IPv4 address mapping.
- D. ICMP can be used to determine the IPv6-to-IPv4 address mapping.

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 92

Router R1, a branch router, connects to the Internet using DSL. Some traffic flows through a GRE and IPsec tunnel, over the DSL connection, and into the core of an Enterprise network. The branch also allows local hosts to communicate directly with public sites in the Internet over this same DSL connection. Which of the following answers defines how the branch NAT config avoids performing NAT for the Enterprise directed traffic but does perform NAT for the Internet-directed traffic?

- A. By not enabling NAT on the IPsec tunnel interface
- B. By not enabling NAT on the GRE tunnel interface
- C. By configuring the NAT-referenced ACL to not permit the Enterprise traffic
- D. By asking the ISP to perform NAT in the cloud

Correct Answer: C

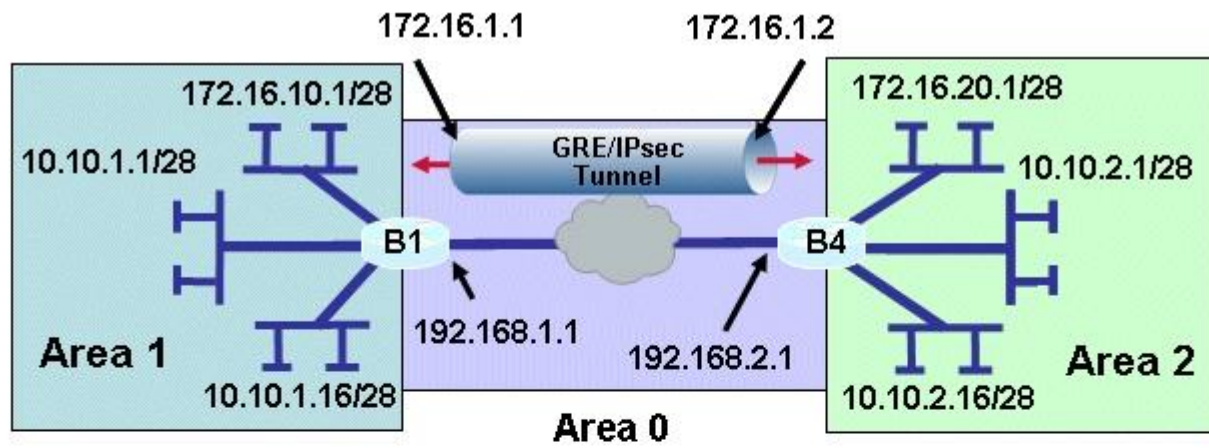
Section: Network Principles

Explanation

Explanation/Reference:

QUESTION 93

Refer to the exhibit.



Router B1 Configuration

```
crypto ipsec transform-set 10 esp-sha-hmac esp-3des
crypto map tunnel 1 ipsec-isakmp
 set transform-set 10
 set peer 192.168.2.1
 match address 102
crypto isakmp policy 1
 authentication pre-share
 group 2
crypto isakmp key ***** address 192.168.2.1
access-list 102 permit esp host 192.168.1.1 host
192.168.2.1
access-list 102 permit udp host 192.168.1.1 eq isakmp
 host 192.168.2.1
deny ip any any log
```

Router B1 Configuration (con't)

```
Interface f0/0
 Ip address 192.168.1.1 255.255.255.0
interface Tunnel0
 ip address 172.16.1.1 255.255.255.0
 crypto map tunnel
 tunnel source F0/0
 tunnel destination 192.168.2.1
 tunnel path-mtu-discovery
 ip ospf mtu-ignore
router ospf 200
 network 10.10.1.1 0.0.0.224 area 1
 network 172.16.10.1 0.0.0.240 area 1
 network 192.168.1.0 0.0.0.255 area 0
```

A new TAC engineer came to you for advice. A GRE over IPsec tunnel was configured, but the tunnel is not coming up. What did the TAC engineer configure incorrectly?

- A. The crypto map is not configured correctly.
- B. The crypto ACL is not configured correctly.

- C. The crypto map is not applied to the correct interface.
- D. The OSPF network is not configured correctly.

Correct Answer: B

Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 94

Drag drop

Select and Place:

Click and drag the associated EIGRP functionality on the left to the corresponding topology characteristic on the right.	
redistribution	low-speed WAN links
bandwidth management	WAN link to an external supplier
authentication	integrating two merging companies
stubs	256 kb/s CIR FR hub and spokes

Correct Answer:

Click and drag the associated EIGRP functionality on the left to the corresponding topology characteristic on the right.

bandwidth management

authentication

redistribution

stubs

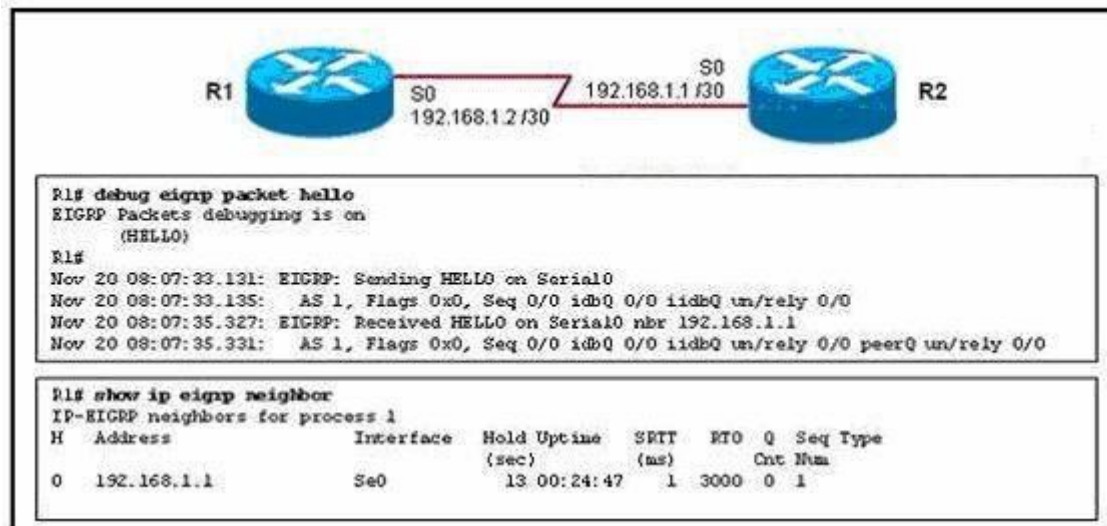
Section: Network Principles

Explanation

Explanation/Reference:

QUESTION 95

Refer to the exhibit.



Routers R1 and R2 have established a neighbor relationship and are exchanging routing information. The network design requires that R1 receive routing updates from R2, but not advertise any routes to R2. Which configuration command sequence will successfully accomplish this task?

- A. R1(config)# router eigrp 1
R1(config-router)# passive-interface serial 0
- B. R2(config)# router eigrp 1
R2(config-router)# passive-interface serial 0
- C. R1(config)# access-list 20 deny any
R1(config)# router eigrp 1
R1(config-router)# distribute-list 20 out serial 0
- D. R2(config)# access-list 20 deny any
R2(config)# router eigrp 1
R2(config-router)# distribute-list 20 out serial 0

Correct Answer: C

Section: Network Principles

Explanation

Explanation/Reference:

QUESTION 96

EIGRP has been configured to operate over Frame Relay multipoint connections. What should the bandwidth command be set to?

- A. the CIR rate of the lowest speed connection multiplied by the number of circuits
- B. the CIR rate of the lowest speed connection
- C. the CIR rate of the highest speed connection
- D. the sum of all the CIRs divided by the number of connections

Correct Answer: A

Section: Network Principles

Explanation

Explanation/Reference:

QUESTION 97

Refer to the exhibit.

```
R1# show ip eigrp topology
<output omitted>
P 10.1.2.0/24, 1 successors, FD is 281600
    via Connected, FastEthernet0/0
A 10.6.1.0/24, 0 successors, FD is 3385160704, Q
    1 replies, active 00:00:41, query-origin: Local origin
    Remaining replies:
        via 10.1.2.1, r. FastEtherent0/0
```

EIGRP is configured on all routes in the network. On a basis of the show ip eigrp topology output provided, what conclusion can be derived?

- A. Router R1 can send traffic destined for network 10.6.1.0/24 out of interface FastEthernet0/0
- B. Router R1 is waiting for a reply from the neighbor 10.1.2.1 to the hello message sent out before it declares the neighbor unreachable
- C. Router R1 is waiting for a reply from the neighbor 10.1.2.1 to the hello message sent out inquiring for a second successor to network 10.6.1.0/24
- D. Router R1 is waiting for a reply from the neighbor 10.1.2.1 in response to the query sent about network 10.6.1.0/24

Correct Answer: D

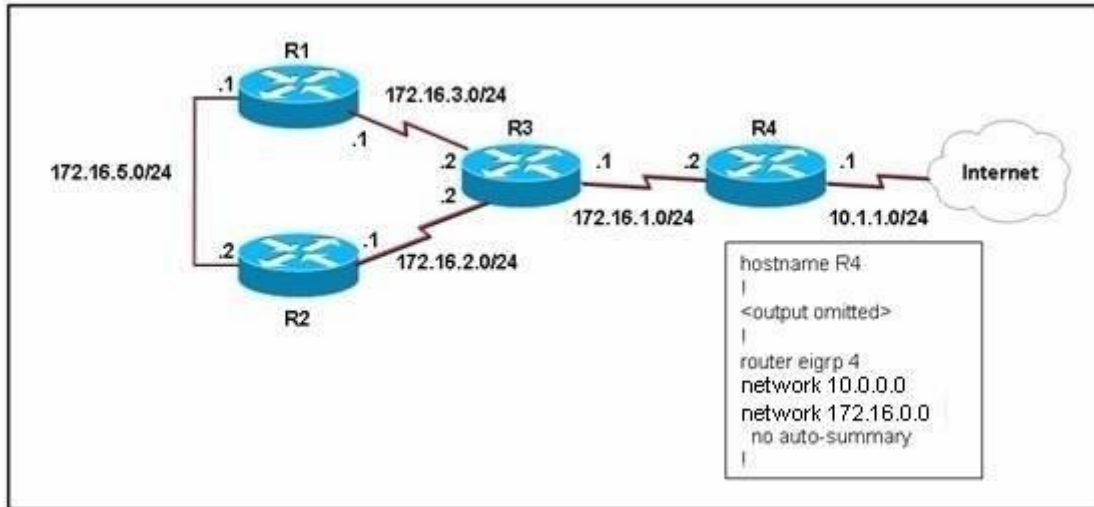
Section: Network Principles

Explanation

Explanation/Reference:

QUESTION 98

Refer to the exhibit.



EIGRP has been configured on all routers in the network. What additional configuration statement should be included on router R4 to advertise a default route to its neighbors?

- A. R4(config)# ip default-network 10.0.0.0
- B. R4(config)# ip route 0.0.0.0 0.0.0.0 10.1.1.1
- C. R4(config)# ip route 10.0.0.0 255.0.0.0 10.1.1.1
- D. R4(config-router)# default-information originate

Correct Answer: A

Section: Network Principles

Explanation

Explanation/Reference:

QUESTION 99

Which two methods use IPsec to provide secure connectivity from the branch office to the headquarters office? (Choose two.)

- A. DMVPN
- B. MPLS VPN
- C. Virtual Tunnel Interface (VTI)
- D. SSL VPN

Correct Answer: AC
Section: Layer 3 Technologies
Explanation

Explanation/Reference:

QUESTION 100

What is the purpose of configuring the router as a PPPoE client?

- A. to provide VPN access over L2TP
- B. to enable PPP session from the router to the termination device at the headend for metro Ethernet connectivity
- C. for DSL connectivity and removing the need for the end-user PC to run the PPPoE client software
- D. for connecting the router to a cable modem, which bridges the Ethernet frames from the router to the cable modem termination system

Correct Answer: C
Section: Network Principles
Explanation

Explanation/Reference:

QUESTION 101

What is the international standard for transmitting data over a cable system?

- A. PPPoE
- B. DOCSIS
- C. CMTS
- D. AAL5

Correct Answer: B
Section: Layer 3 Technologies
Explanation

Explanation/Reference:

QUESTION 102

What is a key benefit of using a GRE tunnel to provide connectivity between branch offices and headquarters?

- A. authentication, integrity checking, and confidentiality

- B. less overhead
- C. dynamic routing over the tunnel
- D. granular QoS support

Correct Answer: C

Section: Layer 3 Technologies

Explanation

Explanation/Reference:

QUESTION 103

Which DSL encapsulation method requires client software running on the end-user PC that is directly connected to a DSL modem?

- A. PPPoA
- B. PPPoE
- C. PPP
- D. L2TP

Correct Answer: B

Section: Network Principles

Explanation

Explanation/Reference:

QUESTION 104

The Cisco SA 500 Series Security Appliances are built specifically for businesses with less than 100 employees. What are three important benefits of this device? (Choose three)

- A. business-grade firewall
- B. premium support via SMART net
- C. site-to-site VPN for remote offices
- D. email security

Correct Answer: ACD

Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 105

For a GRE tunnel to be up between two routers, which of the following must be configured?

- A. Loopback Interface
- B. IP reachability between the loopback interfaces
- C. Dynamic Routing between routers.
- D. Tunnel interfaces must be in the same subnet.

Correct Answer: D

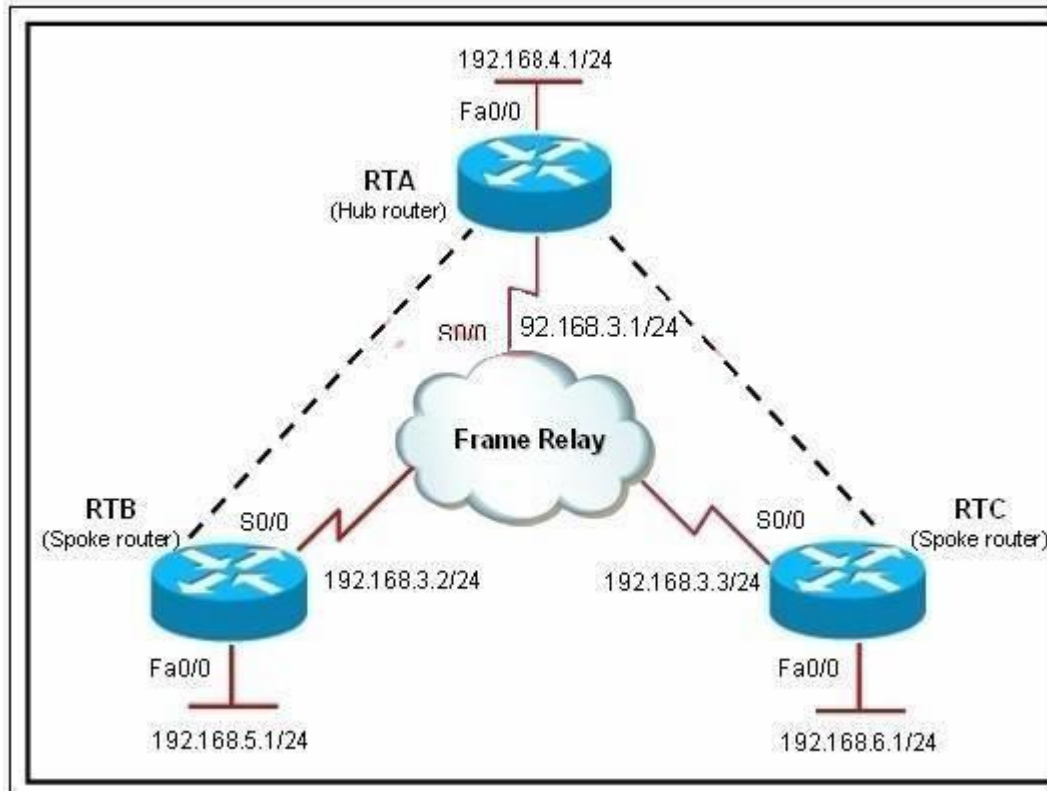
Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 106

Refer to the exhibit.



Router RTA is the hub router for routers RTB and RTC. The Frame Relay network is configured with EIGRP, and the entire network is in autonomous system 1. However, router RTB and RTC are not receiving each other's routes. What is the solution?

- A. Configure the auto summary command under router eigrp 1 on router RTA.
- B. Issue the no ip split horizon command on router RTA.
- C. Configure subinterfaces on the spoke routers and assign different IP address subnets for each subinterface.
- D. Check and change the access lists on router RTA.
- E. Issue the no ip split horizon eigrp 1 command on router RTA.
- F. Configure a distribute list on router RTA that allows it to advertise all routes to the spoke routers.

Correct Answer: E

Section: Network Principles

Explanation

Explanation/Reference:

QUESTION 107

When troubleshooting an EIGRP connectivity problem, you notice that two connected EIGRP routers are not becoming EIGRP neighbors. A ping between the two routers was successful.

What is the next thing that should be checked?

- A. Verify that the EIGRP hello and hold timers match exactly.
- B. Verify that EIGRP broadcast packets are not being dropped between the two routers with the show ip EIGRP peer command.
- C. Verify that EIGRP broadcast packets are not being dropped between the two routers with the show ip EIGRP traffic command.
- D. Verify that EIGRP is enabled for the appropriate networks on the local and neighboring router.

Correct Answer: D

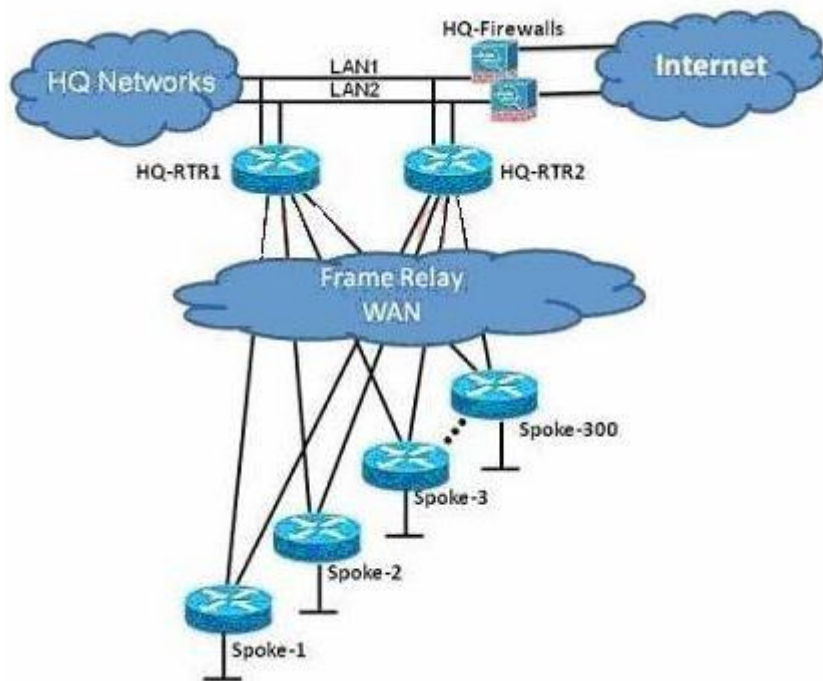
Section: Network Principles

Explanation

Explanation/Reference:

QUESTION 108

Refer to the exhibit.



You are the network administrator of the Route.com company. You have been tasked to implement a hub and spoke EIGRP topology over Frame Relay to provide connectivity between the networks at headquarters and all 300 spokes. Before you begin the actual implementation, which three pieces of information are more important to know than the others? (Choose three.)

- A. the Committed Information Rate of all the Frame Relay PVCs
- B. the Cisco IOS version running on all the routers
- C. the router model number of all the spoke routers
- D. the number of HQ networks connected behind the headquarter routers
- E. the routing policy, such as whether or not the spokes can be used as backup transient point between the two headquarter routers

Correct Answer: ABE

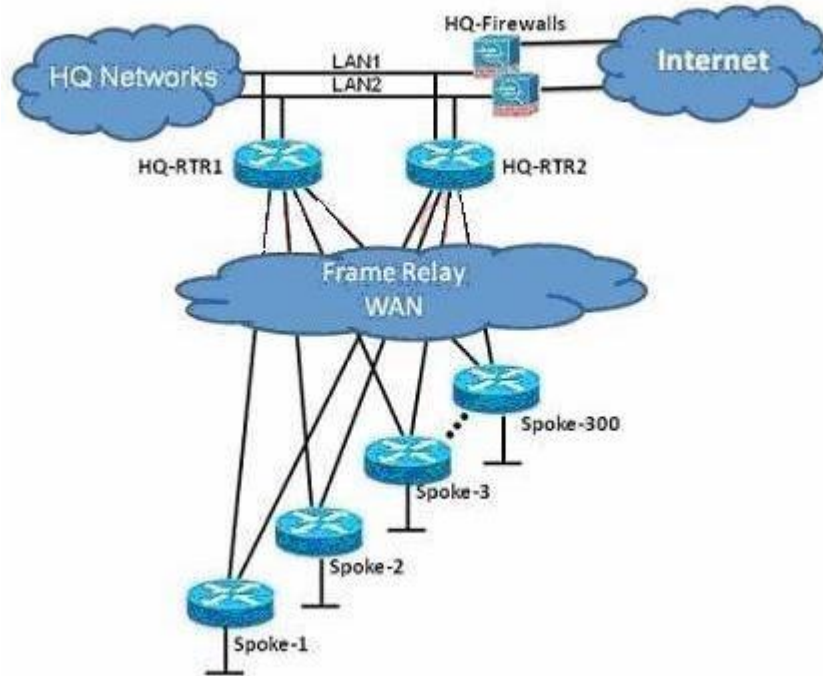
Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 109

Refer to the exhibit.



The Route.com company is running EIGRP between all the routers. Currently, if one of the LAN links (LAN1 or LAN2) at the headquarters flaps (goes up and down), the HQ-RTR1 and HQ-RTR2 routers will experience high CPU usage and have a long EIGRP convergence time. As the new network administrator, you are asked to investigate this situation and determine if there is a quick way to resolve this issue. Which is the most important thing that you can quickly verify first to resolve this issue?

- A. Verify that the bandwidth setting on all WAN links is correct.
- B. Verify that the HQ-RTR1 and HQ-RTR2 routers are configured to send only a default route to all the spoke routers.
- C. Verify that the HQ-RTR1 and HQ-RTR2 routers are configured for EIGRP Nonstop Forwarding.
- D. Verify that all the spoke routers are configured for auto summarization.
- E. Verify that all the spoke routers are configured as EIGRP stub.

Correct Answer: E

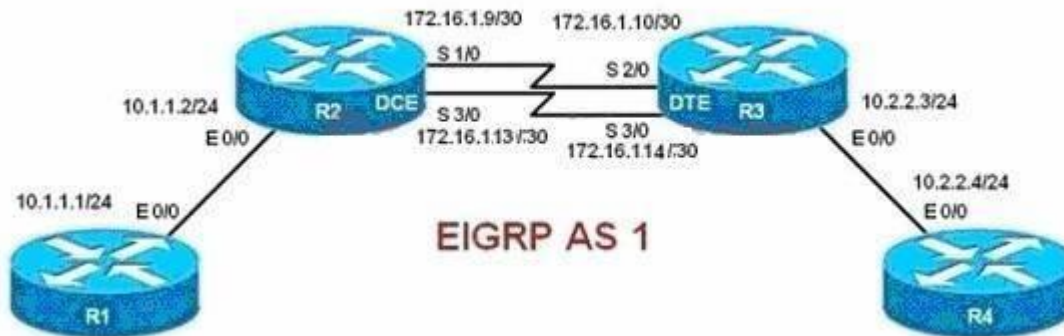
Section: Network Principles

Explanation

Explanation/Reference:

QUESTION 110

Refer to the exhibit.



When you examine the routing tables of R1 and R4, you are not able to see the R1 Ethernet subnet on the R4 routing table. You are also not able to see the R4 Ethernet subnet on the R1 routing table.

Which two configuration changes should be made to resolve this issue? Select the routers where the configuration change will be required, and select the required EIGRP configuration command(s). Choose two answers. (Choose two.)

- A. R1 and R4
- B. R2 and R3
- C. `ip summary-address eigrp 1 10.1.1.0 255.255.255.0` and `ip summary-address eigrp 1 10.2.2.0 255.255.255.0`
- D. `variance 2`
- E. `eigrp stub connected`
- F. `no auto-summary`

Correct Answer: BF

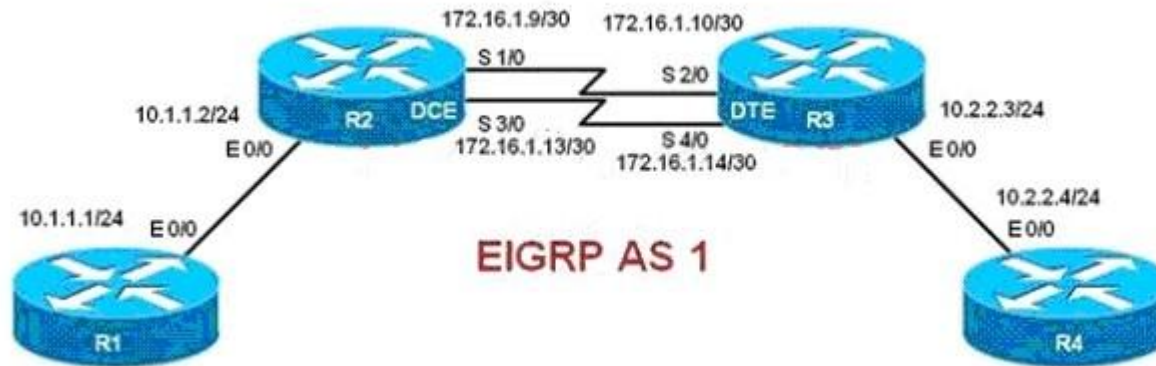
Section: Network Principles

Explanation

Explanation/Reference:

QUESTION 111

Refer to the exhibit.



The actual speed of the serial links between R2 and R3 are 256 kb/s and 512 kb/s. When configuring EIGRP on routers R2 and R3, the network administrator configured the bandwidth of both serial interfaces to 512 kb/s.

What will be the effect?

- A. EIGRP will over utilize the 512 kb/s link.
- B. The interface "delay" value used in the EIGRP metric calculation will be inaccurate on the 256 kb/s serial interface.
- C. The amount of bandwidth used for EIGRP routing protocol traffic on the 256 kb/s link can become excessive.
- D. EIGRP can load balance between the two serial links only if the variance is set to 2 or higher.
- E. Unequal cost load balancing will be disabled.

Correct Answer: C

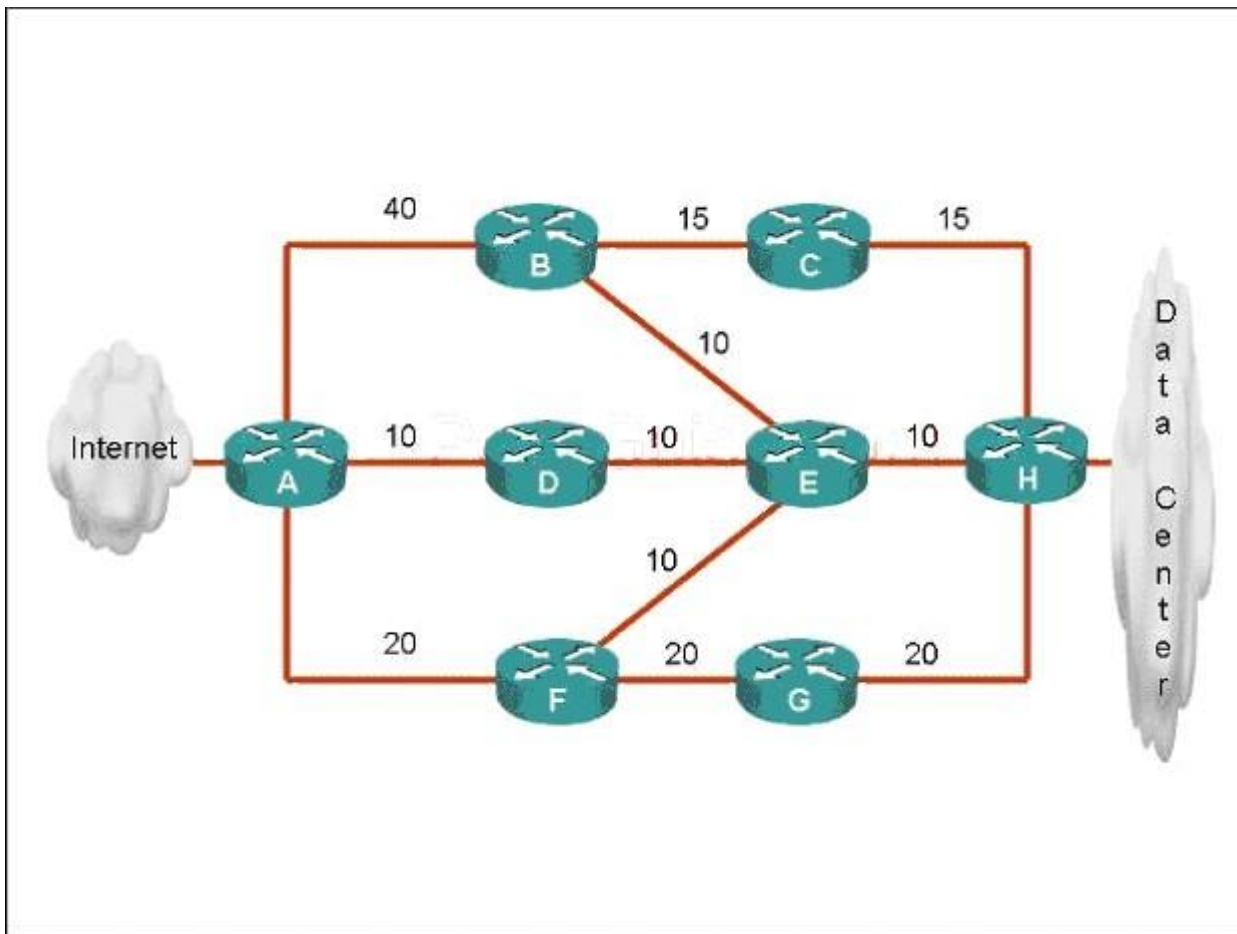
Section: Network Principles

Explanation

Explanation/Reference:

QUESTION 112

Refer to the exhibit.



ROUTE.com has just implemented this EIGRP network. A network administrator came to you for advice while trying to implement load balancing across part of their EIGRP network. If the variance value is configured as 2 on all routers and all other metric and K values are configured to their default values, traffic from the Internet to the data center will be load balanced across how many paths?

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

Correct Answer: C

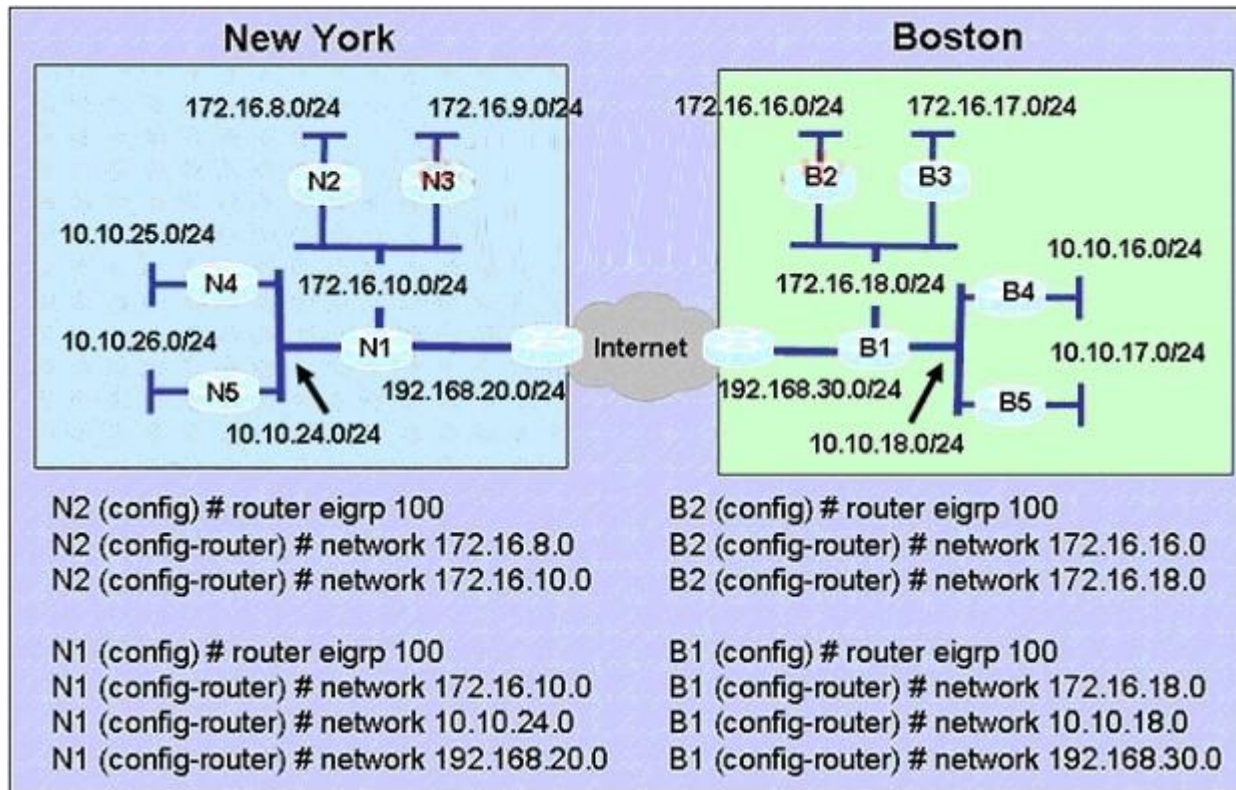
Section: Network Principles

Explanation

Explanation/Reference:

QUESTION 113

Refer to the exhibit.



A Boston company bought the assets of a New York company and is trying to route traffic between the two data networks using EIGRP. The show command output shows that traffic will not flow between the networks. As a network consultant, you were asked to modify the configuration and certify the interoperability of the two networks. For traffic to flow from subnet 172.16.8.0/24 to the 172.16.16.0/24 subnet.

Which configuration change do you recommend?

- A. Turn off autosummarization on routers N1 and B1.
- B. Add IP summary addresses to the Internet-pointing interfaces of routers N1 and B1.
- C. Turn off auto summarization on routers N2 and B2.
- D. Add wildcard masks to the network commands on routers N2 and B2.

Correct Answer: A

Section: Infrastructure Services

Explanation

Explanation/Reference:

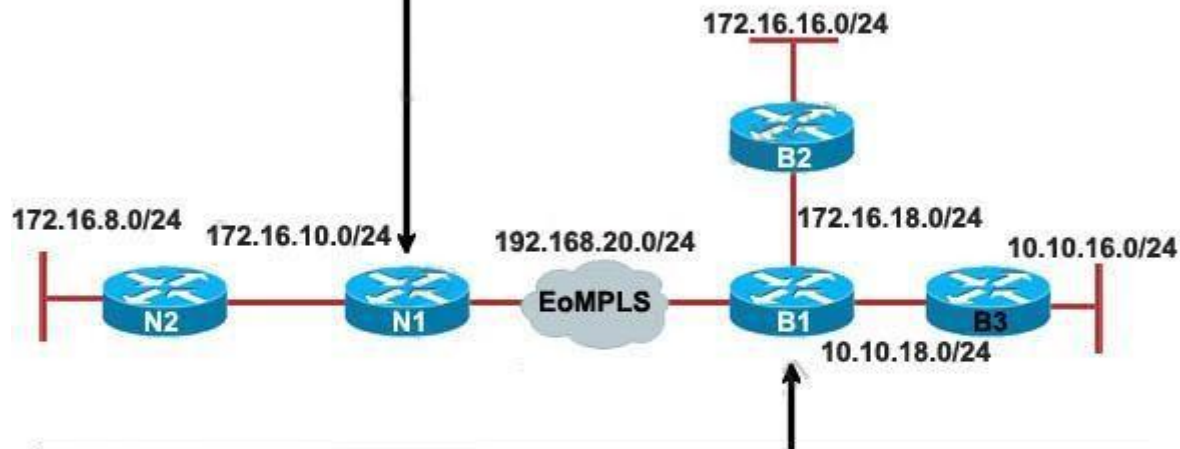
QUESTION 114

Refer to the exhibit.

Gateway of last resort is not set

172.16.0.0/16 is variably subnetted, 3 subnets, 2 masks

- D 172.16.8.0/24 [90/30720] via 172.16.10.2, 00:20:43, FastEthernet0/0
- C 172.16.10.0/24 is directly connected, FastEthernet0/0
- D 172.16.0.0/16 is a summary, 00:19:05, Null0
- C 192.168.20.0/24 is directly connected, FastEthernet0/1
- D 10.0.0.0/8 [90/30720] via 192.168.20.2, 00:14:51, FastEthernet0/1



Gateway of last resort is not set

172.16.0.0/16 is variably subnetted, 3 subnets, 2 masks

- D 172.16.16.0/24 [90/30720] via 172.16.18.2, 00:06:04, FastEthernet0/0.172
- C 172.16.18.0/24 is directly connected, FastEthernet0/0.172
- D 172.16.0.0/16 is a summary, 00:20:05, Null0
- C 192.168.20.0/24 is directly connected, FastEthernet0/1
- 10.0.0.0/8 is variably subnetted, 3 subnets, 2 masks
- D 10.0.0.0/8 is a summary, 00:15:51, Null0
- D 10.10.16.0/24 [90/30720] via 10.10.18.3, 00:04:28, FastEthernet0/0.10
- C 10.10.18.0/24 is directly connected, FastEthernet0/0.10

A Boston company bought the assets of a New York company and is trying to route traffic between the two data networks using EIGRP over EoMPLS. As a network consultant, you were asked to verify the interoperability of the two networks.

From the show ip route command output, what can you tell the customer about the traffic flow between the subnet in New York (172.16.8.0/24) and the subnets in Boston (172.16.16.0/24 and 10.10.16.0/24)?

- A. Traffic is flowing between the 172.16.8.0 subnet and subnets 172.16.16.0 and 10.10.16.0 and no configuration changes are needed.
- B. Auto-summary must be disabled on N1 and B1 before traffic can flow between the 172.16.8.0 subnet and subnets 172.16.16.0 and 10.10.16.0.
- C. Traffic will flow between the 172.16.8.0 subnet and 172.16.16.0 without any further configuration changes. However, auto-summary must be disabled on N1 and B1 before traffic can flow between the 172.16.8.0 subnet and the 10.10.16.0 subnet.
- D. Auto-summary must be disabled on N1 and B1 before traffic can flow between the 172.16.8.0 subnet and the 172.16.16.0 subnet. However, traffic will flow between the 172.16.8.0 subnet and 10.10.16.0 without any further configuration changes.

Correct Answer: B

Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 115

Which statement about a non-zero value for the load metric (k2) for EIGRP is true?

- A. A change in the load on an interface will cause EIGRP to recalculate the routing metrics and send a corresponding update out to each of its neighbors.
- B. EIGRP calculates interface load as a 5-minute exponentially weighted average that is updated every 5 minutes.
- C. EIGRP considers the load of an interface only when sending an update for some other reason.
- D. A change in the load on an interface will cause EIGRP to recalculate and update the administrative distance for all routes learned on that interface.

Correct Answer: C

Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 116

Refer to the exhibit. Why are the EIGRP neighbors for this router not learning the routes redistributed from OSPF?

```
router eigrp 123
 redistribute ospf 123
 network 116.16.35.0 0.0.0.255
 network 130.130.0.0
 auto-summary
!
router ospf 123
 log-adjacency-changes
 network 116.16.34.0 0.0.0.255 area 0
 neighbor 116.16.34.4
```

- A. Redistribution must be enabled mutually (in both directions) to work correctly.
- B. Auto-summary causes the OSPF routes redistributed into EIGRP to be summarized; thus the OSPF network 116.16.34 is summarized to 116.34.0.0, which is already covered by the EIGRP protocol.
- C. Default metrics are not configured under EIGRP.
- D. Both routing protocols must have unique autonomous system numbers for redistribution to function correctly.

Correct Answer: C

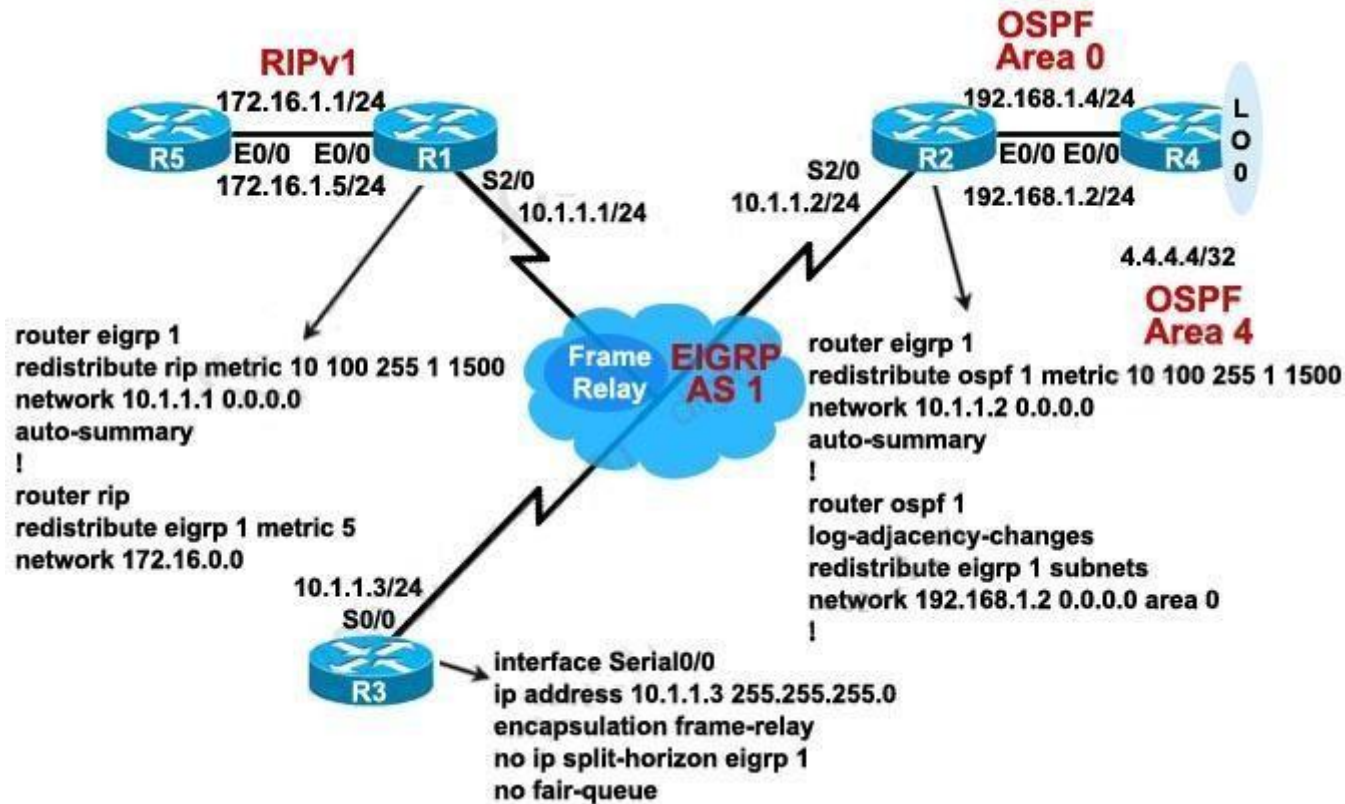
Section: VPN Technologies

Explanation

Explanation/Reference:

QUESTION 117

Refer to the exhibit.



Which three statements are true? (Choose three.)

- A. On the routing table of R4, the 10.1.1.0/24 route appears as an O E2 route.
- B. On R4, the 172.16.1.0/24 route has a metric of 20.
- C. The R3 S0/0 interface should not need the no ip split-horizon eigrp 1 configuration command for the 172.16.1.0/24 route to appear in the routing table of R2 as an D EX route.
- D. The administrative distance of the 172.16.1.0/24 route in the routing table of R3 is 170.
- E. On R5, the 4.0.0.0/8 route will have an administrative distance of 120 and a hop count of 6.

Correct Answer: ABD

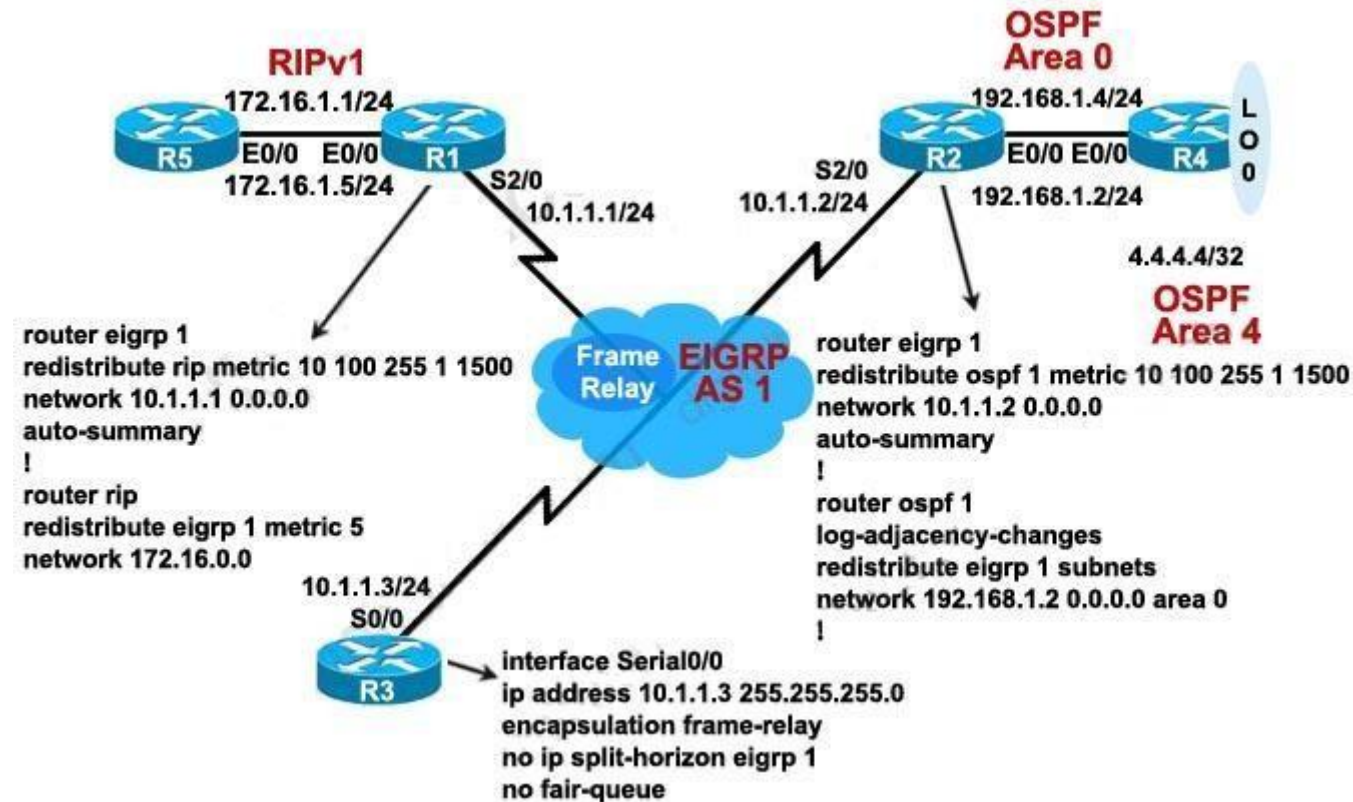
Section: Network Principles

Explanation

Explanation/Reference:

QUESTION 118

Refer to the exhibit.



Looking at the topology diagram and the partial router configurations shown, which statement is true?

- A. A routing loop will occur due to mutual route redistribution occurring on R1 and R2.
- B. Suboptimal routing will occur due to mutual route redistribution occurring on R1 and R2.
- C. Additional route filtering configurations using route maps and ACLs are required on the R1 and R2 routers to prevent routing loops.
- D. R2 will not be able to redistribute the EIGRP subnets into OSPF, because R2 is missing the default seed metric for OSPF.
- E. The 10.1.1.0/24 subnet will appear as 10.0.0.0/8 in the R5 routing table.

Correct Answer: E

Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 119

You have implemented mutual route redistribution between OSPF and EIGRP on a border router. When checking the routing table on one of the EIGRP routers within the EIGRP routing domain, you are seeing some, but not all of the expected routes. What should you verify to troubleshoot this problem?

- A. The border router is using a proper seed metric for OSPF.
- B. The border router is using a proper seed metric for EIGRP.
- C. The administrative distance is set for OSPF and EIGRP.
- D. The missing OSPF routes are present in the routing table of the border router.
- E. The subnet keyword on the border router in the redistribute OSPF command.

Correct Answer: D

Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 120

Refer to the exhibit.

```
R1#show ip eigrp topology | section 0.0.0.0
P 0.0.0.0/0, 2 successors, FD is 2174976
  via 212.50.185.125 (2174976/2169856), Ethernet0/0
  via 212.50.185.126 (2174976/2169856), Ethernet0/0
  via 212.50.185.65 (2180096/2172416), Ethernet1/0
  via 212.50.185.66 (2180096/2172416), Ethernet1/0
  via 212.50.185.33 (2180096/2172416), Ethernet2/0
  via 212.50.185.34 (2180096/2172416), Ethernet2/0
R1#show ip route 0.0.0.0
Routing entry for 0.0.0.0/0, supernet
  known via "eigrp 212", distance 170, metric 2174976, candidate default path, type external
  Redistributing via eigrp 212
  Last update from 212.50.185.126 on Ethernet0/0, 00:00:32 ago
  Routing Descriptor Blocks:
    * 212.50.185.126, from 212.50.185.126, 00:00:32 ago, via Ethernet0/0
      Route metric is 2174976, traffic share count is 1
      Total delay is 20200 microseconds, minimum bandwidth is 1544 kbit
      Reliability 255/255, minimum MTU 1500 bytes
      Loading 3/255, Hops 1
    212.50.185.125, from 212.50.185.125, 00:00:32 ago, via Ethernet0/0
      Route metric is 2174976, traffic share count is 1
      Total delay is 20200 microseconds, minimum bandwidth is 1544 kbit
      Reliability 255/255, minimum MTU 1500 bytes
      Loading 3/255, Hops 1
```

All EIGRP load balancing parameters are set to their defaults. You want to use all the routes in the EIGRP topology for IP load balancing Which two EIGRP subcommands would you use to accomplish this goal? (Choose two.)

- A. traffic-share balanced
- B. distance
- C. maximum-paths
- D. default-network
- E. variance

Correct Answer: CE

Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 121

Refer to the exhibit.


```

R1#show ip route
 1.0.0.0/24 is subnetted, 1 subnets
C    1.1.1.0 is directly connected, Loopback0
D EX 212.50.167.0/24 [170/2172416] via 190.0.0.1 00:45:34, Serial1/0
    [170/2172416] via 191.0.0.1, 00:45:34, Serial2/0
 191.0.0.0/30 is subnetted, 1 subnets
C    191.0.0.0 is directly connected, Serial2/0
D EX 212.50.166.0/24 [170/2172416] via 192.0.0.1, 00:45:34, Serial1/0
    [170/2172416] via 191.0.0.1, 00:45:34, Serial2/0
 20.0.0.0/24 is subnetted, 1 subnets
C    20.20.20.0 is directly connected, Ethernet0/0
 212.50.185.0/27 is subnetted, 3 subnets
D EX 212.50.185.64 [170/2172416] via 192.0.0.1, 00:45:34, Serial1/0
    [170/2172416] via 191.0.0.1, 00:45:34, Serial2/0
D EX 212.50.185.96 [170/2172416] via 192.0.0.1, 00:45:34, Serial1/0
    [170/2172416] via 191.0.0.1, 00:45:34, Serial2/0
D EX 212.50.185.32 [170/2172416] via 192.0.0.1, 00:45:34, Serial1/0
    [170/2172416] via 191.0.0.1, 00:45:34, Serial2/0
 192.0.0.0/30 is subnetted, 1 subnets
C    192.0.0.0 is directly connected, Serial1/0

```

R1 accesses the Internet using E0/0. You have been asked to configure R1 so that a default route is generated to its downstream neighbors (191.0.0.1 and 192.0.0.1). Which commands would create this configuration?

- A. router eigrp 190
redistribute static
!
ip route 0.0.0.0 0.0.0.0 Null0
- B. ip default-network 20.0.0.0
- C. router eigrp 190
redistribute static
!
ip route 0.0.0.0 255.255.255.255 Null0
- D. ip default-network 20.20.20.0

Correct Answer: A

Section: Network Principles

Explanation

Explanation/Reference:

QUESTION 122

Refer to the exhibit.

```
router eigrp 190
 redistribute eigrp 212
 network 192.0.0.0 0.0.0.3
!
router eigrp 212
 redistribute eigrp 190 route-map default_route
 network 212.50.185.96 0.0.0.31
!
route-map default_route permit 10
 match ip address 100
```

A partial routing configuration is shown. Complete the configuration so that only the default- network is redistributed from EIGRP 190 into EIGRP 212. Which ACL statement completes the configuration correctly?

- A. access-list 100 permit ip 0.0.0.0 0.0.0.0 0.0.0.0 0.0.0.0
- B. access-list 100 permit ip host 0.0.0.0 any
- C. access-list 100 permit ip any host 0.0.0.0
- D. A default-network cannot be redistributed between routing processes.

Correct Answer: C

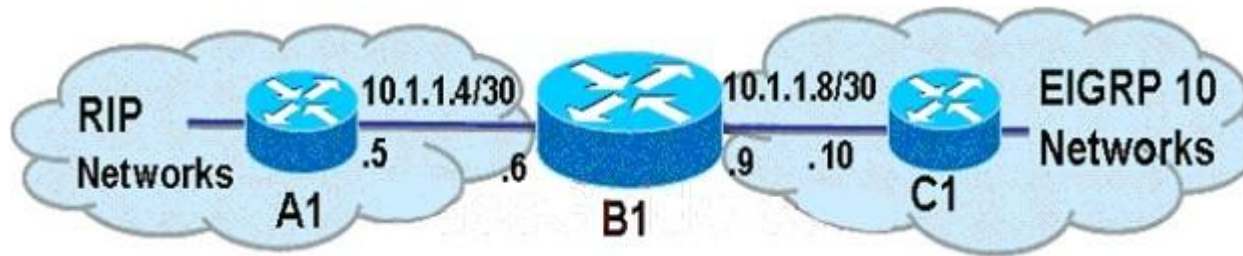
Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 123

Refer to the exhibit.



Which three commands should be used on router B1 to redistribute the EIGRP AS 10 routes into RIP? (Choose three.)

- A. router rip
- B. router eigrp 10
- C. redistribute eigrp 10
- D. redistribute rip
- E. default-metric 10000 100 255 1 1500
- F. default-metric 5

Correct Answer: ACF

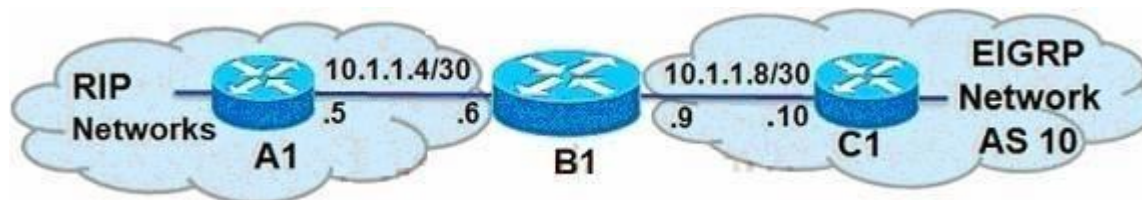
Section: VPN Technologies

Explanation

Explanation/Reference:

QUESTION 124

You want the redistributed EIGRP AS 10 routes to have an administrative distance of 121 when they appear as RIP routes in the routing table of A1. Which command should you use on a router to accomplish this goal?



- A. redistribute eigrp 10 metric 121
- B. redistribute rip metric 121
- C. default-metric 121

D. distance 121 10.1.1.6 0.0.0.0

Correct Answer: D

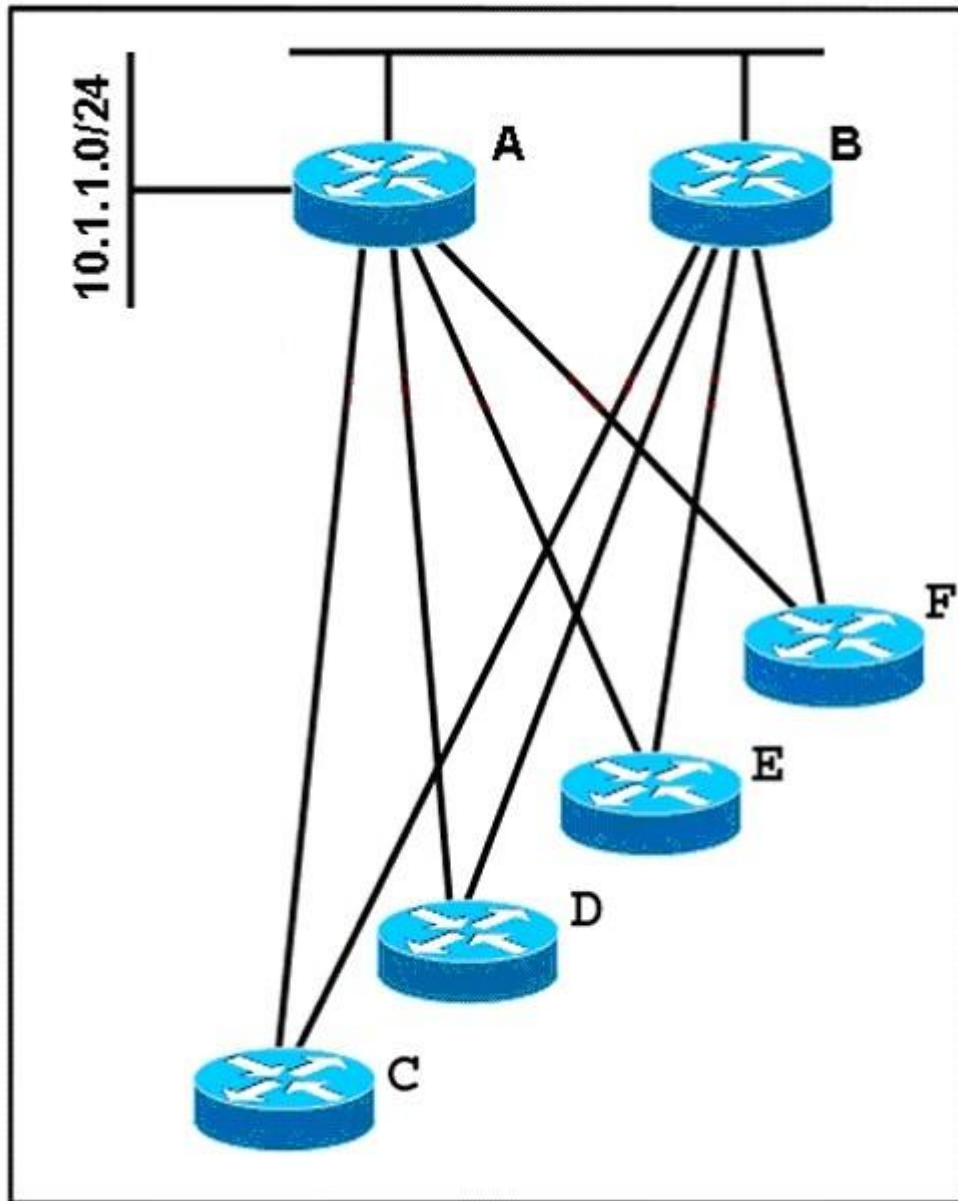
Section: Network Principles

Explanation

Explanation/Reference:

QUESTION 125

Refer to the exhibit.



In a redundant hub-and-spoke deployment using EIGRP, what feature can be used to ensure that routers C through F are not used as transit routers for

data traveling from router B to network 10.1.1.0? Select the best response

- A. Use address summarization at routers C, D, E, and F.
- B. Use the EIGRP Stub feature on routers C, D, E, and F.
- C. Use passive-interface on the spoke links in routers A and B.
- D. Change the administrative distance in routers A and B for routes learned from routers C, D, E, and F.

Correct Answer: B

Section: Network Principles

Explanation

Explanation/Reference:

QUESTION 126

ACME Rocket Sleds is growing, and so is their network. They have determined that they can no longer continue using static routes and must implement a dynamic routing protocol. They want to have data use multiple paths to the destinations, even if the paths are not equal cost. Which routing protocol has the ability to do this?

- A. EIGRP
- B. OSPF
- C. RIPv1
- D. RIPv2
- E. BGP
- F. IS-IS

Correct Answer: A

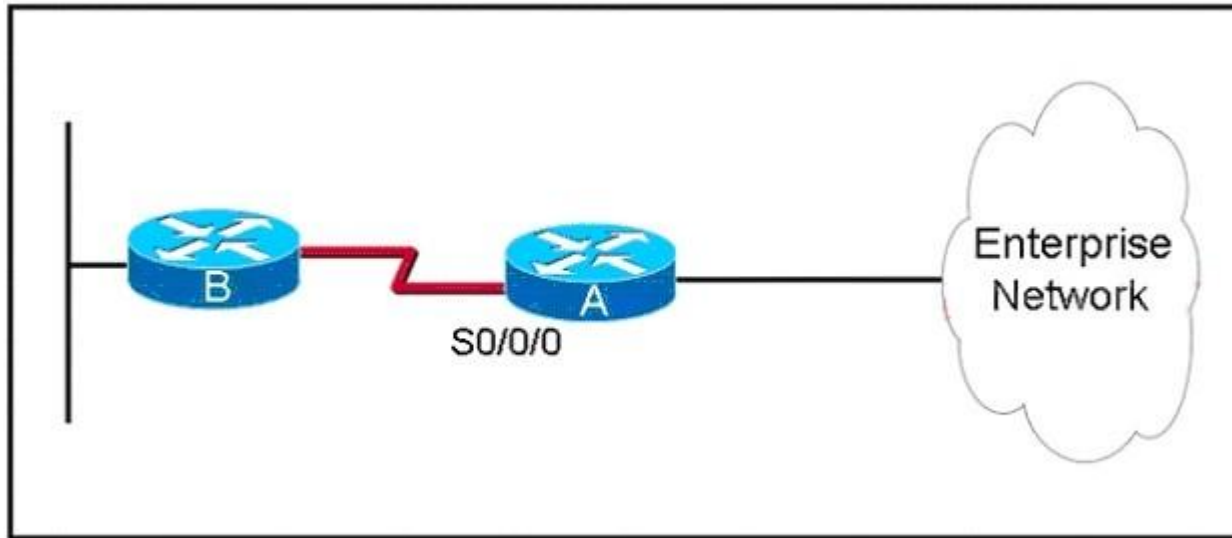
Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 127

Refer to the exhibit.



ROUTE Enterprises has many stub networks in their enterprise network, such as router B and its associated network. EIGRP is to be implemented on router A so that neither the prefix for the S/0/0/0 interface nor the prefixes from router B appear in the routing tables for the router in the enterprise network. Which action will accomplish this goal?

- A. Declare router B a stub router using the `eigrp stub` command.
- B. Use the `passive-interface` command for interface Serial0/0/0.
- C. Use a mask with the `network` command to exclude interface Serial0/0/0.
- D. Implement a distribute list to exclude the link prefix from the routing updates.

Correct Answer: C

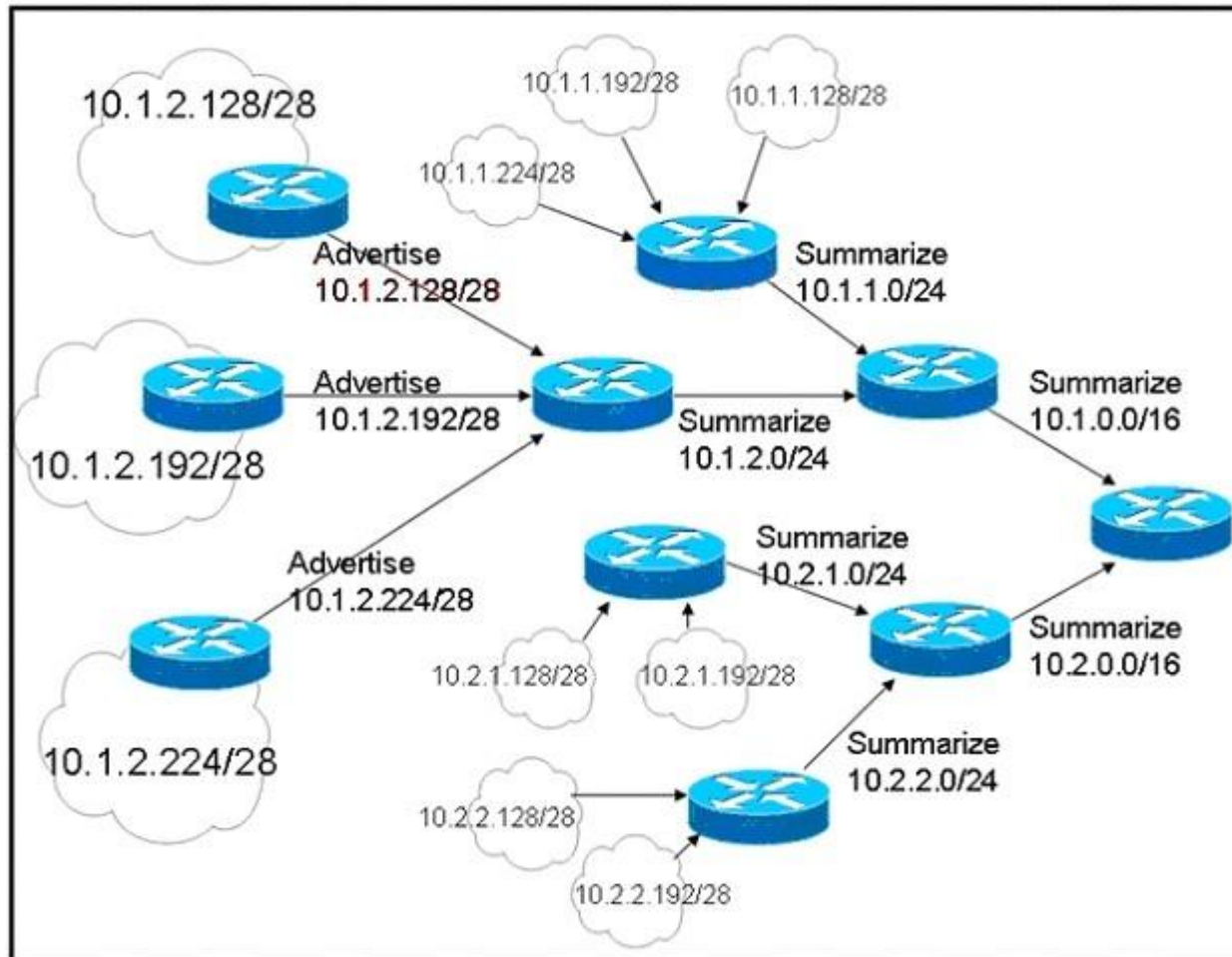
Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 128

Refer to the exhibit.



Which statement about dynamic routing protocols for this network is true?

- A. No dynamic interior routing protocol can summarize as shown.
- B. Unless configured otherwise, EIGRP would automatically summarize the prefixes as shown in the exhibit.
- C. With this IP addressing scheme, EIGRP can be manually configured to summarize prefixes at the specified summarization points.
- D. The IP address design lends itself to OSPF. Each summarizing router would be an ABR, summarizing to the next area in the address hierarchy.

Correct Answer: C

Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 129

After implementing EIGRP on your network, you issue the show ip eigrp traffic command on router C. The following output is shown:

```
RouterC#show ip eigrp traffic
IP-EIGRP Traffic Statistics for process 1
Hellos sent/received: 481/444
Updates sent/received: 41/32
Queries sent/received: 5/1
Replies sent/received: 1/4
Acks sent/received: 21/25
Input queue high water mark 2, 0 drops
SIA-Queries sent/received: 0/0
SIA-Replies sent/received: 0/0
```

Approximately 25 minutes later, you issue the same command again. The following output is shown:

```
RouterC#show ip eigrp traffic
IP-EIGRP Traffic Statistics for process 1
Hellos sent/received: 1057/1020
Updates sent/received: 41/32
Queries sent/received: 5/1
Replies sent/received: 1/4
Acks sent/received: 21/25
Input queue high water mark 2, 0 drops
SIA-Queries sent/received: 0/0
SIA-Replies sent/received: 0/0
```

Approximately 25 minutes later, you issue the same command a third time. The following output is shown:

```
RouterC#show ip eigrp traffic
IP-EIGRP Traffic Statistics for process 1
Hellos sent/received: 1754/1717
Updates sent/received: 41/32
Queries sent/received: 5/1
Replies sent/received: 1/4
Acks sent/received: 21/25
Input queue high water mark 2, 0 drops
SIA-Queries sent/received: 0/0
SIA-Replies sent/received: 0/0
```


What can you conclude about this network?

- A. The network has been stable for at least the last 45 minutes.
- B. There is a flapping link or interface, and router C knows an alternate path to the network.
- C. There is a flapping link or interface, and router A does not know an alternate path to the network.
- D. EIGRP is not working correctly on router C.
- E. There is not enough information to make a determination.

Correct Answer: A

Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 130

After implementing EIGRP on your network, you issue the show ip eigrp traffic command on router C. The following output is shown:

```
RouterC#show ip eigrp traffic
IP-EIGRP Traffic Statistics for process 1
Hellos sent/received: 2112/2076
Updates sent/received: 47/38
Queries sent/received: 5/3
Replies sent/received: 3/4
Acks sent/received: 29/33
Input queue high water mark 2, 0 drops
SIA-Queries sent/received: 0/0
SIA-Replies sent/received: 0/0
```

Moments later, you issue the same command a second time and the following output is shown:

```
RouterC#show ip eigrp traffic
IP-EIGRP Traffic Statistics for process 1
Hellos sent/received: 2139/2104
Updates sent/received: 50/39
Queries sent/received: 5/4
Replies sent/received: 4/4
Acks sent/received: 31/37
Input queue high water mark 2, 0 drops
SIA-Queries sent/received: 0/0
SIA-Replies sent/received: 0/0
```

Moments later, you issue the same command a third time and the following output is shown:

```
RouterC#show ip eigrp traffic
IP-EIGRP Traffic Statistics for process 1
Hellos sent/received: 2162/2126
Updates sent/received: 53/42
Queries sent/received: 5/5
Replies sent/received: 5/4
Acks sent/received: 35/41
Input queue high water mark 2, 0 drops
SIA-Queries sent/received: 0/0
SIA-Replies sent/received: 0/0
```

What information can you determine about this network?

- A. The network is stable.
- B. There is a flapping link or interface, and router C knows an alternate path to the network.
- C. There is a flapping link or interface, and router C does not know an alternate path to the network.
- D. EIGRP is not working correctly on router C.
- E. There is not enough information to make a determination.

Correct Answer: B

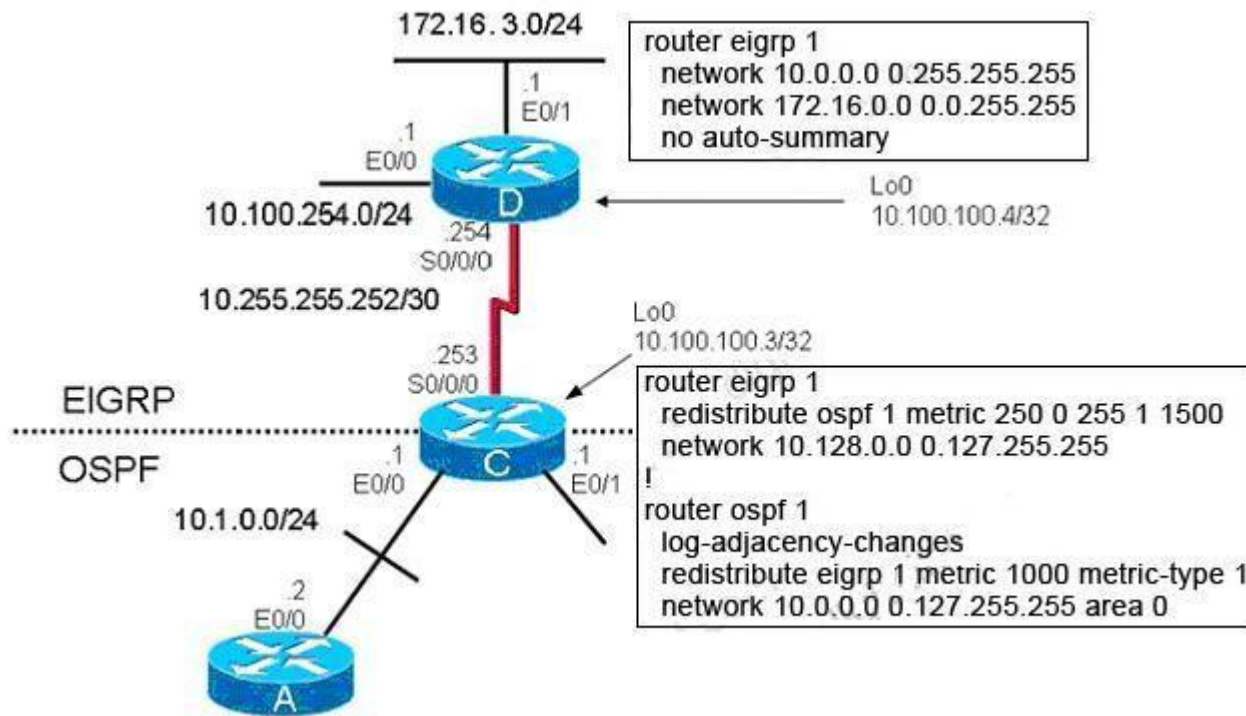
Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 131

Refer to the exhibit.



EIGRP has been configured on router D. Router C is performing mutual redistribution between EIGRP and OSPF. While verifying that the redistribution is functioning properly, you discover that while router C has all of the EIGRP routes in its routing table, router A does not have any routes from the EIGRP domain. What on router C may be the cause of the problem?

- A. The no auto-summary command needs to be added under router eigrp 1.
- B. The subnets keyword was not included in the redistribute command under router ospf 1.
- C. The metric specified for the redistributed EIGRP routes is too large; making the EIGRP routes unreachable by router A.
- D. The default-information originate command needs to be added under router ospf 1.
- E. The administrative distance of either OSPF or EIGRP must be changed so that EIGRP has a higher administrative distance than OSPF.

Correct Answer: B

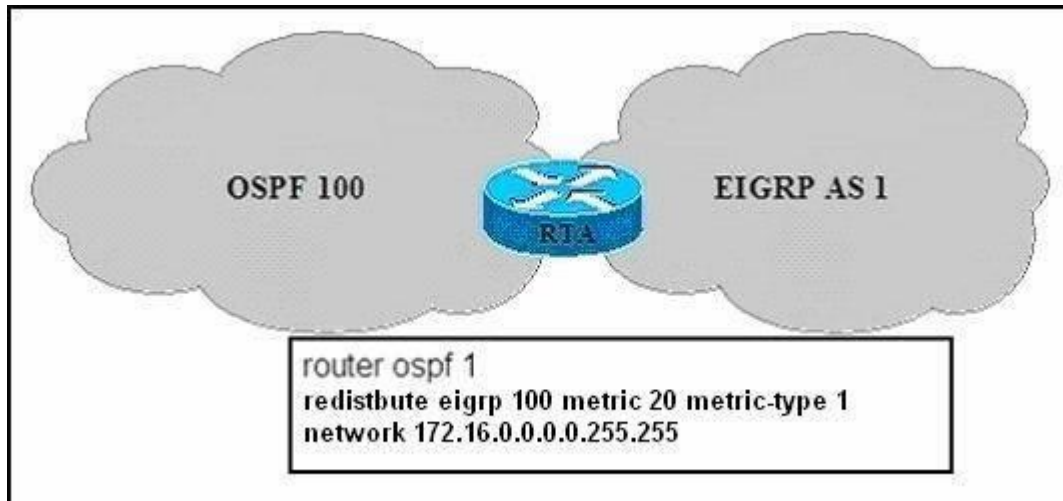
Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 132

During the redistribution process configured on RTA, some of the EIGRP routes, such as 10.1.1.0/24 and 10.2.2.0/24, are not being redistributed into the OSPF routing domain.



Which two items could be a solution to this problem? (Choose two.)

- A. Change the metric-type to 2 in the redistribute command.
- B. Configure the redistribute command under router eigrp 1 instead.
- C. Change the EIGRP AS number from 100 to 1 in the redistribute command.
- D. Add the subnets option to the redistribute command.
- E. Change the metric to an EIGRP compatible metric value (bandwidth, delay, reliability, load, MTUs) in the redistribute command.

Correct Answer: CD

Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 133

Given the accompanying output, which additional command is needed to redistribute IGRP into EIGRP?

Router eigrp 123

Network 10.10.10.0
No auto-summary
!
Router igrp 123
Network 172.16.0.0
Network 172.17.0.0

- A. Under the router igrp mode add redistribute eigrp 123
- B. Under the router eigrp mode add redistribute igrp 123
- C. Under the router eigrp mode add redistribute igrp 123 subnets
- D. None, EIGRP and IGRP are automatically redistributed in this instance.

Correct Answer: D

Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 134

Which three statements are true about EIGRP operation? (Choose three.)

- A. When summarization is configured, the router will also create a route to null 0.
- B. The summary route remains in the route table, even if there are no more specific routes to the network.
- C. Summarization is configured on a per-interface level.
- D. The maximum metric for the specific routes is used as the metric for the summary route.
- E. Automatic summarization across major network boundaries is enabled by default.

Correct Answer: ACE

Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 135

Which two statements about the EIGRP DUAL process are correct? (Choose two.)

- A. An EIGRP route will go active if there are no successors or feasible successors in the EIGRP topology table.
- B. An EIGRP route will go passive if there are no successors in the EIGRP topology table.

- C. DUAL will trigger an EIGRP query process while placing the flapping routes in the holddown state.
- D. A feasible successor in the EIGRP topology table can become the successor only after all the query requests have been replied to.
- E. The stuck in active state is caused when the wait for the query replies have timed out.
- F. EIGRP queries are sent during the loading state in the EIGRP neighbor establishment process.

Correct Answer: AE

Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 136

What are three key concepts that apply when configuring the EIGRP stub routing feature in a hub and spoke network? (Choose three.)

- A. A hub router prevents routes from being advertised to the remote router.
- B. Only remote routers are configured as stubs.
- C. Stub routers are not queried for routes.
- D. Spoke routers connected to hub routers answer the route queries for the stub router.
- E. A stub router should have only EIGRP hub routers as neighbors.
- F. EIGRP stub routing should be used on hub routers only.

Correct Answer: BCE

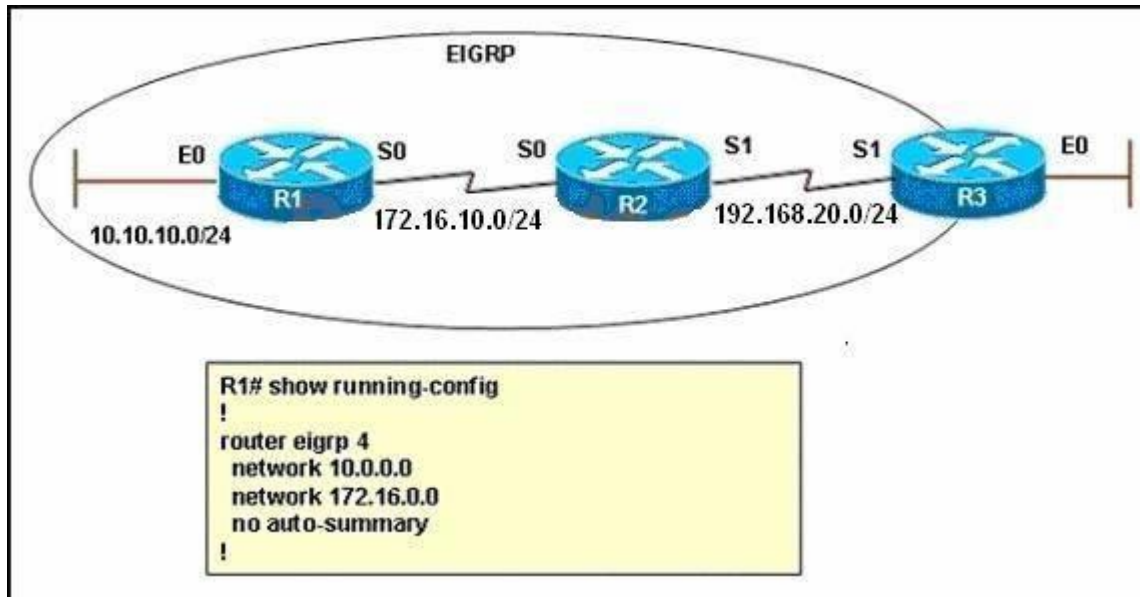
Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 137

Refer to the exhibit. EIGRP is configured with the default configuration on all routers. Autosummarization is enabled on routers R2 and R3, but it is disabled on router R1. Which two EIGRP routes will be seen in the routing table of router R3? (Choose two.)



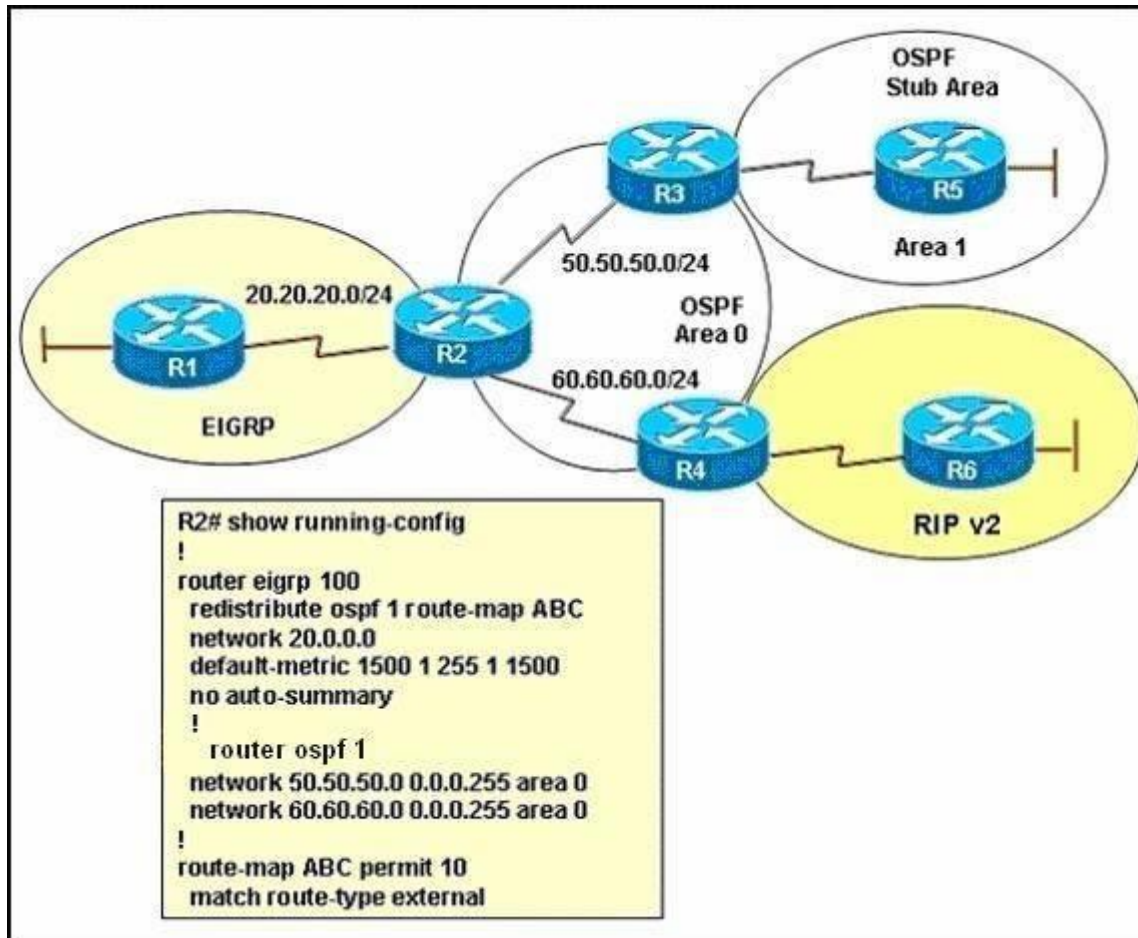
- A. 10.0.0.0/8
- B. 10.10.0.0/16
- C. 10.10.10.0/24
- D. 172.16.0.0/16
- E. 172.16.0.0/24
- F. 172.16.10.0/24

Correct Answer: CD
Section: Mixed Questions
Explanation

Explanation/Reference:

QUESTION 138

Refer to the exhibit and the partial configuration on router R2. On router R4 all RIP routes are redistributed into the OSPF domain. A second redistribution is configured on router R2 using a route map. Based on the configuration on router R2, which EIGRP external routes will be present in the routing table of R1?



- A. the routes originating from the RIP routing domain
- B. the routes originating from the OSPF stub area
- C. all OSPF inter and intra-area routes
- D. all routes originating from RIP and OSPF routing domains

Correct Answer: A

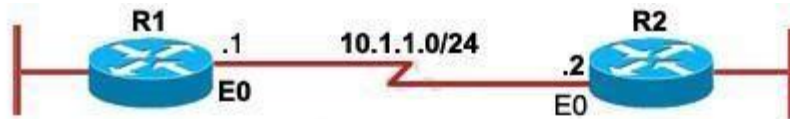
Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 139

Refer to the exhibit. EIGRP has been configured on routers R1 and R2. However, R1 does not show R2 as a neighbor and does not accept routing updates from R2. What could be the cause of the problem?



```
hostname R1
!
interface Ethernet0
!
ip address 10.1.1.1 255.255.255.0
!
router eigrp 4
network 10.0.0.0
!
end
```

```
hostname R2
!
interface Ethernet0
!
ip address 10.1.2.2 255.255.255.0
ip address 10.1.1.2 255.255.255.0 secondary
!
router eigrp 4
network 10.0.0.0
!
end
```

```
R1#show ip eigrp neighbor
IP-EIGRP neighbors for process
01:20:54: IP-EIGRP: Neighbor 10.1.2.2 not on common subnet for Ethernet0 (10.1.)
01:21:08: IP-EIGRP: Neighbor 10.1.2.2 not on common subnet for Ethernet0 (10.1.)
```

```
R2# show ip eigrp neighbor
IP-EIGRP neighbors for process 4
```

H	Address	Interface	Hold	Uptime (sec)	SRTT (ms)	RTO	Q Cnt	Seq Num	Type
0	10.1.1.1	Et0	12	00:00:35	1	5000	1	0	

- A. The no auto-summary command has not been issued under the EIGRP process on both routers.
- B. Interface E0 on router R1 has not been configured with a secondary IP address of 10.1.2.1/24.
- C. EIGRP cannot exchange routing updates with a neighbor's router interface that is configured with two IP addresses.
- D. EIGRP cannot form neighbor relationship and exchange routing updates with a secondary address.

Correct Answer: D

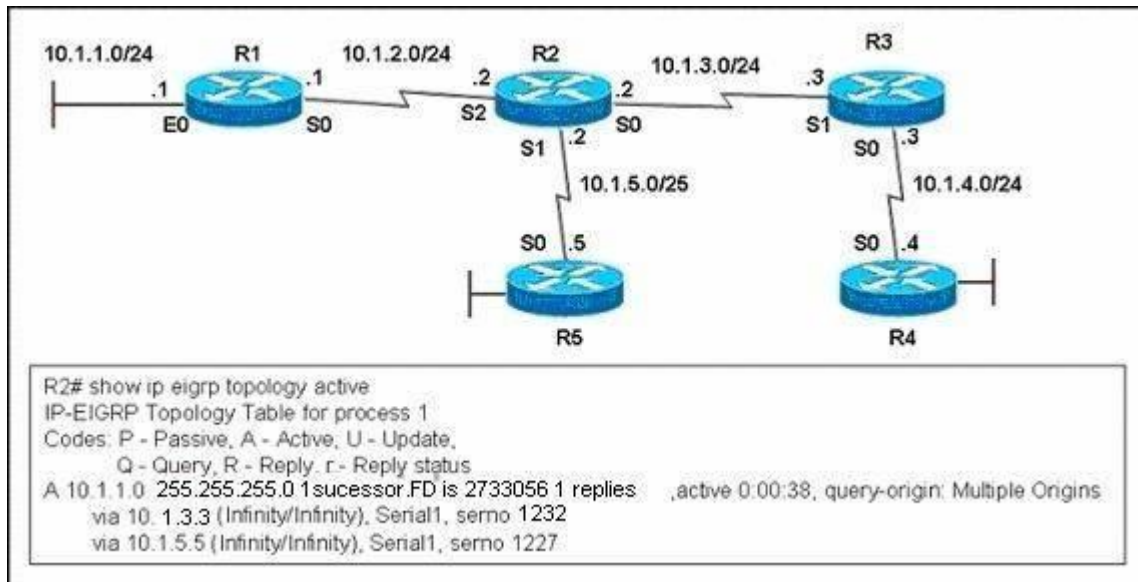
Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 140

Refer to the exhibit.



EIGRP had converged in AS 1 when the link between router R1 and R2 went down. The console on router R2 generated the following messages:

*Mar 20 12:12:06: %DUAL-5-NBRCHANGE. IP-EIGRP 1: Neighbor 10.1.4.3 (Serial0) is down: stuck in active

*Mar 20 12:15:23: %DUAL-3-SIA. Route 10.1.1.0/24 stuck-in-active state in IP-EIGRP 1. Cleaning up The network administrator issued the show ip eigrp topology active command on R2 to check the status of the EIGRP network. Which statement best describes the reason for the error messages?

- A. Incorrect bandwidth configuration on router R3 prevents R2 from establishing neighbor adjacency.
- B. Incorrect bandwidth configuration on router R5 prevents R2 from establishing neighbor adjacency.
- C. Router R3 did not reply to the query about network 10.1.1.0/24 sent by router R2 .
- D. Router R5 did not reply to the query about network 10.1.1.0/24 sent by router R2 .

Correct Answer: C

Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 141

Which EIGRP packet statement is true?

- A. On high-speed links, hello packets are broadcast every 5 seconds for neighbor discovery.
- B. On low-speed links, hello packets are broadcast every 15 seconds for neighbor discovery.
- C. Reply packets are multicast to IP address 224.0.0.10 using RTP.
- D. Update packets route reliable change information only to the affected routers.
- E. Reply packets are used to send routing updates.

Correct Answer: D

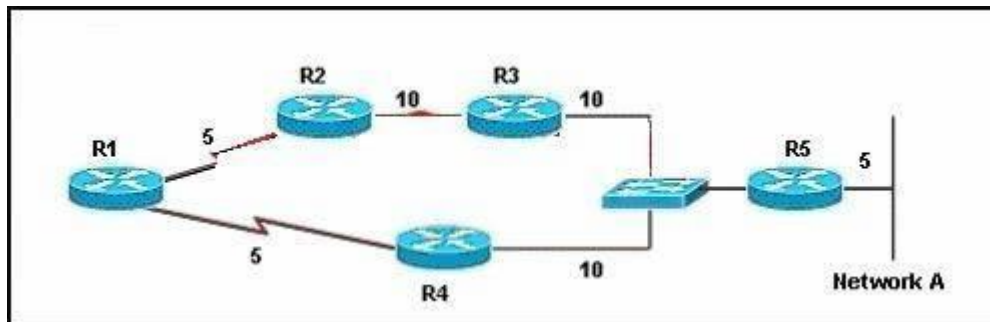
Section: Network Principles

Explanation

Explanation/Reference:

QUESTION 142

Refer to the exhibit. EIGRP has been configured on all routers in the network. The command metric weights 0 0 1 0 0 has been added to the EIGRP process so that only the delay metric is used in the path calculations. Which router will R1 select as the successor and feasible successor for Network A?



- A. R4 becomes the successor for Network A and will be placed in the routing table. R2 becomes the feasible successor for Network A.
- B. R4 becomes the successor for Network A and will be included in the routing table. No feasible successor will be selected as the advertised distance

from R2 is higher than the feasible distance.

- C. R2 becomes the successor and will be placed in the routing table. R4 becomes the feasible successor for Network A.
- D. R2 becomes the successor and will be placed in the routing table. No feasible successor will be selected as the reported distance from R4 is lower than the feasible distance.

Correct Answer: B

Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 143

During a redistribution of routes from OSPF into EIGRP, an administrator notices that none of the OSPF routes are showing in EIGRP. What are two possible causes? (Choose two.)

- A. incorrect distribute lists have been configured
- B. missing ip classless command
- C. CEF not enabled
- D. no default metric configured for EIGRP

Correct Answer: AD

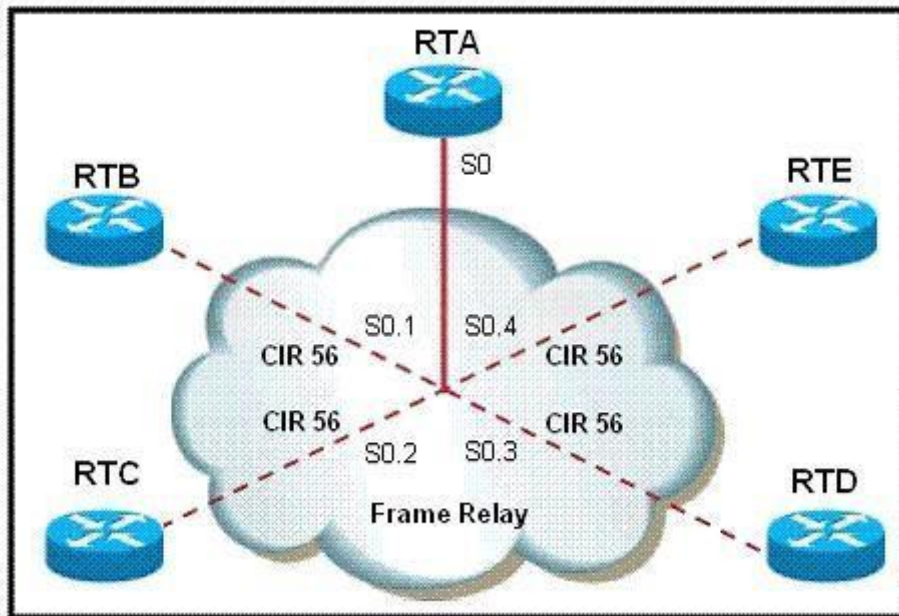
Section: Infrastructure Services

Explanation

Explanation/Reference:

QUESTION 144

You are a network technician, study the exhibit carefully.



What must be done on router A in order to make EIGRP work effectively in a Frame Relay multipoint environment?

- A. Issue the command bandwidth 56 on the physical interface.
- B. Issue the command bandwidth 56 on each subinterface.
- C. Issue the command bandwidth 224 on each subinterface.
- D. Issue the command bandwidth 224 on the physical interface.

Correct Answer: D

Section: Network Principles

Explanation

Explanation/Reference:

QUESTION 145

Based on the exhibited output, which three statements are true? (Choose three.)

```

R1#show ip route

Gateway of last resort is 10.1.1.2 to network 0.0.0.0

C    1.0.0.0/8 is directly connected, Loopback0
    172.17.0.0/24 is subnetted, 1 subnets
D    172.17.1.0 [90/25632000] via 10.1.1.2, 00:05:20, Serial0/0
    172.16.0.0/24 is subnetted, 1 subnets
D    172.16.1.0 [90/23072000] via 10.1.1.2, 00:05:20, Serial0/0
        [90/20640000] via 10.1.1.3, 00:00:13, Serial0/0
D    172.19.0.0/16 [90/391248640] via 10.1.1.3, 00:05:20, Serial0/0
D    172.22.0.0/16 [90/20640000] via 10.1.1.3, 00:05:21, Serial0/0
D EX 172.25.0.0/16 [170/32032000] via 10.1.1.2, 00:00:10, Serial0/0
    10.0.0.0/8 is variably subnetted, 3 subnets, 2 masks
D    10.2.0.0/16 is a summary, 00:06:18, Null0
C    10.2.1.0/24 is directly connected, FastEthernet0/0
C    10.1.1.0/24 is directly connected, Serial0/0
D*EX 0.0.0.0/0 [170/20514560] via 10.1.1.2, 00:00:11, Serial0/0
R1#

```

- A. R1 is configured with the variance command.
- B. The route to 10.2.0.0/16 was redistributed into EIGRP.
- C. A default route has been redistributed into the EIGRP autonomous system.
- D. R1 is configured with the ip summary-address command.
- E. The router at 10.1.1.2 is configured with the ip default-network 0.0.0.0 command.
- F. R1 is sourcing an external EIGRP route from Null0.

Correct Answer: ACD

Section: Network Principles

Explanation

Explanation/Reference:

QUESTION 146

Examine the exhibit carefully.

```
R1# show ip eigrp topology
<output omitted>
P 10.1.2.0/24, 1 successors, FD is 281600
   via Connected, FastEthernet0/0
A 10.6.1.0/24, 0 successors, FD is 3385160704, Q
   1 replies, active 00:00:41, query-origin: Local origin
   Remaining replies:
     via 10.1.2.1, r. FastEthernet0/0
```

EIGRP is configured on all routers in the network. What conclusion can be derived from the show ip eigrp topology output provided?

- A. Router R1 is waiting for a reply from the neighbor 10.1.2.1 to the hello message sent out inquiring for a second successor to network 10.6.1.0/24.
- B. Router R1 can send traffic destined for network 10.6.1.0/24 out of interface FastEthernet0/0.
- C. Router R1 is waiting for a reply from the neighbor 10.1.2.1 to the hello message sent out before it declares the neighbor unreachable.
- D. Router R1 is waiting for a reply from the neighbor 10.1.2.1 in response to the query sent out about network 10.6.1.0/24.

Correct Answer: D

Section: Network Principles

Explanation

Explanation/Reference:

QUESTION 147

Which three statements are true about EIGRP route summarization? (Choose three.)

- A. Manual route summarization is configured in router configuration mode when the router is configured for EIGRP routing.
- B. Manual route summarization is configured on the interface.
- C. When manual summarization is configured, the summary route will use the metric of the largest specific metric of the summary routes.
- D. The ip summary-address eigrp command generates a default route with an administrative distance of 90.
- E. The ip summary-address eigrp command generates a default route with an administrative distance of 5.
- F. When manual summarization is configured, the router immediately creates a route that points to null0 interface.

Correct Answer: BEF

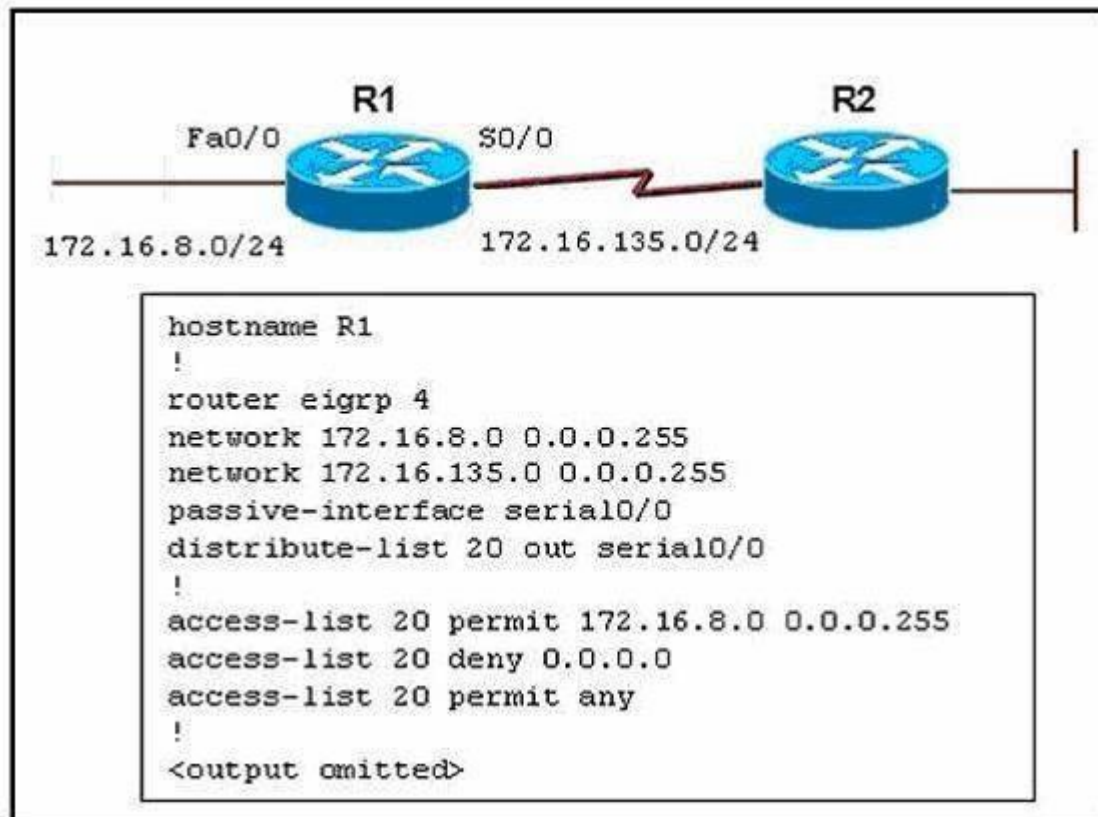
Section: Network Principles

Explanation

Explanation/Reference:

QUESTION 148

Refer to the exhibit.



Routers R1 and R2 are running EIGRP and have converged. On the basis of the information that is presented, which statement is true?

- A. All outgoing routing updates from router R1 to router R2 will be suppressed, but the inbound updates will continue to be received.
- B. All incoming routing updates from R2 will be suppressed, but the outgoing updates will continue to be sent.
- C. Both outgoing and incoming routing updates on R1 will be stopped because of the passive- interface Serial0/0 configuration statement.
- D. Both outgoing and incoming routing updates on R1 will be permitted because the distribute-list 20 out Serial0/0 command cannot be used with association with the outgoing interface.

Correct Answer: C

Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 149

What does the default value of the EIGRP variance command of 1 mean?

- A. Load balancing is disabled on this router.
- B. The router performs equal-cost load balancing.
- C. Only the path that is the feasible successor should be used.
- D. The router only performs equal-cost load balancing on all paths that have a metric greater than 1.

Correct Answer: B

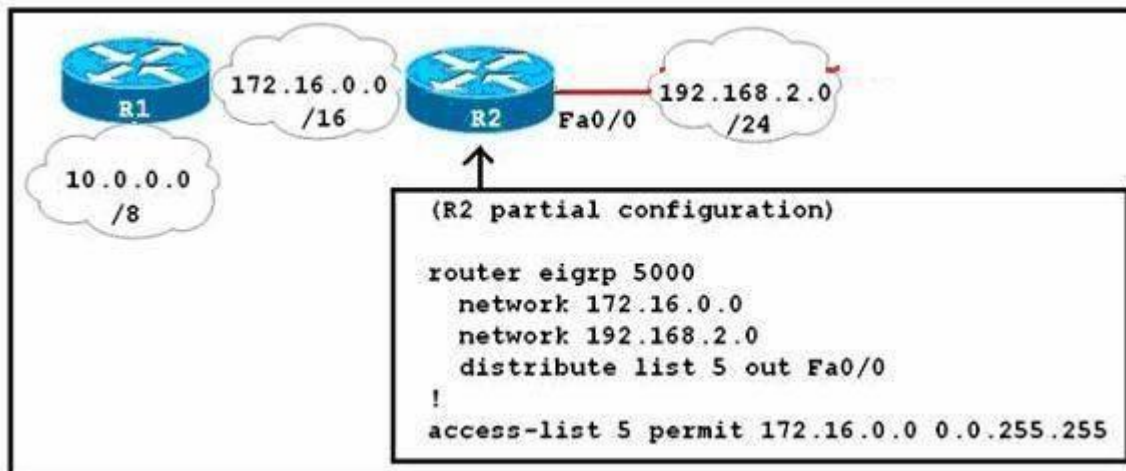
Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 150

Refer to the exhibit.



R1 and R2 have been configured to share routing information via EIGRP. What will be the result of the configuration section shown for R2?

- A. Any routes learned by R2 from the interface tied to the 172.16.0.0 network will not be advertised to neighbors on the 192.168.2.0 network.
- B. Only routes learned by R2 from the interface tied to the 172.16.0.0 network will be advertised to neighbors on the 192.168.2.0 network.
- C. Only the 172.16.0.0 network will be advertised to neighbors on the 192.168.2.0 network.
- D. All networks, except the 172.16.0.0 network will be advertised to neighbors on the 192.168.2.0 network.

Correct Answer: C

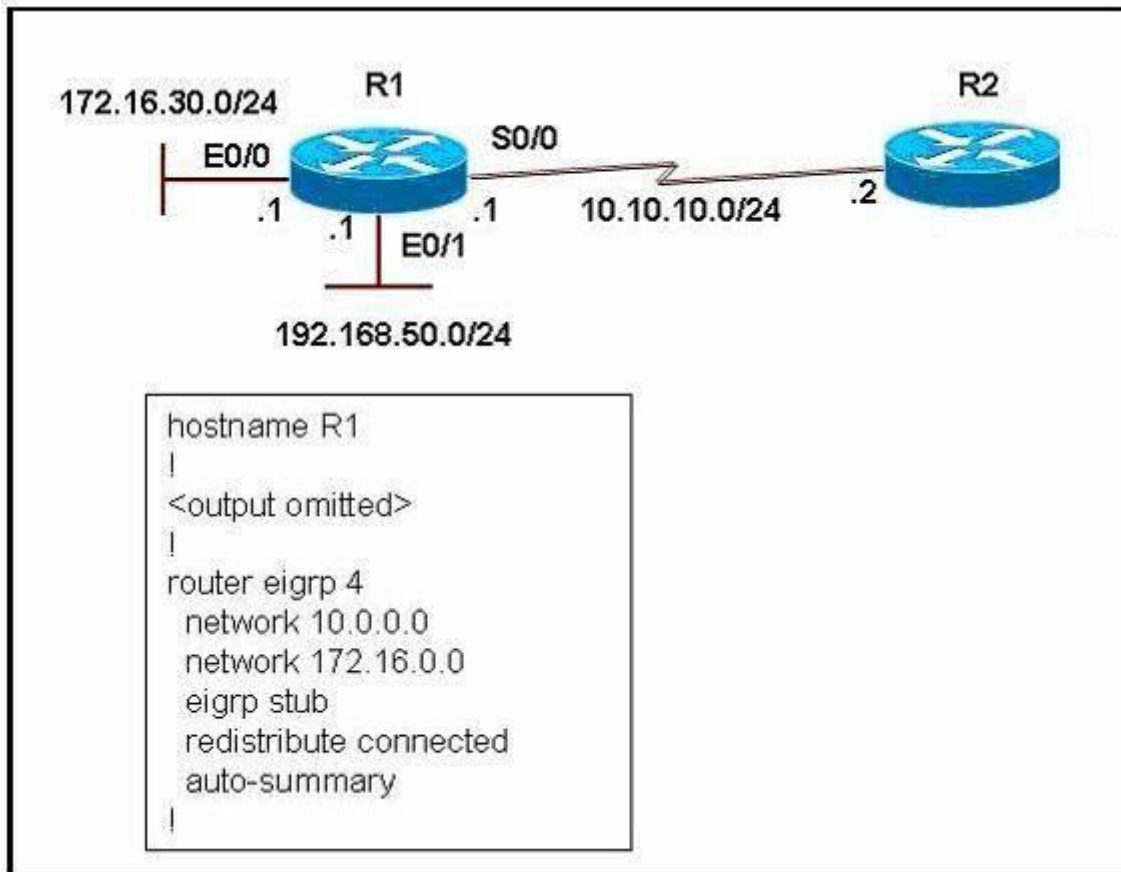
Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 151

Refer to the exhibit.



Which two statements are true? (Choose two.)

- A. The eigrp stub command prevents queries from being sent from R2 to R1.
- B. The eigrp stub command will automatically enable summarization of routes on R2.
- C. The eigrp stub command prevents all routes except a default route from being advertised to R1.
- D. Router R1 will advertise connected and summary routes only.
- E. Router R1 will advertise connected and static routes. The sending of summary routes will not be permitted.
- F. Router R1 is configured as a receive-only neighbor and will not send any connected, static or summary routes.

Correct Answer: AD

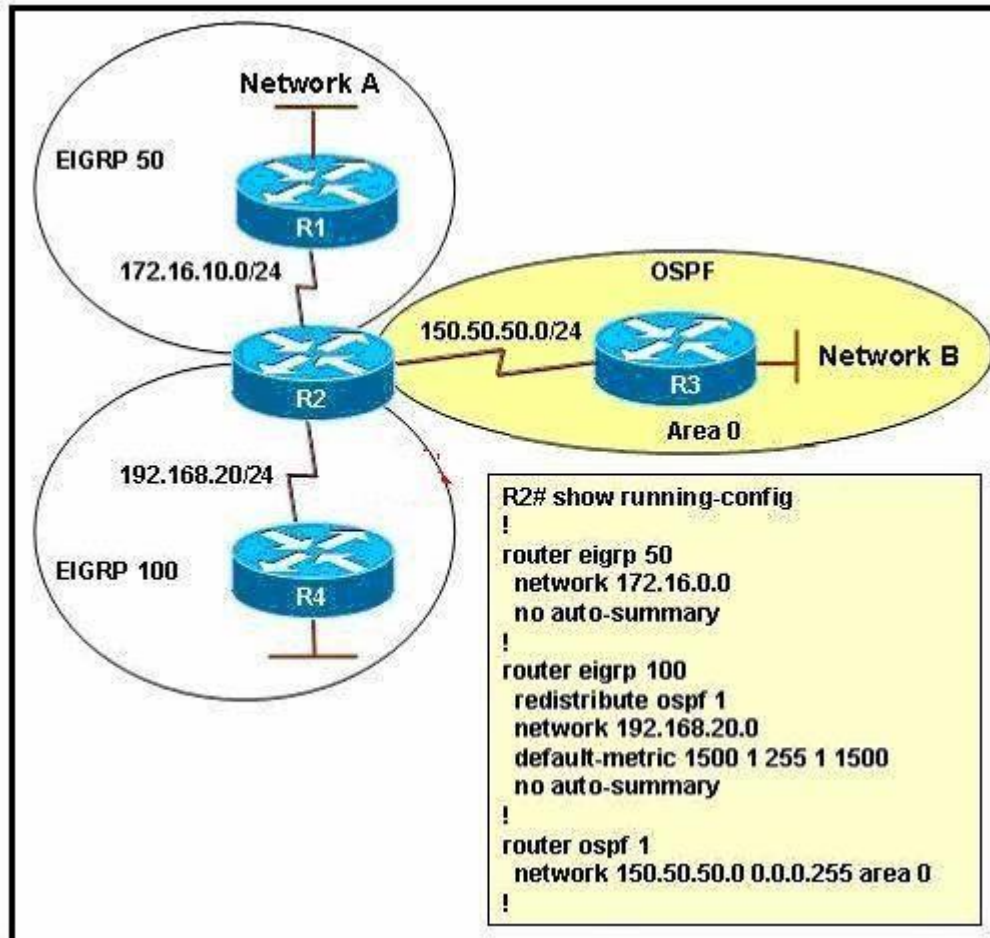
Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 152

Refer to the exhibit.



The routing protocols EIGRP and OSPF have been configured as indicated in the exhibit. Given the partial configuration of router R2, which network will be present in the routing table of R4?

- A. Network A
- B. Network B
- C. Network A and Network B
- D. neither Network A nor Network B

Correct Answer: B

Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 153

When an EIGRP topology change is detected, what is the correct order of events when there is a FS?

- A. The neighbor adjacency is deleted.
The feasible route is used.
DUAL is notified.
Remove all topology entries learned from that neighbor.
- B. DUAL is notified.
Remove all topology entries learned from that neighbor.
The neighbor adjacency is deleted.
Routes enter the Active state and the feasible route is used.
- C. The neighbor adjacency is deleted.
Routes enter the Active state and the feasible route is used.
DUAL is notified.
Remove all topology entries learned from that neighbor.
- D. DUAL is notified.
The neighbor adjacency is deleted.
Remove all topology entries learned from that neighbor.
The feasible route is used.

Correct Answer: D

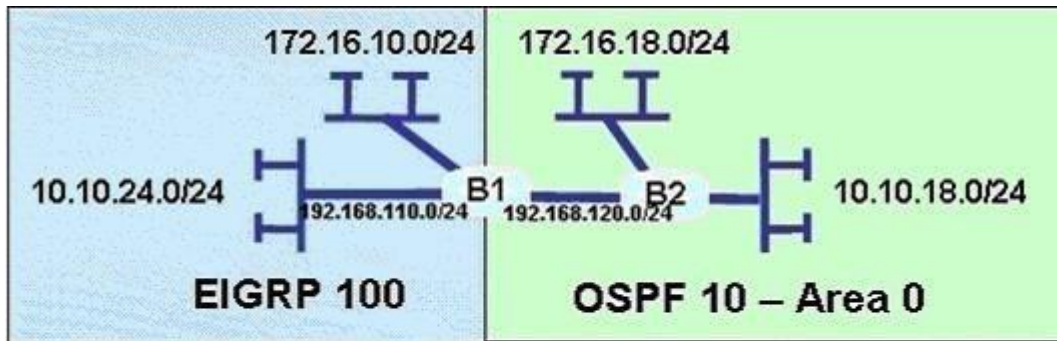
Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 154

Refer to the exhibit. The network administrator is trying to configure mutual redistribution between EIGRP and OSPF. Autosummarization in EIGRP 100 AS is disabled. After adding OSPF configuration to router B1, the network administrator checked the routing table of router B2, but none of the EIGRP routes appeared there. To redistribute the EIGRP AS 100 routes into OSPF, which command should be added, or edited, on router B1 under router ospf 10?



```
B2# show ip route
 10.0.0.0/24 is subnetted, 1 subnets
C    10.10.18.0 is directly connected, Ethernet1/0
 172.16.0.0/24 is subnetted, 1 subnets
C    172.16.18.0 is directly connected, FastEthernet0/1
C    192.168.20.0/24 is directly connected, FastEthernet0/0
```

- A. redistribute eigrp 100 metric-type 1
- B. redistribute eigrp 100 subnets
- C. no auto-summary 10.0.0.0 255.0.0.0
- D. area 0 range 10.10.0.0 255.255.0.0

Correct Answer: B
Section: VPN Technologies
Explanation

Explanation/Reference:

QUESTION 155

Which of the following are methods EIGRP uses to initially populate (seed) its EIGRP topology table, before learning topology data from neighbors?

(Choose two.)

- A. By adding all subnets listed by the show ip route connected command
- B. By adding the subnets of working interfaces over which static neighbors have been defined
- C. By adding subnets redistributed on the local router from another routing source
- D. By adding all subnets listed by the show ip route static command

Correct Answer: BC

Section: Layer 2 Technologies

Explanation

Explanation/Reference:

QUESTION 156

An engineer has added the following configuration snippet to an implementation planning document. The configuration will be added to Router R1, whose Fa0/0 interface connects to a LAN to which Routers R2 and R3 also connect. R2 and R3 are already EIGRP neighbors with each other. Assuming the snippet shows all commands on R1 related to EIGRP authentication, which answer lists an appropriate comment to be made during the implementation plan peer review?

```
key chain fred
key 3
key-string whehew
interface fa0/0
ip authentication key-chain eigrp 9 fred
```

- A. The configuration is missing one authentication-related configuration command.
- B. The configuration is missing two authentication-related configuration commands.
- C. Authentication type 9 is not supported; type 5 should be used instead.
- D. The key numbers must begin with key 1, so change the key 3 command to key 1.

Correct Answer: A

Section: Layer 3 Technologies

Explanation

Explanation/Reference:

QUESTION 157

Which of the following settings could prevent two potential EIGRP neighbors from becoming neighbors? (Choose two answers.)

- A. The interface used by one router to connect to the other router is passive in the EIGRP process.
- B. Duplicate EIGRP router IDs
- C. Mismatched Hold Timers.
- D. IP addresses of 10.1.1.1/24 and 10.2.2.2/24, respectively.

Correct Answer: AD

Section: Infrastructure Security

Explanation

Explanation/Reference:

QUESTION 158

Based on the need to limit processing and bandwidth utilization due to dynamic routing protocol operation, the following routing requirements have been specified for your network.

- Partial and incremental routing updates
- Only the devices affected by a topology change perform route recomputation
- Route recomputation only occurs for routes that were affected

Which dynamic routing protocol should be deployed in your network to best meet these requirements?

- A. BGP
- B. OSPF
- C. IS-IS
- D. EIGRP
- E. RIPv2

Correct Answer: D

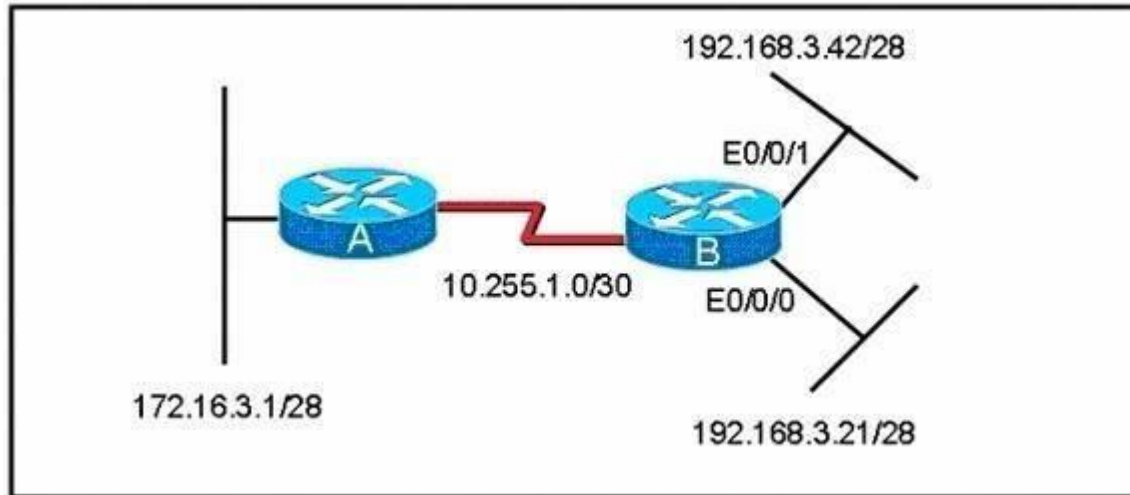
Section: Network Principles

Explanation

Explanation/Reference:

QUESTION 159

Refer to the exhibits. Router B should advertise the network connected to the E0/0/0 interface to router A and block all other network advertisements. The IP routing table on router A indicates that it is not receiving this prefix from router B. What is the probable cause of the problem?



```
RouterB#show ip eigrp neighbors
IP-EIGRP neighbors for process 1
H   Address                Interface    Hold Uptime   SRTT   RTO   Q   Seq Type
 0   10.255.1.1              Se0/0       138 00:15:26   16    582   0   3
RouterB#

RouterB#debug ip eigrp
IP-EIGRP Route Events debugging is on
02:17:54: IP-EIGRP: 192.168.3.16/28 - denied by distribute list
02:17:54: IP-EIGRP: 192.168.3.32/28 - denied by distribute list
02:17:54: IP-EIGRP: 192.168.3.0/30 - denied by distribute list
02:17:54: IP-EIGRP: 192.168.3.0/24 - denied by distribute list
02:17:54: IP-EIGRP: 10.0.0.0/8 - denied by distribute list
```

- A. An access list on router B is causing the 192.168.3.16/28 network to be denied.
- B. An access list on router B is causing the 192.168.3.32/28 network to be denied.
- C. The distribute list on router B is referencing a numbered access list that does not exist on router B.
- D. The distribute list on router B is referencing the wrong interface.

Correct Answer: A

Section: Network Principles

Explanation

Explanation/Reference:

QUESTION 160

Refer to the exhibit. Router B and router C are performing mutual redistribution between OSPF and EIGRP, and their default metrics are configured the same. Router D has equal cost paths to networks where both paths are not really equal cost. For example, network 172.16.54.0 shows equal cost through both router B and router C, though in reality the cost is greater using router C. Other routers, though not shown, are connected to the 172.16.54.0 and 172.16.55.0 networks, and the same issues exist to those routers and the networks connected to them. What can be done so that data will be routed along the most optimal path in the network?

- A. Redistribute connected interfaces on router B and router C.
- B. Set the maximum number of equal cost paths to 1 in all routers.
- C. When redistributing EIGRP into OSPF, set the external metric type to type E1.
- D. Adjust the default metrics in router B and router C so that the values are different in each router.
- E. None of these solutions will fix the problem. Migrate to a single dynamic routing protocol.

Correct Answer: E

Section: Network Principles

Explanation

Explanation/Reference:

QUESTION 161

Based on the exhibited output,

```
R1# show ip eigrp topology

IP-EIGRP Topology Table for process 200

Codes: P - Passive, A - Active, U - Update, Q - Query, R - Reply,
       r - Reply status

P 192.168.1.64/28 1 successors, FD is 281600
    via Connected, Ethernet
    P 192.168.1.48/28, 1 successors, FD is 40512000
        via Connected, Serial1
P 192.168.1.48/28, 1 successors, FD is 40537600
    via 192.168.1.66 (40537600/40512000), Ethernet0
    via 192.168.1.17 (41024000/40512000), Serial0
    via 192.168.1.33 (41024000/40512000), Serial1
P 192.168.1.16/28 1 successors, FD is 40512000
    via Connected, Serial0
```

Which three statements are true? (Choose three.)

- A. R1 is in AS 200.
- B. R1 will load balance between three paths to reach the 192.168.1.48/28 prefix because all three paths have the same advertised distance (AD) of 40512000.
- C. The best path for R1 to reach the 192.168.1.48/28 prefix is via 192.168.1.66.
- D. 40512000 is the advertised distance (AD) via 192.168.1.66 to reach the 192.168.1.48/28 prefix.
- E. All the routes are in the passive mode because these routes are in the hold-down state.
- F. All the routes are in the passive mode because R1 is in the query process for those routes.

Correct Answer: ACD

Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 162

Study the exhibit carefully.

```
R1#show running-config
<Output omitted>
!
router eigrp 100
 network 172.16.0.0
 distribute-list prefix TEST out
 auto-summary
 no eigrp log-neighbor-changes
!
ip prefix-list TEST seq 5 permit 172.16.1.0/26
!
<Output omitted>
```

Router R1 is connected to networks 172.16.1.0 /26 and 172.16.1.64 /27. Based on the partial output in the exhibit, which description is correct?

- A. Router R1 should be reconfigured with an ACL instead of an ip prefix-list command.
- B. Router R1 will advertise both routes.
- C. Router R1 will deny the 172.16.1.0/27 route while permitting the 172.16.1.0/26 route to be advertised.
- D. Router R1 will deny the 172.16.1.0/26 route while permitting the 172.16.1.64/27 route to be advertised.

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 163

Refer to the exhibit.

Core 1#show ip eigrp topology all-links

ip EIGRP Topology table for AS(65001) / ID (172.17.10.0)

Codes: P - P Passive, A - Active, U - Update, Q - Query,
R - Reply, r - reply, s - sales

P 172.17.3.128/25, 2 successors, FD is 30720, semo 9
via 172.17.10.2 (30720/28160), FastEthernet0/1

via 172.17.10.2 (30720/28160), FastEthernet0/3

P 10.140.0.0/24, 1 successors, FD is 28160, semo 16

via 172.17.3.2 (156160/128256), FastEthernet0/3

via 172.17.10.2 (157720/155160), FastEthernet0/1

P 172.17.10.0/24, 1 successors, FD is 28160, semo1

via Connected, FastEthernet0/1

P 172.17.0.0/30, 1 successors, FD is 20514560, semo 15

via 172.17.1.1 (20514560/205122000), FastEthernet0/2

via 172.17.10.2 (20516120/20513560), FastEthernet0/1

P 172.17.1.0/24, 1 successors, FD is 28160, semo2

via Connected, FastEthernet0/2

P 172.17.2.0/24, 1 successors, FD is 30720, semo 8

via 172.17.10.2 (30720/28160), FastEthernet0/1

via 172.17.3.2 (33280/30720), FastEthernet0/3

P 172.17.3.0/25, 1 successors, FD is 28160, semo 3

via Connected, FastEthernet0/3

Core 1#

BigBids Incorporated is a worldwide auction provider. The network uses EIGRP as its routing protocol throughout the corporation. The network administrator does not understand the convergence of EIGRP. Using the output of the show ip eigrp topology all-links command, answer the administrator's question.

Which two networks does the Core1 device have feasible successors for? (Choose two)

A. 172.17.0.0/30

B. 172.17.1.0/24

- C. 172.17.2.0/24
- D. 172.17.3.0/25
- E. 172.17.3.128/25
- F. 10.140.0.0/24

Correct Answer: AF

Section: (none)

Explanation

Explanation/Reference:

QUESTION 164

Refer to the exhibit.

Core 1#show ip eigrp topology all-links

ip EIGRP Topology table for AS(65001) / ID (172.17.10.0)

Codes: P - P Passive, A - Active, U - Update, Q - Query,
R - Reply, r - reply, s - sales

P 172.17.3.128/25, 2 successors, FD is 30720, semo 9
via 172.17.10.2 (30720/28160), FastEthernet0/1

via 172.17.10.2 (30720/28160), FastEthernet0/3

P 10.140.0.0/24, 1 successors, FD is 28160, semo 16

via 172.17.3.2 (156160/128256), FastEthernet0/3

via 172.17.10.2 (157720/155160), FastEthernet0/1

P 172.17.10.0/24, 1 successors, FD is 28160, semo1

via Connected, FastEthernet0/1

P 172.17.0.0/30, 1 successors, FD is 20514560, semo 15

via 172.17.1.1 (20514560/205122000), FastEthernet0/2

via 172.17.10.2 (20516120/20513560), FastEthernet0/1

P 172.17.1.0/24, 1 successors, FD is 28160, semo2

via Connected, FastEthernet0/2

P 172.17.2.0/24, 1 successors, FD is 30720, semo 8

via 172.17.10.2 (30720/28160), FastEthernet0/1

via 172.17.3.2 (33280/30720), FastEthernet0/3

P 172.17.3.0/25, 1 successors, FD is 28160, semo 3

via Connected, FastEthernet0/3

Core 1#

BigBids Incorporated is a worldwide auction provider. The network uses EIGRP as its routing protocol throughout the corporation. The network administrator does not understand the convergence of EIGRP. Using the output of the show ip eigrp topology all-links command, answer the administrator's question.

Which three EIGRP routes will be installed for the 172.17.3.128/25 and 172.17.2.0/24 networks? (Choose three)

- A. 172.17.3.128/25 [90/28160] via 172.17.1.2, 01:26:35, FastEthernet0/2
- B. 172.17.3.128/25 [90/30720] via 172.17.3.2, 01:26:35, FastEthernet0/3

- C. 172.17.3.128/25 [90/30720] via 172.17.10.2, 01:26:35. FastEthernet0/1
- D. 172.17.2.0/24 [90/30720] via 172.17.10.2, 02:10:11, FastEthernet0/1
- E. 172.17.2.0/24 [90/28160] via 172.17.10.2, 02:10:11. FastEthernet0/1
- F. 172.17.2.0/24 [90/33280] via 172.17.3.2, 02:10:11. FastEthernet0/3

Correct Answer: BCD

Section: Infrastructure Services

Explanation

Explanation/Reference:

QUESTION 165

Refer to the exhibit.

Core 1#show ip eigrp topology all-links

ip EIGRP Topology table for AS(65001) / ID (172.17.10.0)

Codes: P - P Passive, A - Active, U - Update, Q - Query,
R - Reply, r - reply, s - sales

P 172.17.3.128/25, 2 successors, FD is 30720, semo 9
via 172.17.10.2 (30720/28160), FastEthernet0/1

via 172.17.10.2 (30720/28160), FastEthernet0/3

P 10.140.0.0/24, 1 successors, FD is 28160, semo 16

via 172.17.3.2 (156160/128256), FastEthernet0/3

via 172.17.10.2 (157720/155160), FastEthernet0/1

P 172.17.10.0/24, 1 successors, FD is 28160, semo1

via Connected, FastEthernet0/1

P 172.17.0.0/30, 1 successors, FD is 20514560, semo 15

via 172.17.1.1 (20514560/205122000), FastEthernet0/2

via 172.17.10.2 (20516120/20513560), FastEthernet0/1

P 172.17.1.0/24, 1 successors, FD is 28160, semo2

via Connected, FastEthernet0/2

P 172.17.2.0/24, 1 successors, FD is 30720, semo 8

via 172.17.10.2 (30720/28160), FastEthernet0/1

via 172.17.3.2 (33280/30720), FastEthernet0/3

P 172.17.3.0/25, 1 successors, FD is 28160, semo 3

via Connected, FastEthernet0/3

Core 1#

BigBids Incorporated is a worldwide auction provider. The network uses EIGRP as its routing protocol throughout the corporation. The network administrator does not understand the convergence of EIGRP. Using the output of the show ip eigrp topology all-links command, answer the administrator's question.

Which three networks is the router at 172.17.10.2 directly connected to? (Choose three)

A. 172.17.0.0/30

B. 172.17.1.0/24

- C. 172.17.2.0/24
- D. 172.17.3.0/25
- E. 172.17.3.128/25
- F. 172.17.10.0/24

Correct Answer: CEF

Section: Infrastructure Services

Explanation

Explanation/Reference:

QUESTION 166

Which two statements are true about EIGRP manual summarization? (Choose two.)

- A. Manual summarization is configured on a per interface basis.
- B. Manual summaries can be configured with the classful mask only.
- C. When manual summarization is configured, autosummarization is automatically disabled by default.
- D. The summary address is assigned an administrative distance of 10 by default.
- E. The summary address is entered into the routing table and is shown to be sourced from the Null0 interface.

Correct Answer: AE

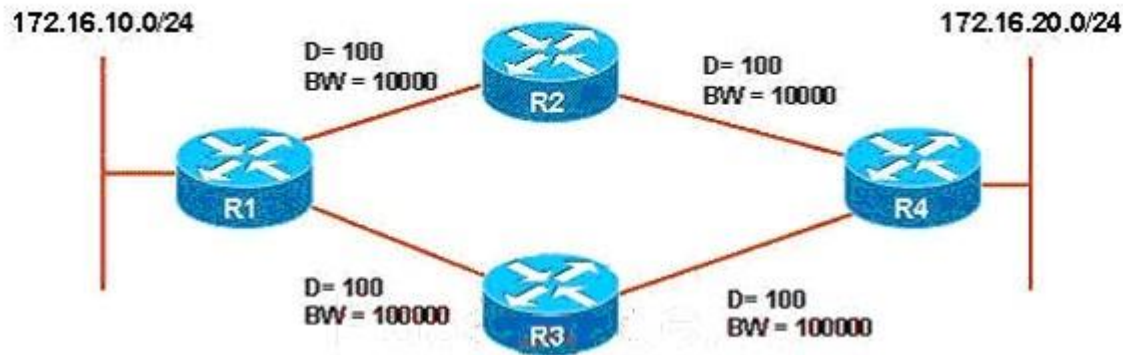
Section: Infrastructure Services

Explanation

Explanation/Reference:

QUESTION 167

Refer to the exhibit.



Implementation Plan

1. Establish a traffic throughput baseline.
2. Configure variance on R1 and R4.
3. Use traceroute to validate load balancing has been activated.
4. Establish a new traffic throughput baseline.
5. Compare the new and old baselines and verify that load balancing is implemented as desired.

ROUTE.com is planning to implement EIGRP load balancing for traffic between hosts on the 172.16.10.0/24 and 172.16.20.0/24 networks. You have been asked to review the implementation plan for this project. Which statement about the plan is true?

- A. It is complete as written.
- B. It should include a task to configure multipath to equal a value of 2 on R1 and R4.
- C. It should use a ping instead of a traceroute to validate that load balancing has been activated.
- D. It should contain a task that documents the changes made to the configurations.

Correct Answer: A

Section: Network Principles

Explanation

Explanation/Reference:

QUESTION 168

A network administrator is managing a hub-and-spoke network with EIGRP routing that has been enabled. The hub router is trying to query a remote router. However, delays are occurring that are caused by certain paths being stuck in active (SIA). How should the administrator configure EIGRP in order to limit the scope of the query range and prevent SIA from occurring?

- A. Configure the hub router with a scope limit of 1.
- B. Configure the remote router with a scope limit of 1.
- C. Configure the hub to indicate that the remote router is a stub router.
- D. Configure the hub and remote router as stub routers.
- E. Configure the remote router as a stub router.
- F. Disable the SIA feature of EIGRP on the remote router.

Correct Answer: E

Section: Network Principles

Explanation

Explanation/Reference:

QUESTION 169

What administrative distance is given to EIGRP summary routes?

- A. 0
- B. 1
- C. 5
- D. 90
- E. 95
- F. 170

Correct Answer: C

Section: Network Principles

Explanation

Explanation/Reference:

QUESTION 170

What are two possible causes for EIGRP Stuck-In-Active routers? (Choose Two)

- A. Some query or reply packets are lost between the routers.
- B. The neighboring router starts receiving route updates from this router.
- C. A failure causes traffic on a link between two neighboring routers to flow in only one direction (unidirectional link).
- D. The neighboring router stops receiving ACK packets from this router.

Correct Answer: AC

Section: Network Principles

Explanation

Explanation/Reference:

QUESTION 171

When configuring EIGRP to run across a 56 Kbps serial PPP link, what command do you need to put under the serial interface ensure proper convergence of EIGRP routes?

- A. bandwidth 56
- B. bandwidth 56000
- C. ip bandwidth-percent eigrp 1 56
- D. ip bandwidth-percent eigrp 1 56000

Correct Answer: A

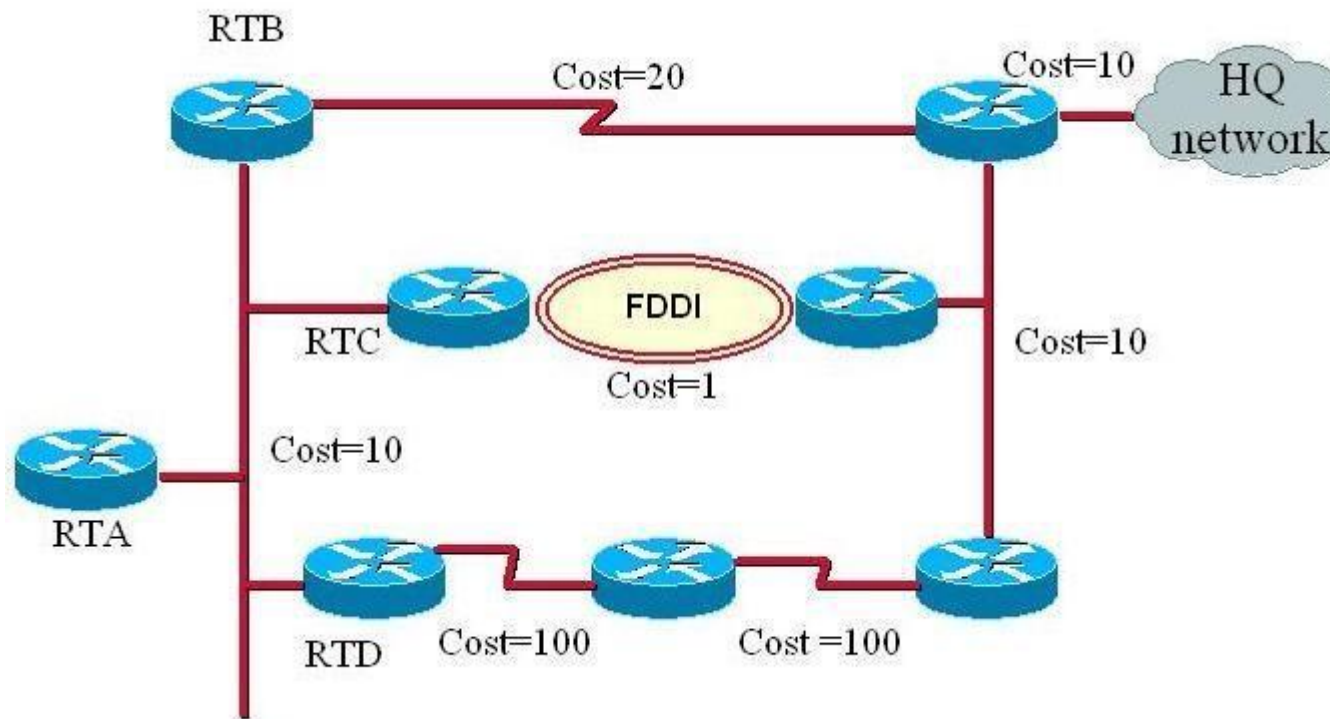
Section: VPN Technologies

Explanation

Explanation/Reference:

QUESTION 172

Refer to the Exhibit.



Routers in the Diagram are configured with EIGRP. If RTB and RTC fail, which action will RTA take with respect to the HQ network?

- A. RTA will automatically route packets via RTD to the HQ network.
- B. RTA will place the route via RTD into the hold down state.
- C. RTA will go into the active state for all routers.
- D. RTA will go into the active state for the route to HQ network.

Correct Answer: D

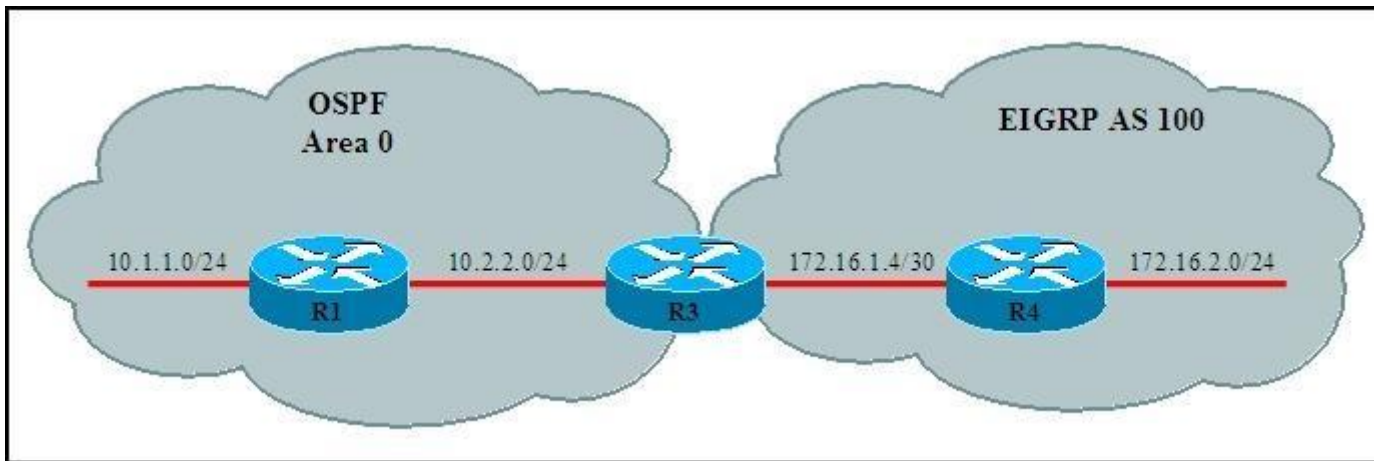
Section: Infrastructure Services

Explanation

Explanation/Reference:

QUESTION 173

Exhibit:



Refer to the topology diagram R3 is redistributing the EIGRP routers into OSPF. What will the EIGRP routes appear in the routing table of R1?

- A. O
- B. O IA
- C. E2
- D. D
- E. D EX

Correct Answer: C

Section: Infrastructure Services

Explanation

Explanation/Reference:

QUESTION 174

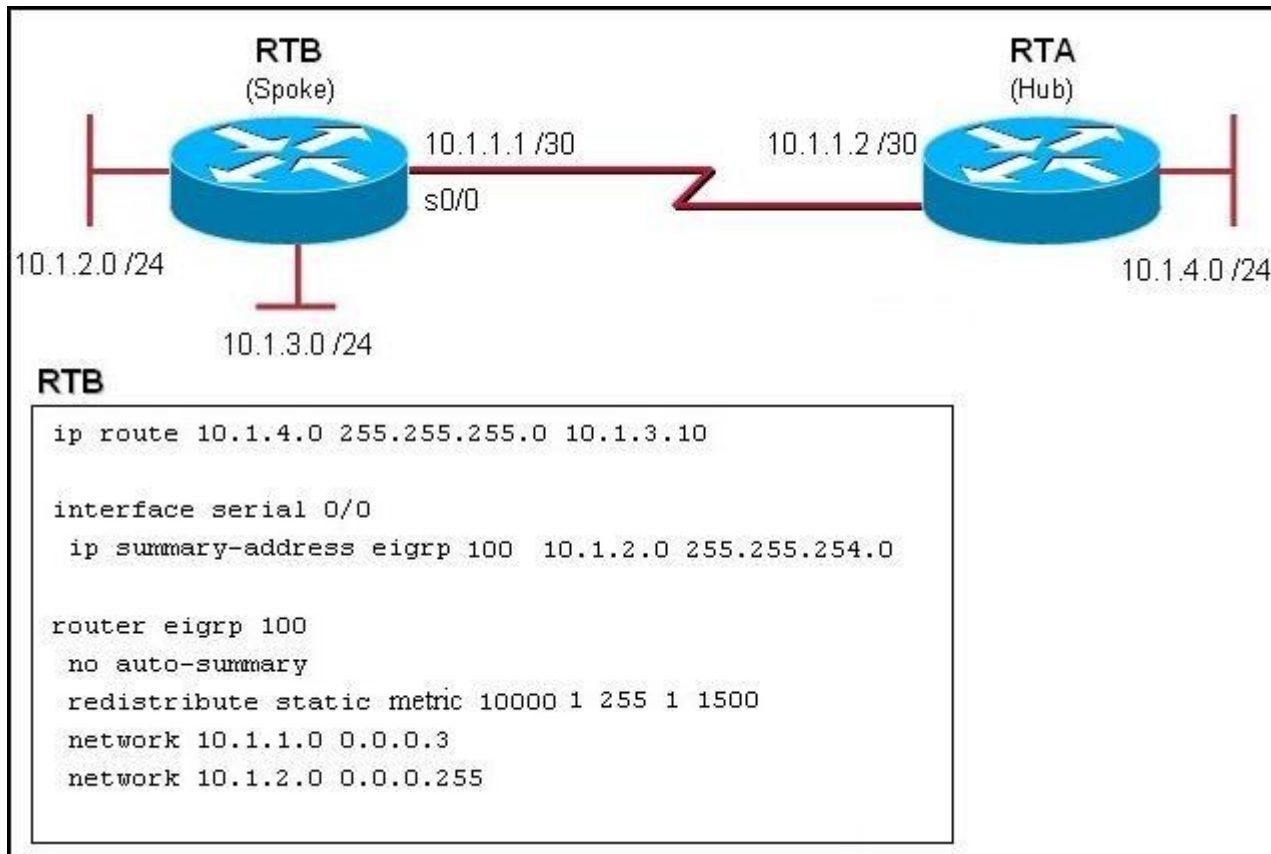
In EIGRP, when the IP default-network command is configured on a router, what is generated in the router's configuration?

- A. A static route
- B. A directly connected route
- C. An EIGRP route
- D. A default route

Correct Answer: A
Section: Infrastructure Services
Explanation

Explanation/Reference:

QUESTION 175
Refer to the exhibit.



Which router configuration command can be given that will restrict router RTB from sharing its routing information with router RTA?

A. the eigrp stub command on router RTA

- B. the eigrp stub command on router RTB
- C. the eigrp stub connected command on router RTA
- D. the eigrp stub connected command on router RTB
- E. the eigrp stub receive-only command on router RTA
- F. the eigrp stub receive-only command on router RTB

Correct Answer: F

Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 176

The following command was issued on R2

```
R2#sho ip rou
<output omitted>
C    10.1.1.0 is directly connected, FastEthernet0/0
D    172.16.0.0/16 [90/156160] via 10.1.1.1, 00:07:48, FastEthernet0/0
D EX 192.168.1.0/24 [170/1308160] via 10.1.1.1, 00:00:11, FastEthernet0/0
```

Given the above output, which statement is true?

- A. 192.168.1.0 is a static route.
- B. 192.168.1.0 is a summarized route.
- C. 192.168.1.0 is a redistributed route into EIGRP.
- D. 192.168.1.0 is equal path load balancing with 172.16.1.0.

Correct Answer: C

Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 177

Which two types of routes will be advertised with the EIGRP configuration as shown? (Choose two.)

```
router eigrp 100
network 10.0.0.0
eigrp stub
```

- A. static
- B. receive-only
- C. summary
- D. stub
- E. connected
- F. dynamic

Correct Answer: CE

Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 178

Refer to the exhibit.

Router# **show ip route**

...

```
C    10.1.3.0/24 is directly connected, Serial2
D    10.1.2.0/24 [90/10537472] via 10.1.1.2, 00:23:24, Serial1
D    10.0.0.0/8 is a summary, 00:23:20, Null0
C    10.1.1.0/24 is directly connected, Serial1
S    192.168.20.0/24 is directly connected, Ethernet0
```

What happens when the router stops receiving advertisements for the 10.1.2.0/24 network?

- A. The summary route will be removed from the table.
- B. The summary route will remain in the table.
- C. The more specific routes will be advertised from the table.

D. 10.1.2.0/24 will still be advertised but packets destined for it will be dropped when they reach this router.

Correct Answer: B

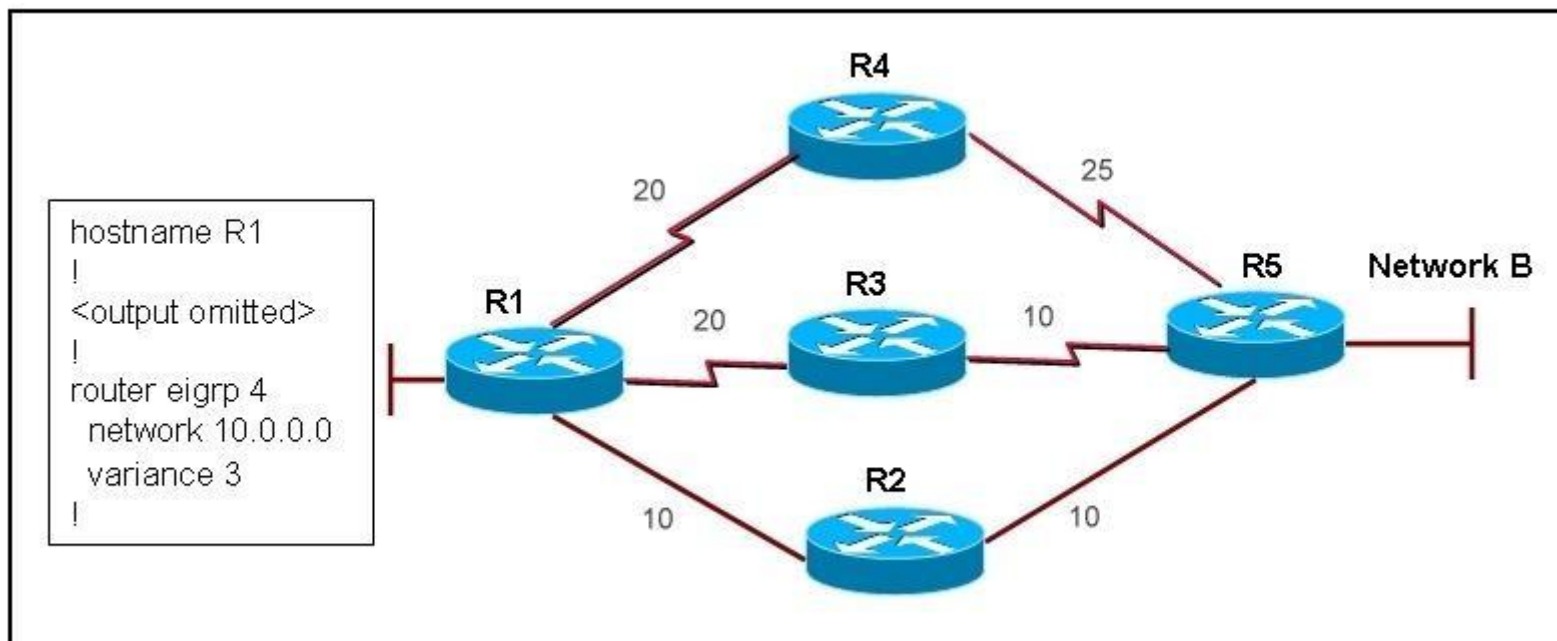
Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 179

Refer to the exhibit.



On all routers in the network, EIGRP has been configured for load balancing across the three links. However, traffic destined for Network B from R1 is only load balanced over paths R1- R2-R5 and R1-R3-R5. What is the cause of the problem?

- A. EIGRP will not select more than two links for unequal cost path load balancing.
- B. Because the path has a different link type, EIGRP will not select path R1-R4-R5 for load balancing.
- C. Because Router R4 is not a feasible successor, EIGRP will not select path R1-R4-R5 for load balancing.
- D. EIGRP will not select path R1-R4-R5 for load balancing unless the value of the variance parameter is increased.

Correct Answer: C

Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 180

Identify three characteristics of EIGRP feasible successors? (Choose three.)

- A. A feasible successor is selected by comparing the advertised distance of a non-successor route to the feasible distance of the best route.
- B. If the advertised distance of the non-successor route is less than the feasible distance of best route, then that route is identified as a feasible successor.
- C. If the successor becomes unavailable, then the feasible successor can be used immediately without recalculating for a lost route.
- D. The feasible successor can be found in the routing table.
- E. Traffic will be load balanced between feasible successors with the same advertised distance.

Correct Answer: ABC

Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 181

Which are three features of EIGRP? (Choose three)

- A. Support VLSM and discontiguous subnets
- B. Link-state protocol
- C. Partial routing updates
- D. External Administrative distance is 100
- E. Fast convergence.
- F. Used by other vendors than Cisco

Correct Answer: ACE

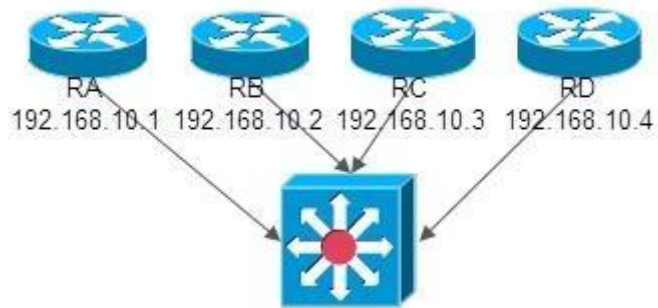
Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 182

Refer to exhibit.



RouterA (DR) failed, and after 10 minutes it came back. Which two statements are true? (Choose two)

- A. RouterA is a DR
- B. RouterA is a BDR
- C. RouterA is a DROTHER
- D. RouterB is a DR
- E. RouterB is a BDR
- F. RouterC is a DROTHER

Correct Answer: CD

Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 183

Which of the below mentioned conditions form a neighbor relation in EIGRP? (Choose Three)

- A. Hello or ACK received
- B. AS number match
- C. Hello timer match
- D. Identical metric(k values)

- E. Dead Timer Match
- F. Network Time Match

Correct Answer: ABD

Section: Mixed Questions

Explanation

Explanation/Reference:

QUESTION 184

Refer to exhibit.

```
R1#show ip eigrp topology all-links
ip-eigrp topology table for AS(1)/ID(192.168.1.0)
codes: P-Passive , A-Active , U-Update , Q-Query,R-Reply,r-reply status,s-sia status
P 192.168.1.0/24, 1 successors,FD is 21152000,sermo 4
    via summary (21152000/0),Null 0.
    via 172.16.3.2(41024000/30118400) seria 0/0/0
P 192.168.1.4/30, 1 successors ,FD is 21152000,sermo 2 via connected,serial 0/0/1
P 192.168.1.0/24, 1 successors,FD is 2297856,sermo 6
    via 198.18.10.6 (2297856/39260),s0/0/1
    via 172.16.3.2 (41026560/3128695) , serial 0/0/0
P 192.168.1.8/30,1 successors,FD is 3523840,sermo2
    via 192.168.1.6 (3523840/3011840),serial 0/0/1
```

The exhibit shows R1 topology table to reach 192.168.1.0/24 network. Which route(s) will be installed in routing table of R1 to reach network 192.168.1.0/24 after configuring R1 with the following command?

Router(config-router)# variance 2

- A. R2 only
- B. R2 and R3
- C. R2 and R4
- D. R2, R3 and R4

Correct Answer: A

Section: Infrastructure Services

Explanation

Explanation/Reference:

QUESTION 185

Refer to the following.

Router # sh ip route eigrp

13.0.0.0/8 is variably subnetted, 2 subnets, 2 masks

D 13.0.0.0/8 is a summary, 00:00:32, Null0

What happens to packets that are forwarded from the 13.0.0.0/8 network to the Null0 interface?

- A. Flagged
- B. Accepted
- C. Summarized
- D. Dropped

Correct Answer: D

Section: Infrastructure Security

Explanation

Explanation/Reference:

QUESTION 186

In which state do DR and BDR establish adjacency with each OSPF router in the network?

- A. Init State
- B. Exstart State
- C. Exchange State
- D. Loading State

Correct Answer: A

Section: Infrastructure Services

Explanation

Explanation/Reference:

QUESTION 187

A stub area is typically created using what kind of topology?

- A. Broadcast
- B. Point-to-point
- C. Hub and spoke
- D. Full Mesh

Correct Answer: C

Section: Network Principles

Explanation

Explanation/Reference:

QUESTION 188

A network administrator is troubleshooting an EIGRP connection between RouterA, IP address 10.1.2.1, and RouterB, IP address 10.1.2.2.

```
RouterA# debug eigrp packets
...
01:39:13: EIGRP: Received HELLO on Serial0/0 nbr 10.1.2.2
01:39:13: AS 100, Flags 0x0, Seq 0/0 idbQ 0/0 iadbQ un/rely 0/0 peerQ un/rely 0/0
01:39:13:      K-value mismatch
```

Given the debug output on RouterA, which two statements are true?

- A. RouterA received a hello packet with mismatched autonomous system numbers.
- B. RouterA received a hello packet with mismatched hello timers.
- C. RouterA received a hello packet with mismatched authentication parameters.
- D. RouterA received a hello packet with mismatched metric-calculation mechanisms.
- E. RouterA will form an adjacency with RouterB.
- F. RouterA will not form an adjacency with RouterB.

Correct Answer: DF

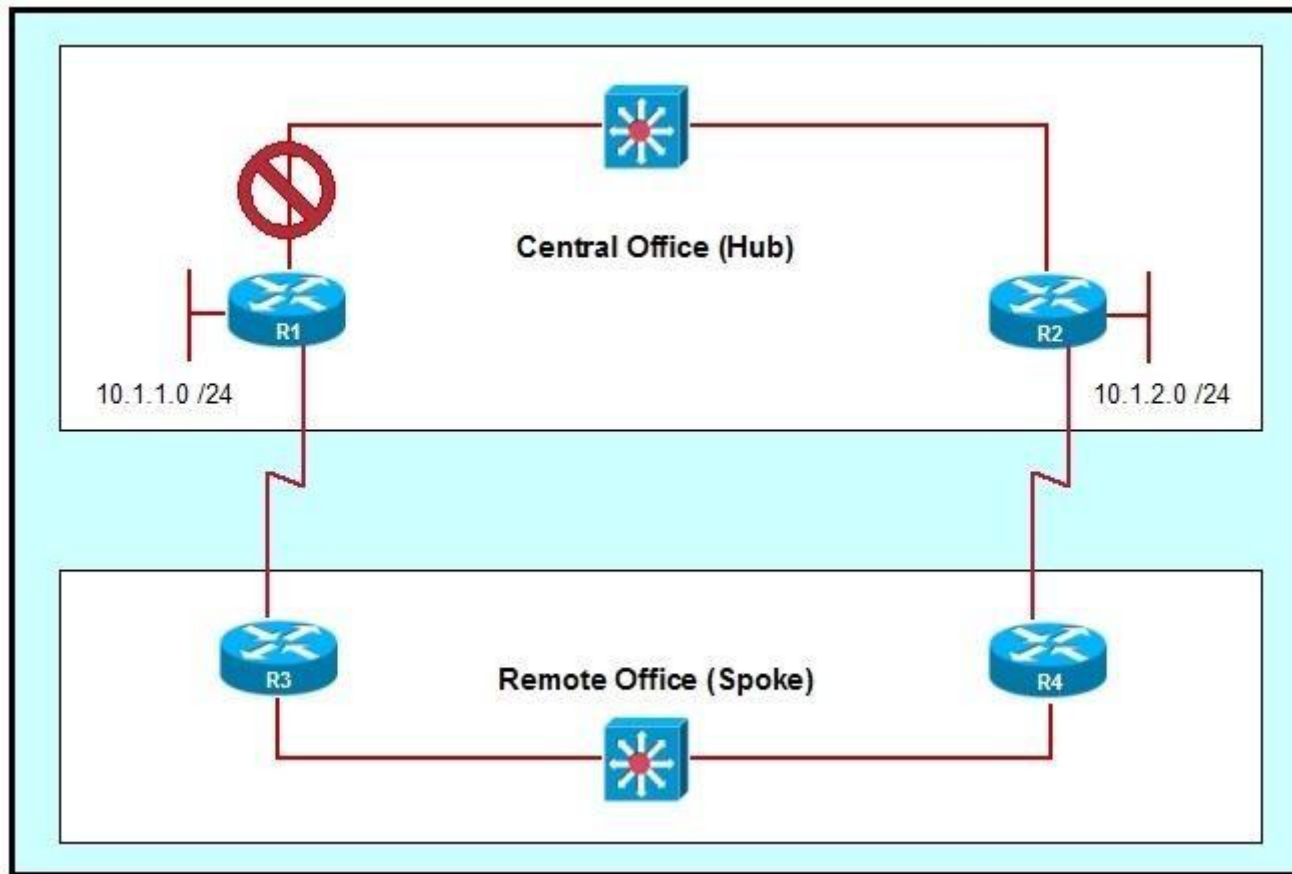
Section: Network Principles

Explanation

Explanation/Reference:

QUESTION 189

Refer to the exhibit.



Network administrators have set up a hub and spoke topology with redundant connections using EIGRP. However, they are concerned that a network outage between Router R1 and Router R2 will cause traffic from the 10.1.1.x network to the 10.1.2.x network to traverse the remote office links and overwhelm them. What command should be used to configure the spoke routers as EIGRP stub routers that will not advertise connected networks, static routes, or summary addresses?

- A. `eigrp stub`
- B. `eigrp stub receive-only`

- C. eigrp stub connected static
- D. no eigrp stub connected static
- E. No additional command is needed beyond a default EIGRP configuration.

Correct Answer: B

Section: Network Principles

Explanation

Explanation/Reference:

QUESTION 190

Which configuration command is used to enable EIGRP unequal-cost path load balancing?

- A. maximum-paths
- B. distance
- C. metric
- D. variance
- E. default-metric

Correct Answer: D

Section: Network Principles

Explanation

Explanation/Reference:

QUESTION 191

If the primary path goes down, what will EIGRP use to reach a destination?

- A. administrative distance
- B. advertised successor
- C. successor
- D. feasible successor

Correct Answer: D

Section: Network Principles

Explanation

Explanation/Reference:

