

**Cisco 200-101**



**Interconnecting Cisco Networking Devices Part 2**

**Version: 11.1**

## Topic 1, LAN Switching Technologies

### QUESTION NO: 1

Refer to the exhibit.

```
Switch# show spanning-tree vlan 1
VLAN0001
Spanning tree enabled protocol rstp
Root ID    Priority    20481
           Address    0008.217a.5800
           Cost      38
           Port      1 (FastEthernet0/1)
           Hello Time 2 sec  Max Age 20 sec  Forward Delay 15 sec

Bridge ID  Priority    32769 (priority 32768 sys-id-ext 1)
           Address    0008.205e.6600
           Hello Time 2 sec  Max Age 20 sec  Forward Delay 15 sec
           Aging Time 300

Interface      Role Sts Cost      Prio.Mbr Type
-----
Fa0/1          Root FWD 19        128.1   P2p
Fa0/4          Desg FWD 38        128.1   P2p
Fa0/11         Altn BLK 57        128.1   P2p
Fa0/13         Desg FWD 38        128.1   P2p
```

Why has this switch not been elected the root bridge for VLAN1?

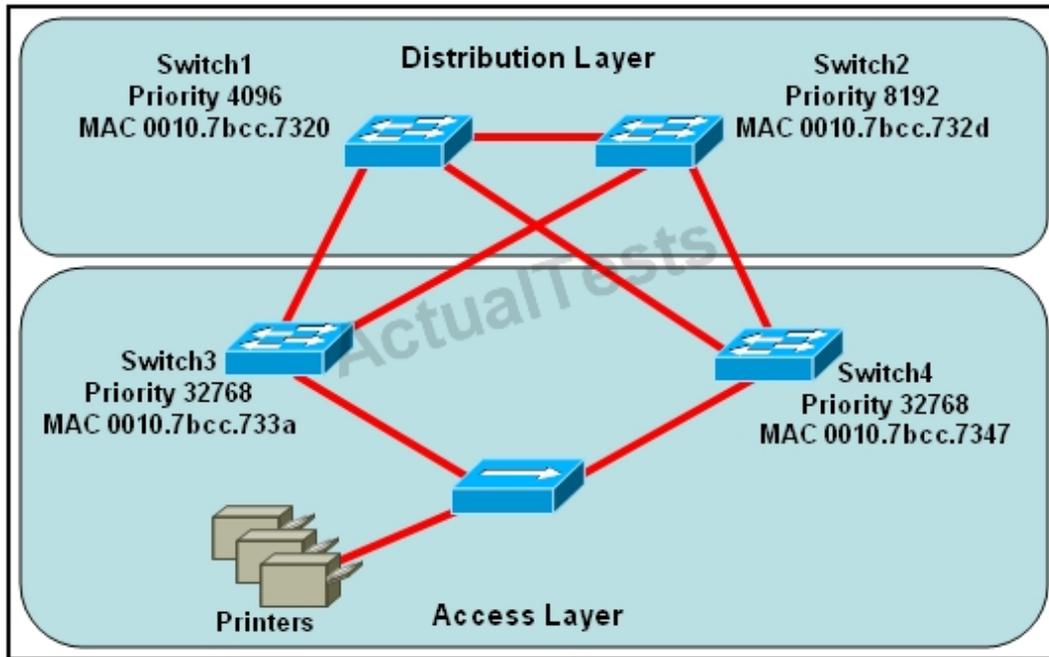
- A. It has more than one interface that is connected to the root network segment.
- B. It is running RSTP while the elected root bridge is running 802.1d spanning tree.
- C. It has a higher MAC address than the elected root bridge.
- D. It has a higher bridge ID than the elected root bridge.

**Answer: D**

**Explanation:**

### QUESTION NO: 2

Refer to the exhibit



Which switch provides the spanning-tree designated port role for the network segment that services the printers?

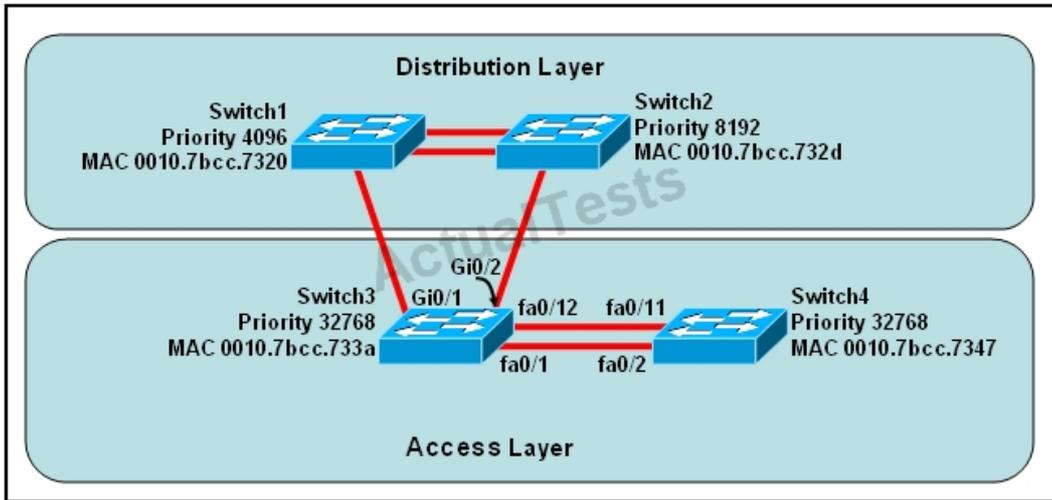
- A. Switch1
- B. Switch2
- C. Switch3
- D. Switch4

**Answer: C**

**Explanation:**

### QUESTION NO: 3

Refer to the exhibit.



At the end of an RSTP election process, which access layer switch port will assume the discarding role?

- A. Switch3, port fa0/1
- B. Switch3, port fa0/12
- C. Switch4, port fa0/11
- D. Switch4, port fa0/2
- E. Switch3, port Gi0/1
- F. Switch3, port Gi0/2

**Answer: C**

**Explanation:**

#### QUESTION NO: 4

Refer to the exhibit.

```
Switch# show spanning-tree interface fastethernet0/10
Vlan      Role Sts Cost      Prio.Mbr Type
-----
VLAN0001  Root FWD 19        128.1   P2p
VLAN0002  Altn BLK 19        128.2   P2p
VLAN0003  Root FWD 19        128.2   P2p
```

Given the output shown from this Cisco Catalyst 2950, what is the reason that interface FastEthernet 0/10 is not the root port for VLAN 2?

- A. This switch has more than one interface connected to the root network segment in VLAN 2.
- B. This switch is running RSTP while the elected designated switch is running 802.1d Spanning Tree.
- C. This switch interface has a higher path cost to the root bridge than another in the topology.
- D. This switch has a lower bridge ID for VLAN 2 than the elected designated switch.

**Answer: C**

**Explanation:**

**QUESTION NO: 5**

Which two of these statements regarding RSTP are correct? (Choose two.)

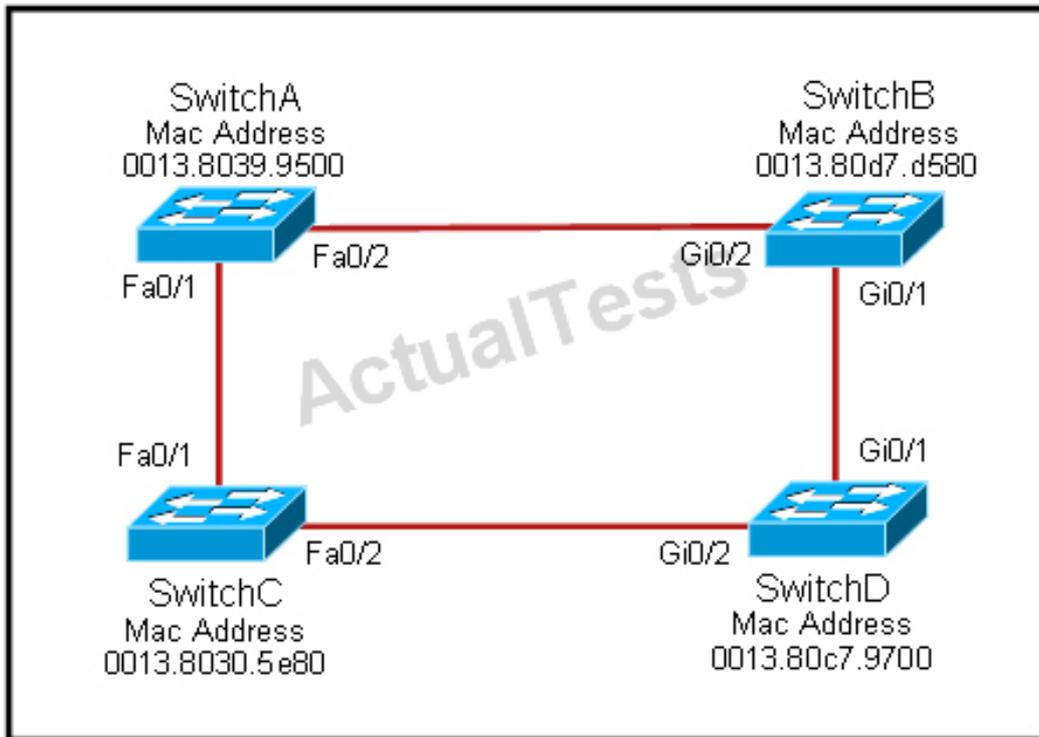
- A. RSTP cannot operate with PVST+.
- B. RSTP defines new port roles.
- C. RSTP defines no new port states.
- D. RSTP is a proprietary implementation of IEEE 802.1D STP.
- E. RSTP is compatible with the original IEEE 802.1D STP.

**Answer: B,E**

**Explanation:**

**QUESTION NO: 6**

Refer to the exhibit.



Each of these four switches has been configured with a hostname, as well as being configured to run RSTP. No other configuration changes have been made. Which three of these show the correct RSTP port roles for the indicated switches and interfaces? (Choose three.)

- A. SwitchA, Fa0/2, designated
- B. SwitchA, Fa0/1, root
- C. SwitchB, Gi0/2, root
- D. SwitchB, Gi0/1, designated
- E. SwitchC, Fa0/2, root
- F. SwitchD, Gi0/2, root

**Answer: A,B,F**

**Explanation:**

#### QUESTION NO: 7

Which port state is introduced by Rapid-PVST?

- A. learning
- B. listening
- C. discarding
- D. forwarding

**Answer: C**

**Explanation:**

**QUESTION NO: 8**

Which two states are the port states when RSTP has converged? (Choose two.)

- A. discarding
- B. listening
- C. learning
- D. forwarding
- E. disabled

**Answer: A,D**

**Explanation:**

**QUESTION NO: 9**

Which three statements about RSTP are true? (Choose three.)

- A. RSTP significantly reduces topology reconverging time after a link failure.
- B. RSTP expands the STP port roles by adding the alternate and backup roles.
- C. RSTP port states are blocking, discarding, learning, or forwarding.
- D. RSTP provides a faster transition to the forwarding state on point-to-point links than STP does.
- E. RSTP also uses the STP proposal-agreement sequence.
- F. RSTP uses the same timer-based process as STP on point-to-point links.

**Answer: A,B,D**

**Explanation:**

**QUESTION NO: 10**

At which layer of the OSI model is RSTP used to prevent loops?

- A. physical
- B. data link
- C. network
- D. transport

**Answer: B**

**Explanation:**

**QUESTION NO: 11**

What is one benefit of PVST+?

- A. PVST+ supports Layer 3 load balancing without loops.
- B. PVST+ reduces the CPU cycles for all the switches in the network.
- C. PVST+ allows the root switch location to be optimized per VLAN.
- D. PVST+ automatically selects the root bridge location, to provide optimized bandwidth usage.

**Answer: C**

**Explanation:**

**QUESTION NO: 12**

Which three statements are typical characteristics of VLAN arrangements? (Choose three.)

- A. A new switch has no VLANs configured.
- B. Connectivity between VLANs requires a Layer 3 device.
- C. VLANs typically decrease the number of collision domains.
- D. Each VLAN uses a separate address space.
- E. A switch maintains a separate bridging table for each VLAN.
- F. VLANs cannot span multiple switches.

**Answer: B,D,E**

**Explanation:**

**QUESTION NO: 13**

Refer to the exhibit.

```

Switch# show spanning-tree vlan 30
VLAN0030
Spanning tree enabled protocol rstp
Root ID Priority 24606
Address 00d0.047b.2800
This bridge is the root
Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec
Bridge ID Priority 24606 (priority 24576 sys-id-ext 30)
Address 00d0.047b.2800
Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec
Aging Time 300
Interface      Role  Sts   Cost  Prio.Nbr   Type
-----
Fa1/1          Desg FWD    4     128.1     p2p
Fa1/2          Desg FWD    4     128.2     p2p
Fa5/1          Desg FWD    4     128.257   p2p

```

The output that is shown is generated at a switch. Which three statements are true? (Choose three.)

- A. All ports will be in a state of discarding, learning, or forwarding.
- B. Thirty VLANs have been configured on this switch.
- C. The bridge priority is lower than the default value for spanning tree.
- D. All interfaces that are shown are on shared media.
- E. All designated ports are in a forwarding state.
- F. This switch must be the root bridge for all VLANs on this switch.

**Answer: A,C,E**

**Explanation:**

#### QUESTION NO: 14

Which term describes a spanning-tree network that has all switch ports in either the blocking or forwarding state?

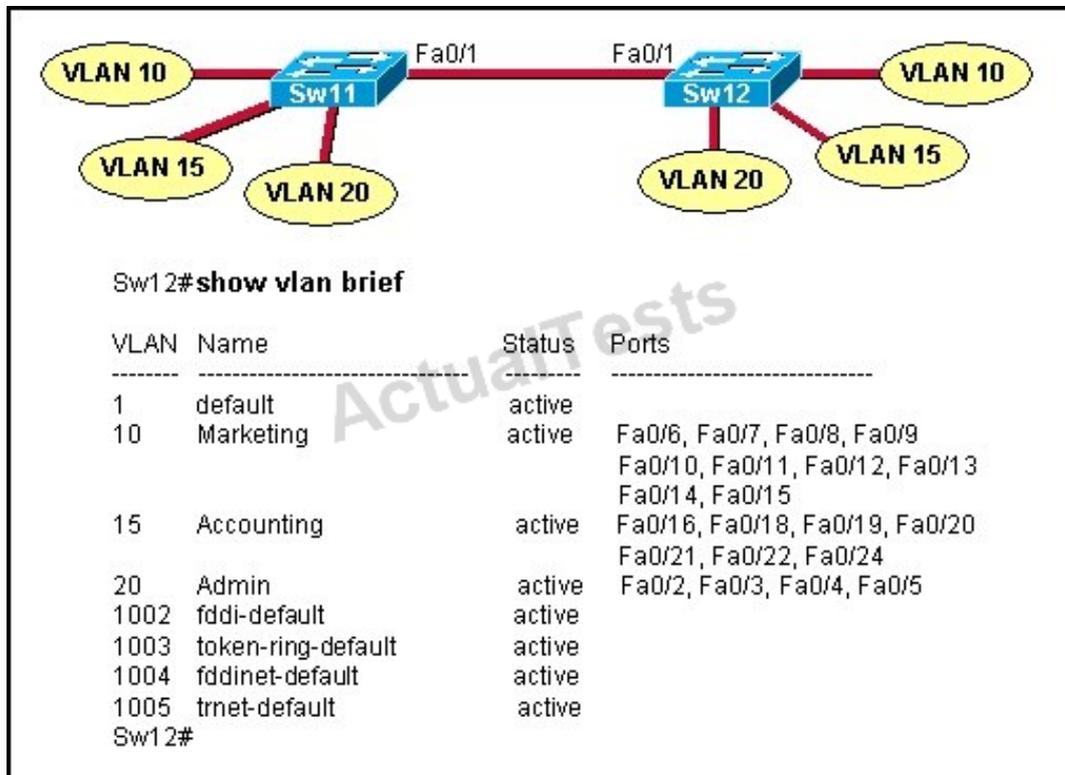
- A. converged
- B. redundant
- C. provisioned
- D. spanned

**Answer: A**

**Explanation:**

**QUESTION NO: 15**

Refer to the exhibit.



A technician has configured the FastEthernet 0/1 interface on Sw11 as an access link in VLAN 1. Based on the output from the show vlan brief command issued on Sw12, what will be the result of making this change on Sw11?

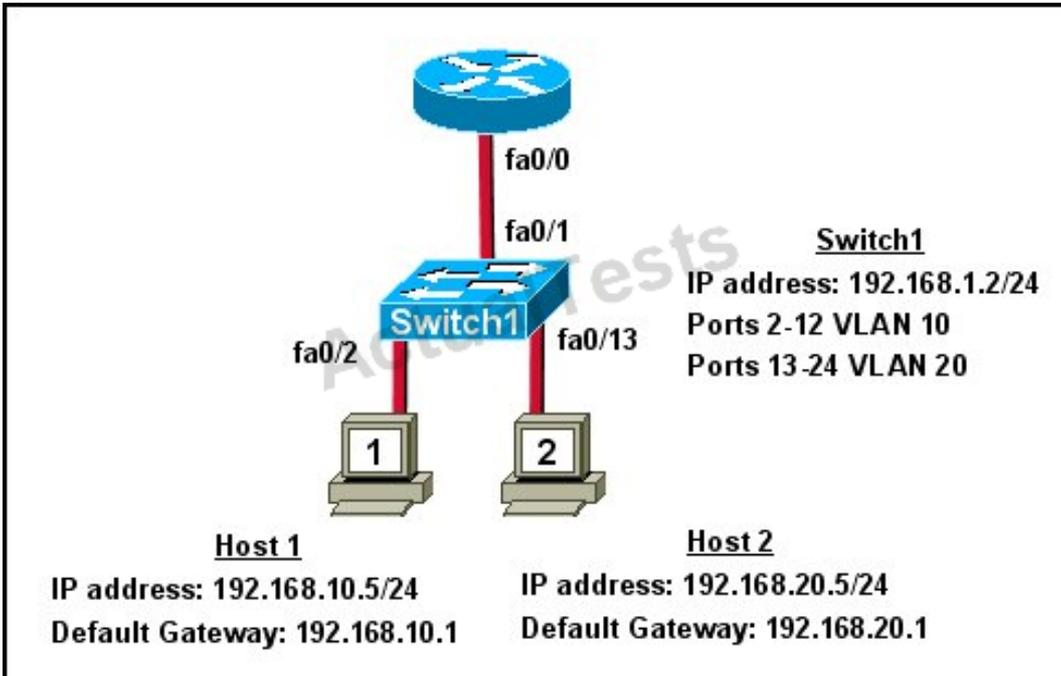
- A. Only the hosts in VLAN 1 on the two switches will be able to communicate with each other.
- B. The hosts in all VLANs on the two switches will be able to communicate with each other.
- C. Only the hosts in VLAN 10 and VLAN 15 on the two switches will be able to communicate with each other.
- D. Hosts will not be able to communicate between the two switches.

**Answer: D**

**Explanation:**

**QUESTION NO: 16**

Refer to the exhibit.



What commands must be configured on the 2950 switch and the router to allow communication between host 1 and host 2? (Choose two.)

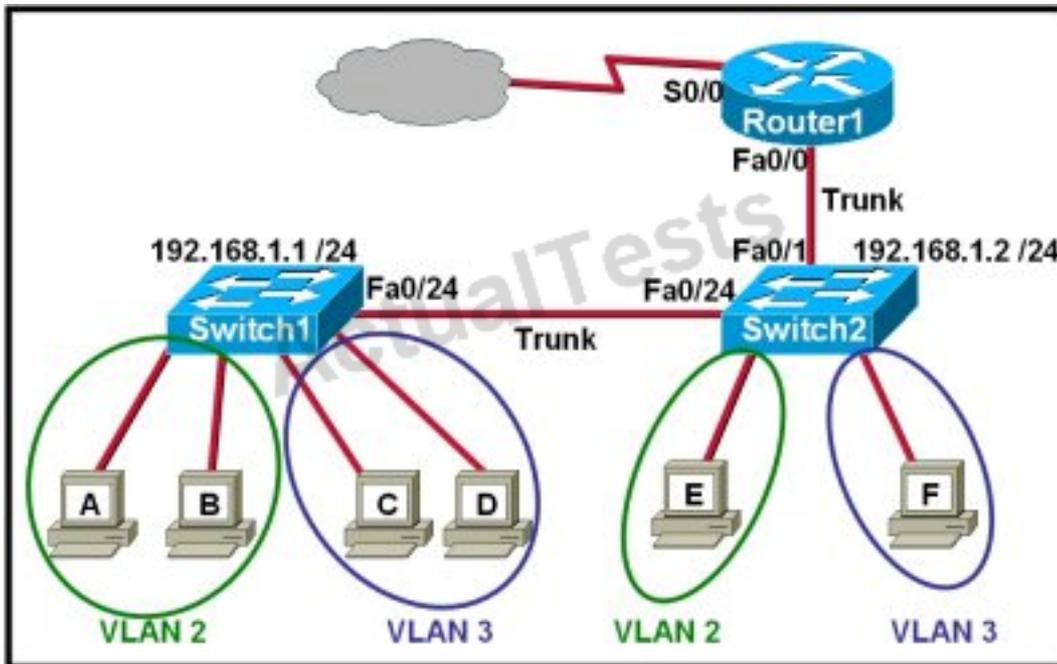
- A.** Router(config)# interface fastethernet 0/0  
 Router(config-if)# ip address 192.168.1.1 255.255.255.0  
 Router(config-if)# no shut down
- B.** Router(config)# interface fastethernet 0/0  
 Router(config-if)# no shut down  
 Router(config)# interface fastethernet 0/0.1  
 Router(config-subif)# encapsulation dot1q 10  
 Router(config-subif)# ip address 192.168.10.1 255.255.255.0  
 Router(config)# interface fastethernet 0/0.2  
 Router(config-subif)# encapsulation dot1q 20  
 Router(config-subif)# ip address 192.168.20.1 255.255.255.0
- C.** Router(config)# router eigrp 100  
 Router(config-router)# network 192.168.10.0  
 Router(config-router)# network 192.168.20.0
- D.** Switch1(config)# vlan database  
 Switch1(config-vlan)# vtp domain XYZ  
 Switch1(config-vlan)# vtp server
- E.** Switch1(config)# interface fastethernet 0/1  
 Switch1(config-if)# switchport mode trunk
- F.** Switch1(config)# interface vlan 1  
 Switch1(config-if)# ip default-gateway 192.168.1.1

**Answer: B,E**

**Explanation:**

**QUESTION NO: 17**

Refer to the exhibit.



Which two statements are true about interVLAN routing in the topology that is shown in the exhibit? (Choose two.)

- A. Host E and host F use the same IP gateway address.
- B. Router1 and Switch2 should be connected via a crossover cable.
- C. Router1 will not play a role in communications between host A and host D.
- D. The FastEthernet 0/0 interface on Router1 must be configured with subinterfaces.
- E. Router1 needs more LAN interfaces to accommodate the VLANs that are shown in the exhibit.
- F. The FastEthernet 0/0 interface on Router1 and the FastEthernet 0/1 interface on Switch2 trunk ports must be configured using the same encapsulation type.

**Answer: D,F**

**Explanation:**

**QUESTION NO: 18**

Which three of these statements regarding 802.1Q trunking are correct? (Choose three.)

- A. 802.1Q native VLAN frames are untagged by default.

- B. 802.1Q trunking ports can also be secure ports.
- C. 802.1Q trunks can use 10 Mb/s Ethernet interfaces.
- D. 802.1Q trunks require full-duplex, point-to-point connectivity.
- E. 802.1Q trunks should have native VLANs that are the same at both ends.

**Answer: A,C,E**

**Explanation:**

#### **QUESTION NO: 19**

What are two characteristics of a switch that is configured as a VTP client? (Choose two.)

- A. If a switch that is configured to operate in client mode cannot access a VTP server, then the switch reverts to transparent mode.
- B. On switches that are configured to operate in client mode, VLANs can be created, deleted, or renamed locally.
- C. The local VLAN configuration is updated only when an update that has a higher configuration revision number is received.
- D. VTP advertisements are not forwarded to neighboring switches that are configured in VTP transparent mode.
- E. VTP client is the default VTP mode.
- F. When switches in VTP client mode are rebooted, they send a VTP advertisement request to the VTP servers.

**Answer: C,F**

**Explanation:**

#### **QUESTION NO: 20**

Which protocol provides a method of sharing VLAN configuration information between two Cisco switches?

- A. STP
- B. VTP
- C. 802.1Q
- D. RSTP

**Answer: B**

**Explanation:**

**Topic 2, IP Routing Technologies****QUESTION NO: 21**

Which two statements describe the process identifier that is used in the command to configure OSPF on a router? (Choose two.)

```
Router(config)# router ospf 1
```

- A. All OSPF routers in an area must have the same process ID.
- B. Only one process number can be used on the same router.
- C. Different process identifiers can be used to run multiple OSPF processes
- D. The process number can be any number from 1 to 65,535.
- E. Hello packets are sent to each neighbor to determine the processor identifier.

**Answer: C,D**

**Explanation:**

**QUESTION NO: 22**

Refer to the exhibit.

```
router#show ip eigrp topology 10.0.0.5 255.255.255.255
IP-EIGRP topology entry for 10.0.0.5/32 State is Passive, Query
origin flag is 1, 1 Successor(s), FD is 41152000
```

Given the output from the "show ip eigrp topology" command, which router is the feasible successor?

A)

```
10.1.0.3 (Serial0), from 10.1.0.3, Send flag is 0x0
  Composite metric is (46866176/46354176), Route is Internal
  Vector metric:
    Minimum bandwidth is 56 Kbit
    Total delay is 45000 microseconds
    Reliability is 255/255
    Load is 1/255
    Minimum MTU is 1500
    Hop count is 2
```

B)

```
10.0.0.2 (Serial0.1), from 10.0.0.2, Send flag is 0x0
  Composite metric is (53973248/128256), Route is Internal
  Vector metric:
    Minimum bandwidth is 48 Kbit
    Total delay is 25000 microseconds
    Reliability is 255/255
    Load is 1/255
    Minimum MTU is 1500
    Hop count is 1
```

C)

```
10.1.0.1 (Serial0), from 10.1.0.1, Send flag is 0x0
  Composite metric is (46152000/41640000), Route is Internal
  Vector metric:
    Minimum bandwidth is 64 Kbit
    Total delay is 45000 microseconds
    Reliability is 255/255
    Load is 1/255
    Minimum MTU is 1500
    Hop count is 2
```

D)

```

10.1.1.1 (Serial0.1), from 10.1.1.1, Send flag is 0x0
  Composite metric is (46763776/46251776), Route is External
  Vector metric:
    Minimum bandwidth is 56 Kbit
    Total delay is 41000 microseconds
    Reliability is 255/255
    Load is 1/255
    Minimum MTU is 1500
    Hop count is 2

```

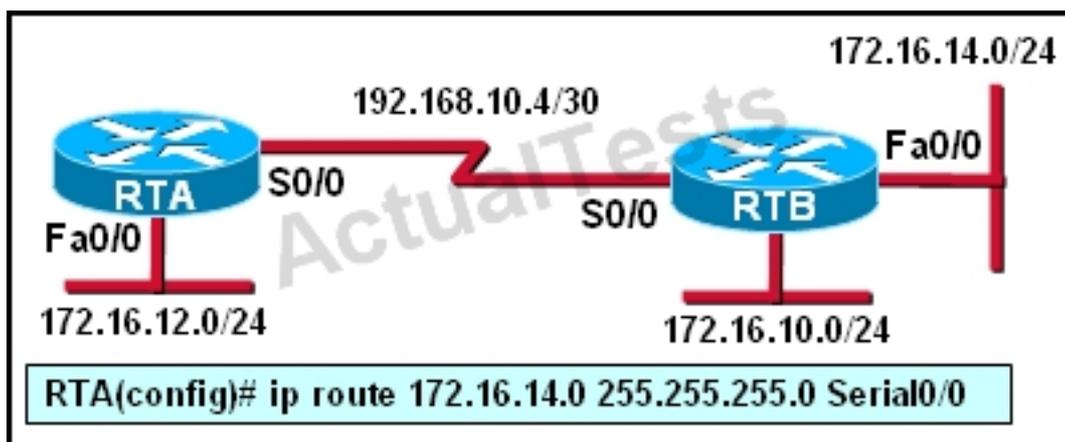
- A. Exhibit A
- B. Exhibit B
- C. Exhibit C
- D. Exhibit D

**Answer: B**

**Explanation:**

#### QUESTION NO: 23

Refer to the exhibit.



RTA is configured with a basic configuration. The link between the two routers is operational and no routing protocols are configured on either router. The line shown in the exhibit is then added to router RTA. Should interface Fa0/0 on router RTB shut down, what effect will the shutdown have on router RTA?

- A. A route to 172.16.14.0/24 will remain in the RTA routing table.

- B.** A packet to host 172.16.14.225 will be dropped by router RTA.
- C.** Router RTA will send an ICMP packet to attempt to verify the route.
- D.** Because router RTB will send a poison reverse packet to router RTA, RTA will remove the route.

**Answer: A**

**Explanation:**

**QUESTION NO: 24**

What can be done to secure the virtual terminal interfaces on a router? (Choose two.)

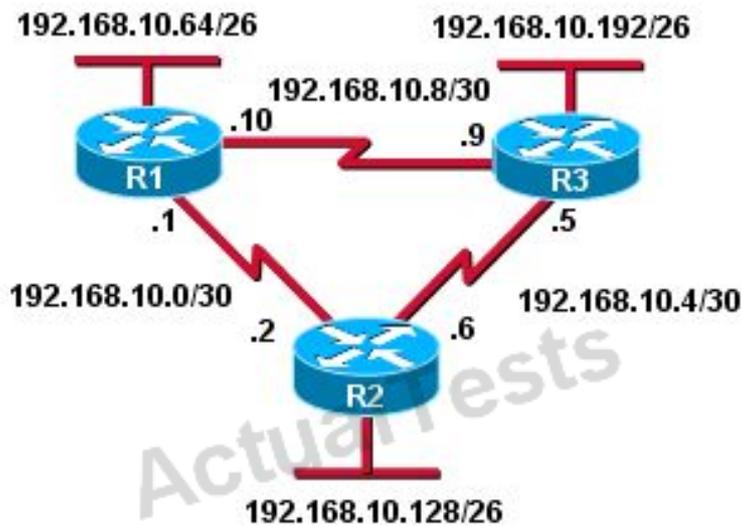
- A.** Administratively shut down the interface.
- B.** Physically secure the interface.
- C.** Create an access list and apply it to the virtual terminal interfaces with the access-group command.
- D.** Configure a virtual terminal password and login process.
- E.** Enter an access list and apply it to the virtual terminal interfaces using the access-class command.

**Answer: D,E**

**Explanation:**

**QUESTION NO: 25**

Refer to the exhibit.



R3# **show ip route**

Gateway of last resort is not set

192.168.10.0/24 is variably subnetted, 6 subnets, 2 masks

```
D 192.168.10.64/26 [90/2195456] via 192.168.10.9, 00:03:31, Serial0/0
D 192.168.10.0/30 [90/2681856] via 192.168.10.9, 00:03:31, Serial0/0
   [90/2681856] via 192.168.10.5, 00:03:31, Serial0/1
C 192.168.10.4/30 is directly connected, Serial 0/1
C 192.168.10.8/30 is directly connected, Serial 0/0
C 192.168.10.192/26 is directly connected, FastEthernet0/0
D 192.168.10.128/26 [90/2195456] via 192.168.10.5, 00:03:31, Serial 0/1
```

Based on the exhibited routing table, how will packets from a host within the 192.168.10.192/26 LAN be forwarded to 192.168.10.1?

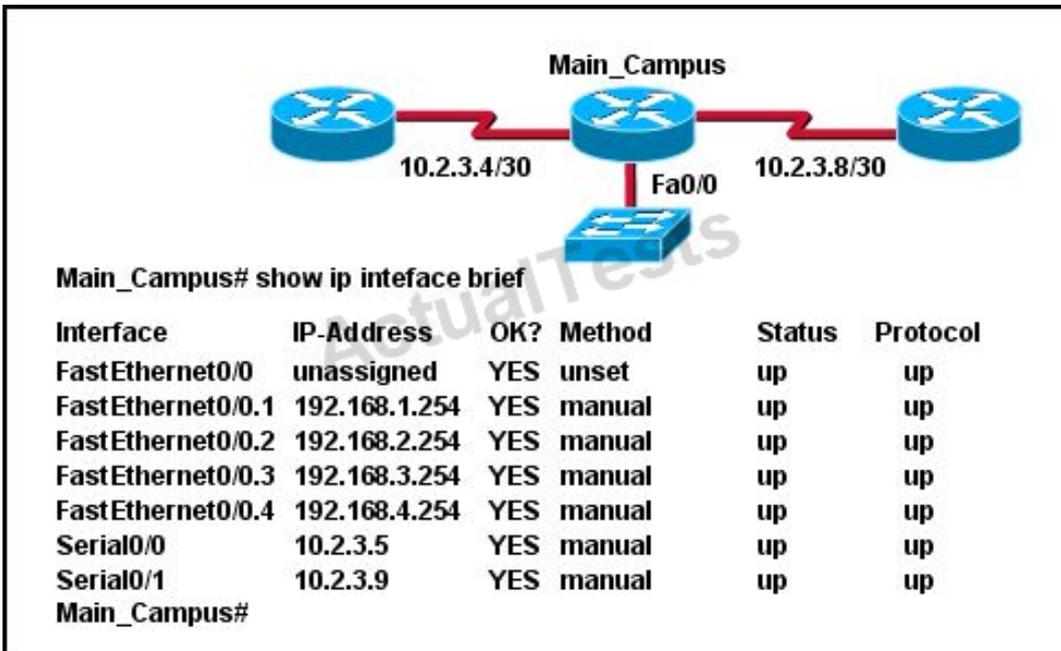
- A. The router will forward packets from R3 to R2 to R1.
- B. The router will forward packets from R3 to R1 to R2.
- C. The router will forward packets from R3 to R2 to R1 AND from R3 to R1.
- D. The router will forward packets from R3 to R1.

**Answer: C**

**Explanation:**

**QUESTION NO: 26**

Refer to the exhibit.



What information about the interfaces on the Main\_Campus router is true?

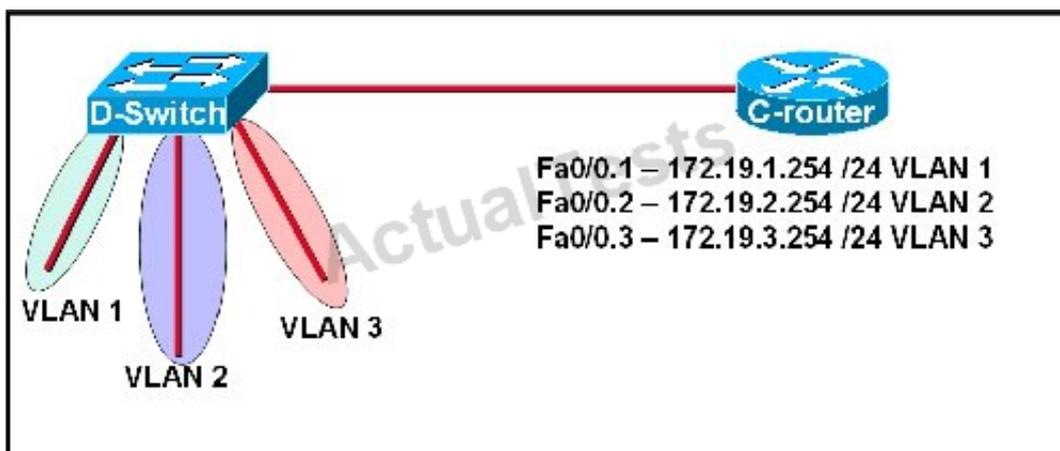
- A. The LAN interfaces are configured on different subnets.
- B. Interface FastEthernet 0/0 is configured as a trunk.
- C. The Layer 2 protocol of interface Serial 0/1 is NOT operational.
- D. The router is a modular router with five FastEthernet interfaces.
- E. Interface FastEthernet 0/0 is administratively deactivated.

**Answer: B**

**Explanation:**

#### QUESTION NO: 27

Refer to the exhibit.



C-router is to be used as a "router-on-a-stick" to route between the VLANs. All the interfaces have been properly configured and IP routing is operational. The hosts in the VLANs have been configured with the appropriate default gateway. What is true about this configuration?

**A.** These commands need to be added to the configuration:

```
C-router(config)# router eigrp 123
```

```
C-router(config-router)# network 172.19.0.0
```

**B.** These commands need to be added to the configuration:

```
C-router(config)# router ospf 1
```

```
C-router(config-router)# network 172.19.0.0 0.0.3.255 area 0
```

**C.** These commands need to be added to the configuration:

```
C-router(config)# router rip
```

```
C-router(config-router)# network 172.19.0.0
```

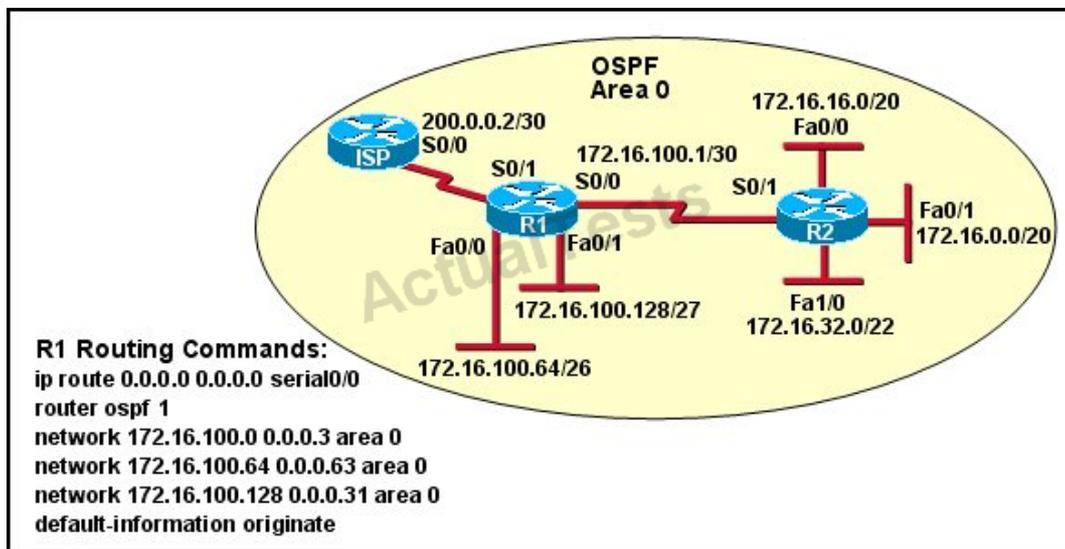
**D.** No further routing configuration is required.

**Answer: D**

**Explanation:**

## QUESTION NO: 28

Refer to the exhibit.



Assume that all router interfaces are operational and correctly configured. In addition, assume that OSPF has been correctly configured on router R2. How will the default route configured on R1 affect the operation of R2?

**A.** Any packet destined for a network that is not directly connected to router R1 will be dropped.

**B.** Any packet destined for a network that is not directly connected to router R2 will be dropped

immediately.

**C.** Any packet destined for a network that is not directly connected to router R2 will be dropped immediately because of the lack of a gateway on R1.

**D.** The networks directly connected to router R2 will not be able to communicate with the 172.16.100.0, 172.16.100.128, and 172.16.100.64 subnetworks.

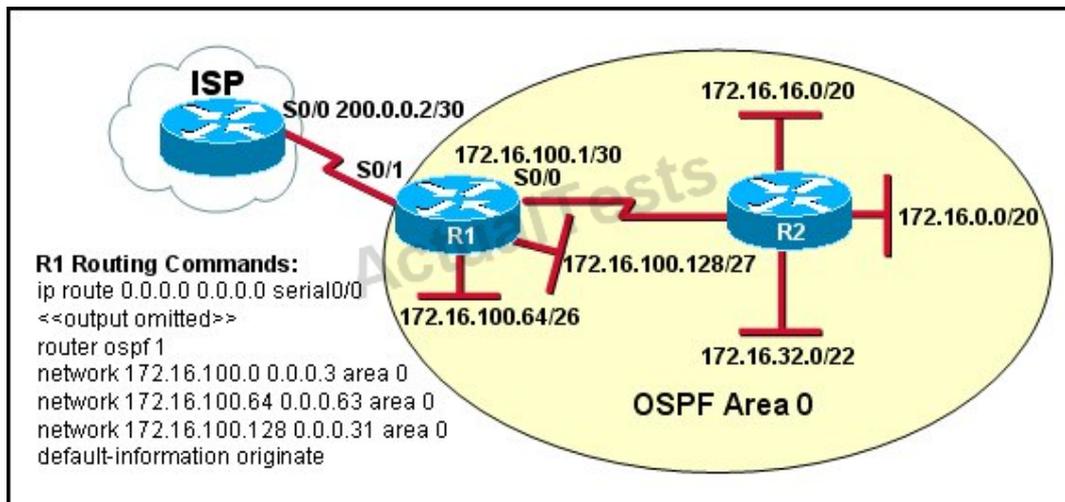
**E.** Any packet destined for a network that is not referenced in the routing table of router R2 will be directed to R1. R1 will then send that packet back to R2 and a routing loop will occur.

**Answer: E**

**Explanation:**

### QUESTION NO: 29

Refer to the exhibit.



Assume that all of the router interfaces are operational and configured correctly. How will router R2 be affected by the configuration of R1 that is shown in the exhibit?

**A.** Router R2 will not form a neighbor relationship with R1.

**B.** Router R2 will obtain a full routing table, including a default route, from R1.

**C.** R2 will obtain OSPF updates from R1, but will not obtain a default route from R1.

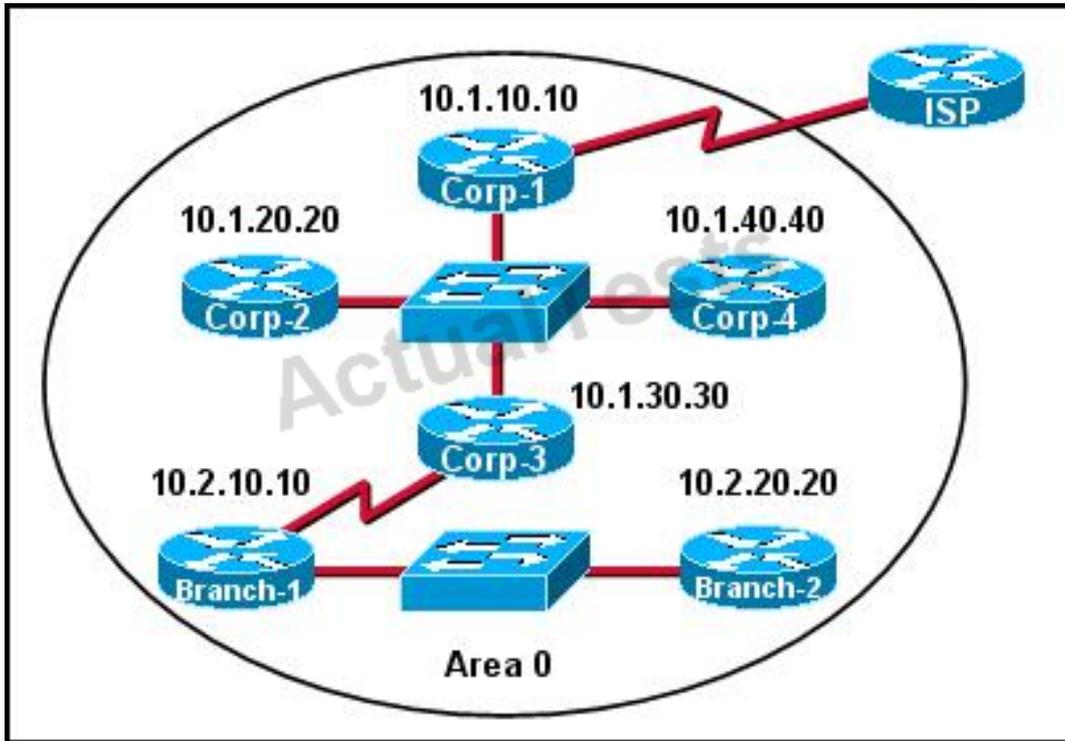
**D.** R2 will not have a route for the directly connected serial network, but all other directly connected networks will be present, as well as the two Ethernet networks connected to R1.

**Answer: A**

**Explanation:**

**QUESTION NO: 30**

Refer to Exhibit:



The internetwork infrastructure of company XYZ consists of a single OSPF area as shown in the graphic. There is concern that a lack of router resources is impeding internetwork performance. As part of examining the router resources, the OSPF DRs need to be known. All the router OSPF priorities are at the default and the router IDs are shown with each router. Which routers are likely to have been elected as DR? (Choose two.)

- A. Corp-1
- B. Corp-2
- C. Corp-3
- D. Corp-4
- E. Branch-1
- F. Branch-2

**Answer: D,F****Explanation:****QUESTION NO: 31**

What are three characteristics of the OSPF routing protocol? (Choose three.)

- A. It converges quickly.
- B. OSPF is a classful routing protocol.
- C. It uses cost to determine the best route.
- D. It uses the DUAL algorithm to determine the best route.
- E. OSPF routers send the complete routing table to all directly attached routers.
- F. OSPF routers discover neighbors before exchanging routing information.

**Answer: A,C,F**

**Explanation:**

### **QUESTION NO: 32**

Which statement is true, as relates to classful or classless routing?

- A. Classful routing protocols send the subnet mask in routing updates.
- B. RIPv1 and OSPF are classless routing protocols.
- C. Automatic summarization at classful boundaries can cause problems on discontinuous subnets.
- D. EIGRP and OSPF are classful routing protocols and summarize routes by default.

**Answer: C**

**Explanation:**

### **QUESTION NO: 33**

Which parameter or parameters are used to calculate OSPF cost in Cisco routers?

- A. Bandwidth
- B. Bandwidth and Delay
- C. Bandwidth, Delay, and MTU
- D. Bandwidth, MTU, Reliability, Delay, and Load

**Answer: A**

**Explanation:**

### **QUESTION NO: 34**

Which statements are true about EIGRP successor routes? (Choose two.)

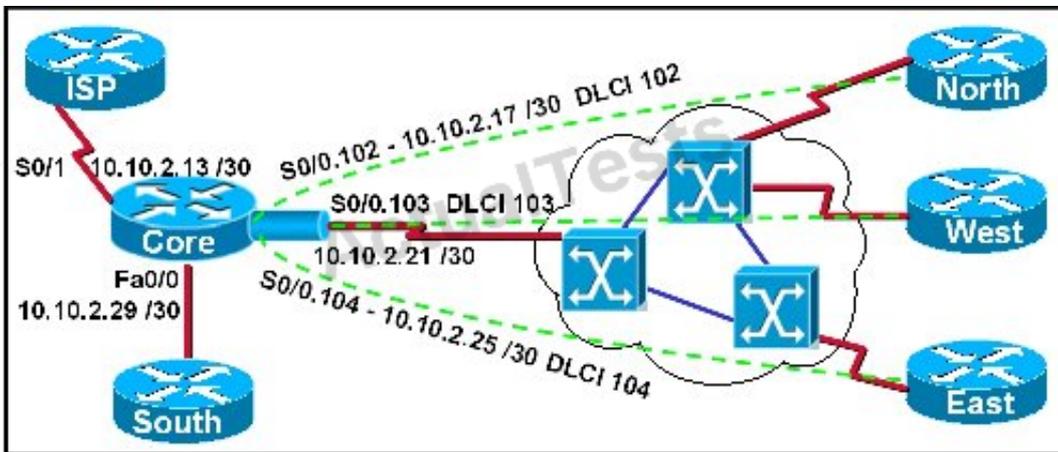
- A. A successor route is used by EIGRP to forward traffic to a destination.
- B. Successor routes are saved in the topology table to be used if the primary route fails.
- C. Successor routes are flagged as 'active' in the routing table.
- D. A successor route may be backed up by a feasible successor route.
- E. Successor routes are stored in the neighbor table following the discovery process.

**Answer: A,D**

**Explanation:**

### QUESTION NO: 35

Refer to the exhibit.



The network associate is configuring OSPF on the Core router. All the connections to the branches should be participating in OSPF. The link to the ISP should NOT participate in OSPF and should only be advertised as the default route. What set of commands will properly configure the Core router?

- A. Core(config-router)# default-information originate  
Core(config-router)# network 10.0.0.0 0.255.255.255 area 0  
Core(config-router)# exit  
Core(config)# ip route 0.0.0.0 0.0.0.0 10.10.2.14
- B. Core(config-router)# default-information originate  
Core(config-router)# network 10.10.2.13 0.0.0.242 area 0  
Core(config-router)# exit  
Core(config)# ip route 0.0.0.0 0.0.0.0 10.10.2.14
- C. Core(config-router)# default-information originate  
Core(config-router)# network 10.10.2.16 0.0.0.15 area 0  
Core(config-router)# exit  
Core(config)# ip route 0.0.0.0 0.0.0.0 10.10.2.14
- D. Core(config-router)# default-information originate

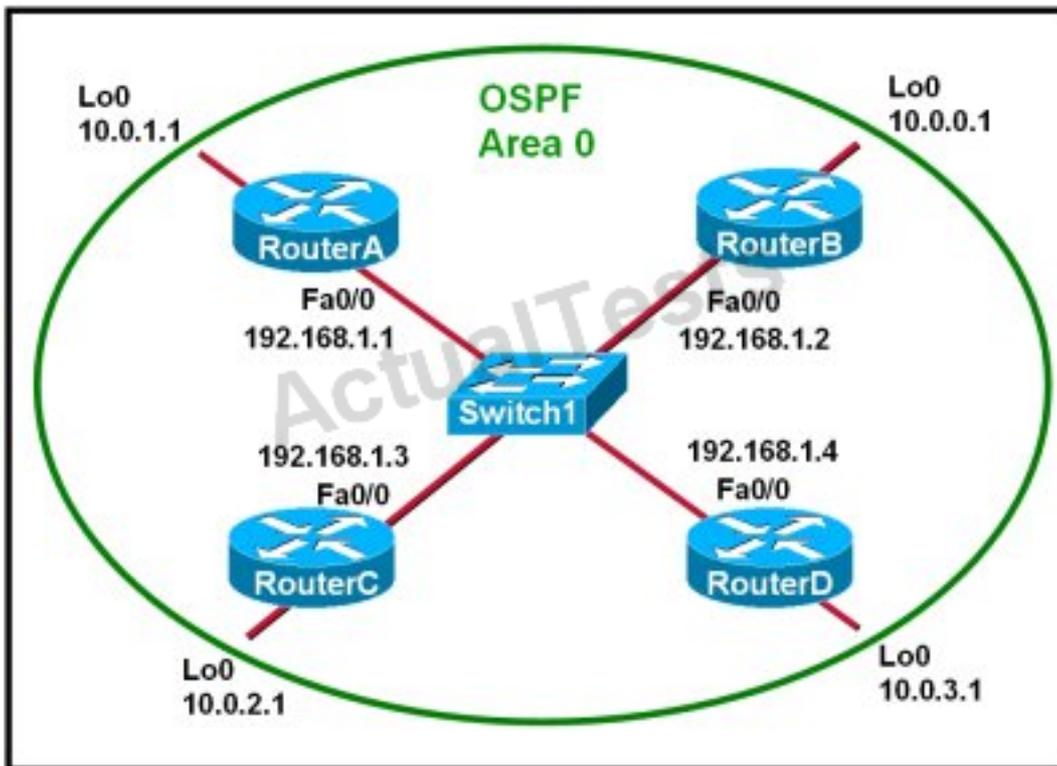
```
Core(config-router)# network 10.10.2.32 0.0.0.31 area 0
Core(config-router)# exit
Core(config)# ip route 0.0.0.0 0.0.0.0 10.10.2.14
```

**Answer: C**

**Explanation:**

### QUESTION NO: 36

Refer to the exhibit.



Which two statements are true about the loopback address that is configured on RouterB?  
(Choose two.)

- A. It ensures that data will be forwarded by RouterB.
- B. It provides stability for the OSPF process on RouterB.
- C. It specifies that the router ID for RouterB should be 10.0.0.1.
- D. It decreases the metric for routes that are advertised from RouterB.
- E. It indicates that RouterB should be elected the DR for the LAN.

**Answer: B,C**

**Explanation:**

**QUESTION NO: 37**

What is the default maximum number of equal-cost paths that can be placed into the routing table of a Cisco OSPF router?

- A. 2
- B. 4
- C. 16
- D. unlimited

**Answer: B**

**Explanation:**

**QUESTION NO: 38**

Which parameter would you tune to affect the selection of a static route as a backup, when a dynamic protocol is also being used?

- A. hop count
- B. administrative distance
- C. link bandwidth
- D. link delay
- E. link cost

**Answer: B**

**Explanation:**

**QUESTION NO: 39**

What are two drawbacks of implementing a link-state routing protocol? (Choose two.)

- A. the sequencing and acknowledgment of link-state packets
- B. the requirement for a hierarchical IP addressing scheme for optimal functionality
- C. the high volume of link-state advertisements in a converged network
- D. the high demand on router resources to run the link-state routing algorithm
- E. the large size of the topology table listing all advertised routes in the converged network

**Answer: B,D**

**Explanation:**

**QUESTION NO: 40**

Which two are advantages of static routing when compared to dynamic routing? (Choose two.)

- A. Configuration complexity decreases as network size increases.
- B. Security increases because only the network administrator may change the routing table.
- C. Route summarization is computed automatically by the router.
- D. Routing tables adapt automatically to topology changes.
- E. An efficient algorithm is used to build routing tables, using automatic updates.
- F. Routing updates are automatically sent to neighbors.
- G. Routing traffic load is reduced when used in stub network links.

**Answer: B,G**

**Explanation:**

**QUESTION NO: 41**

A router is running three routing processes: RIP, OSPF, and EIGRP, each configured with default characteristics. Each process learns a route to the same remote network.

If there are no static routes to the destination and none of the routes were redistributed, which route will be placed in the IP routing table?

- A. the route learned through EIGRP
- B. the route learned through OSPF
- C. the route learned through RIP
- D. the route with the lowest metric
- E. all three routes with the router load balancing

**Answer: A**

**Explanation:**

**QUESTION NO: 42**

Refer to the exhibit.

```

RouterD# show ip interface brief
Interface      IP-Address    OK?  Method  Status  Protocol
FastEthernet0/0 192.168.5.3   YES  manual  up      up
FastEthernet0/1 10.1.1.2      YES  manual  up      up
Loopback0       172.16.5.1   YES  NVRAM   up      up
Loopback1       10.154.154.1 YES  NVRAM   up      up

```

Given the output for this command, if the router ID has not been manually set, what router ID will OSPF use for this router?

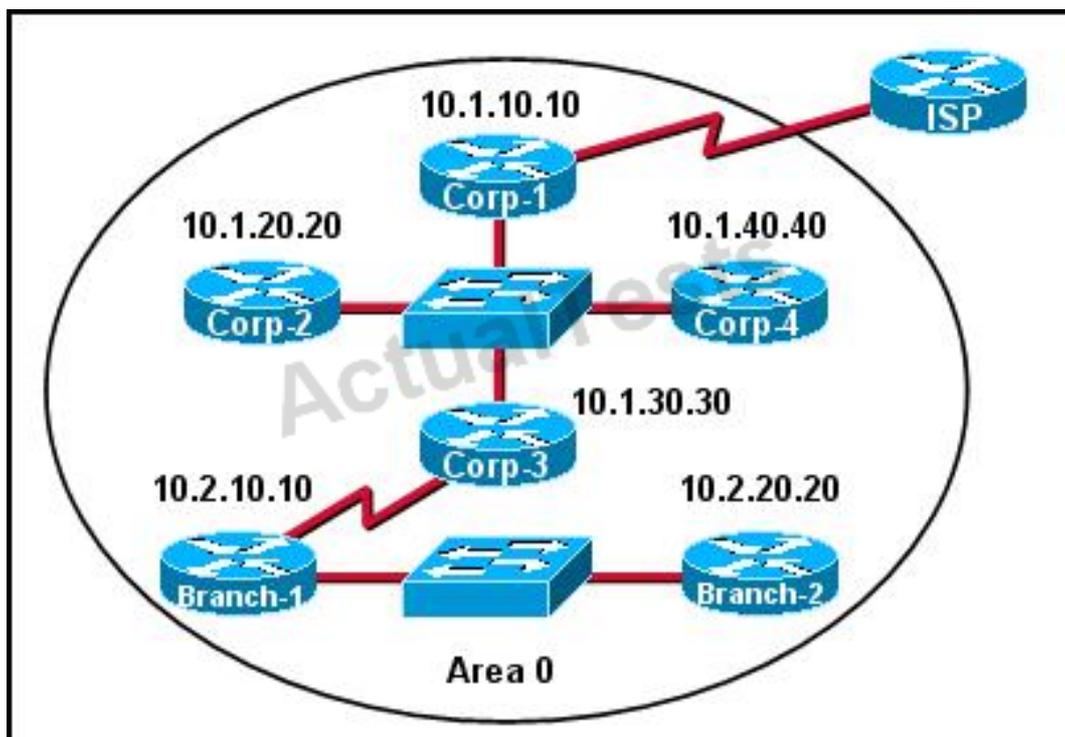
- A. 10.1.1.2
- B. 10.154.154.1
- C. 172.16.5.1
- D. 192.168.5.3

**Answer: C**

**Explanation:**

#### QUESTION NO: 43

The internetwork infrastructure of company XYZ consists of a single OSPF area as shown in the graphic. There is concern that a lack of router resources is impeding internetwork performance. As part of examining the router resources, the OSPF DRs need to be known. All the router OSPF priorities are at the default and the router IDs are shown with each router.



Which routers are likely to have been elected as DR? (Choose two.)

- A. Corp-1
- B. Corp-2
- C. Corp-3
- D. Corp-4
- E. Branch-1
- F. Branch-2

**Answer: D,F**

**Explanation:**

**QUESTION NO: 44**

What does a router do if it has no EIGRP feasible successor route to a destination network and the successor route to that destination network is in active status?

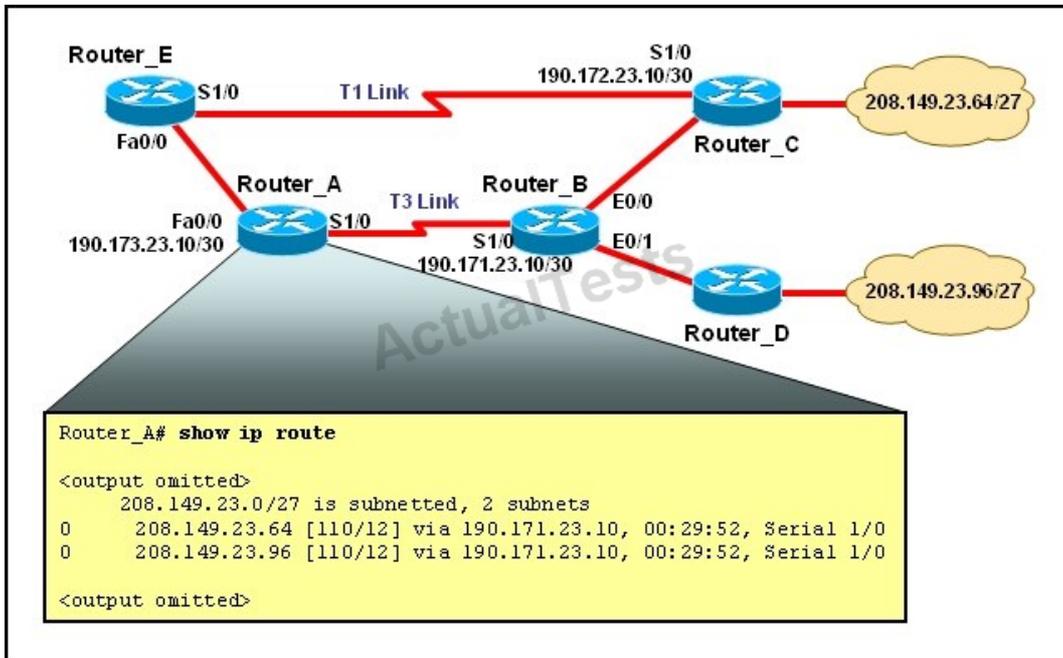
- A. It routes all traffic that is addressed to the destination network to the interface indicated in the routing table.
- B. It sends a copy of its neighbor table to all adjacent routers.
- C. It sends a multicast query packet to all adjacent neighbors requesting available routing paths to the destination network.
- D. It broadcasts Hello packets to all routers in the network to re-establish neighbor adjacencies.

**Answer: C**

**Explanation:**

**QUESTION NO: 45**

Refer to the exhibit.



The network is converged. After link-state advertisements are received from Router\_A, what information will Router\_E contain in its routing table for the subnets 208.149.23.64 and 208.149.23.96?

- A.**  208.149.23.64 [110/13] via 190.173.23.10, 00:00:07, FastEthernet 0/0  
 208.149.23.96 [110/13] via 190.173.23.10, 00:00:16, FastEthernet 0/0
- B.**  208.149.23.64 [110/1] via 190.172.23.10, 00:00:07, Serial 1/0  
 208.149.23.96 [110/3] via 190.173.23.10, 00:00:16, FastEthernet 0/0
- C.**  208.149.23.64 [110/13] via 190.172.23.10, 00:00:07, Serial 1/0  
 208.149.23.96 [110/13] via 190.172.23.10, 00:00:16, Serial 1/0  
 208.149.23.96 [110/13] via 190.173.23.10, 00:00:16, FastEthernet 0/0
- D.**  208.149.23.64 [110/3] via 190.172.23.10, 00:00:07, Serial 1/0  
 208.149.23.96 [110/3] via 190.172.23.10, 00:00:16, Serial 1/0

**Answer: A**

**Explanation:**

#### QUESTION NO: 46

Which command is used to display the collection of OSPF link states?

- A.** show ip ospf link-state  
**B.** show ip ospf lsa database  
**C.** show ip ospf neighbors  
**D.** show ip ospf database

**Answer: D**

**Explanation:**

**QUESTION NO: 47**

What is the default administrative distance of OSPF?

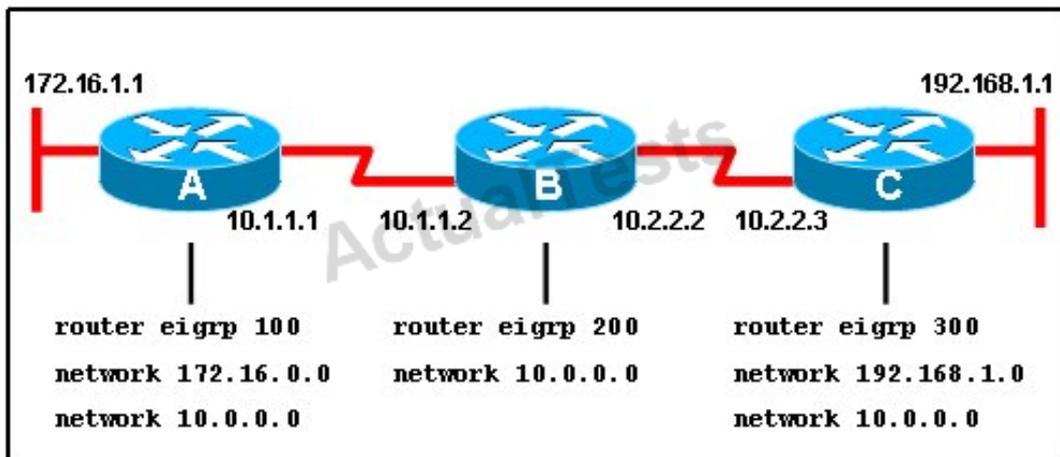
- A. 90
- B. 100
- C. 110
- D. 120

**Answer: C**

**Explanation:**

**QUESTION NO: 48**

Refer to the exhibit.



When running EIGRP, what is required for RouterA to exchange routing updates with RouterC?

- A. AS numbers must be changed to match on all the routers
- B. Loopback interfaces must be configured so a DR is elected
- C. The no auto-summary command is needed on Router A and Router C
- D. Router B needs to have two network statements, one for each connected network

**Answer: A**

**Explanation:****QUESTION NO: 49**

Refer to the exhibit.

```

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

Gateway of last resort is 192.168.4.1 to network 0.0.0.0

10.0.0.0/24 is subnetted, 3 subnets
C    10.0.2.0 is directly connected, Ethernet1
D    10.0.3.0 [90/2195456] via 192.168.1.2, 00:03:01, Serial0
D    10.0.4.0 [90/2195456] via 192.168.3.1, 00:03:01, Serial1
C    192.168.1.0/24 is directly connected, Serial0
D    192.168.2.0/24 [90/2681856] via 192.168.1.2, 00:03:01, Serial0
     [90/2681856] via 192.168.3.1, 00:03:01, Serial1
C    192.168.3.0/24 is directly connected, Serial1
C    192.168.4.0/24 is directly connected, Serial2

```

How will the router handle a packet destined for 192.0.2.156?

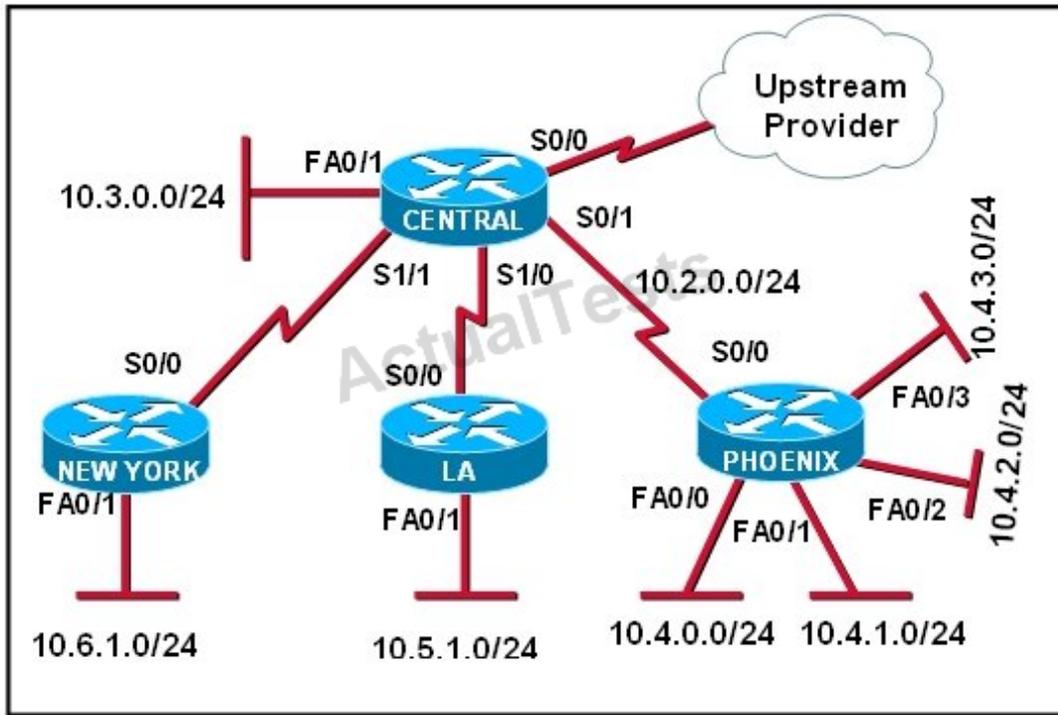
- A. The router will drop the packet.
- B. The router will return the packet to its source.
- C. The router will forward the packet via Serial2.
- D. The router will forward the packet via either Serial0 or Serial1.

**Answer: C**

**Explanation:**

**QUESTION NO: 50**

Refer to the exhibit.



The Lakeside Company has the internetwork in the exhibit. The administrator would like to reduce the size of the routing table on the Central router. Which partial routing table entry in the Central router represents a route summary that represents the LANs in Phoenix but no additional subnets?

- A. 10.0.0.0/22 is subnetted, 1 subnets  
D 10.0.0.0 [90/20514560] via 10.2.0.2, 6w0d, Serial0/1
- B. 10.0.0.0/28 is subnetted, 1 subnets  
D 10.2.0.0 [90/20514560] via 10.2.0.2, 6w0d, Serial0/1
- C. 10.0.0.0/30 is subnetted, 1 subnets  
D 10.2.2.0 [90/20514560] via 10.2.0.2, 6w0d, Serial0/1
- D. 10.0.0.0/22 is subnetted, 1 subnets  
D 10.4.0.0 [90/20514560] via 10.2.0.2, 6w0d, Serial0/1
- E. 10.0.0.0/28 is subnetted, 1 subnets  
D 10.4.4.0 [90/20514560] via 10.2.0.2, 6w0d, Serial0/1
- F. 10.0.0.0/30 is subnetted, 1 subnets  
D 10.4.4.4 [90/20514560] via 10.2.0.2, 6w0d, Serial0/1

**Answer: D**

**Explanation:**

#### QUESTION NO: 51

What information does a router running a link-state protocol use to build and maintain its topological database? (Choose two.)

- A. hello packets
- B. SAP messages sent by other routers
- C. LSAs from other routers
- D. beacons received on point-to-point links
- E. routing tables received from other link-state routers
- F. TTL packets from designated routers

**Answer: A,C**

**Explanation:**

#### **QUESTION NO: 52**

Which commands are required to properly configure a router to run OSPF and to add network 192.168.16.0/24 to OSPF area 0? (Choose two.)

- A. Router(config)# router ospf 0
- B. Router(config)# router ospf 1
- C. Router(config)# router ospf area 0
- D. Router(config-router)# network 192.168.16.0 0.0.0.255 0
- E. Router(config-router)# network 192.168.16.0 0.0.0.255 area 0
- F. Router(config-router)# network 192.168.16.0 255.255.255.0 area 0

**Answer: B,E**

**Explanation:**

#### **QUESTION NO: 53**

Which type of EIGRP route entry describes a feasible successor?

- A. a backup route, stored in the routing table
- B. a primary route, stored in the routing table
- C. a backup route, stored in the topology table
- D. a primary route, stored in the topology table

**Answer: C**

**Explanation:**

#### **QUESTION NO: 54 DRAG DROP**

Drag each description on the left to the appropriate term on the right. Not all the descriptions are used.

prevents invalid updates from looping the internetwork indefinitely	holddown timer
causes a routing protocol to advertise an infinite metric for a failed route	split horizon
prevents a router from improperly reinstating a route from a regular routing update	defining a maximum
prevents information about a route from being sent in the direction from which the route was learned	route poisoning
prevents, via the use of logical subdivisions, routing updates from propagating the internetwork	triggered update
decreases convergence time by immediately sending route information in response to a topology change	

**Answer:**

Drag each description on the left to the appropriate term on the right. Not all the descriptions are used.

prevents invalid updates from looping the internetwork indefinitely	prevents a router from improperly reinstating a route from a regular routing update
causes a routing protocol to advertise an infinite metric for a failed route	prevents information about a route from being sent in the direction from which the route was learned
prevents a router from improperly reinstating a route from a regular routing update	prevents invalid updates from looping the internetwork indefinitely
prevents information about a route from being sent in the direction from which the route was learned	causes a routing protocol to advertise an infinite metric for a failed route
prevents, via the use of logical subdivisions, routing updates from propagating the internetwork	decreases convergence time by immediately sending route information in response to a topology change
decreases convergence time by immediately sending route information in response to a topology change	

**Explanation:**

prevents a router from improperly reinstating a route from a regular routing update

prevents information about a route from being sent in the direction from which the route was learned

prevents invalid updates from looping the internetwork indefinitely

causes a routing protocol to advertise an infinite metric for a failed route

decreases convergence time by immediately sending route information in response to a topology change

**QUESTION NO: 55 DRAG DROP**

Drag the term on the left to its definition on the right. (Not all options are used.)

holddown timer	A router learns from its neighbor that a route is down, and the router sends an update back to the neighbor with an infinite metric to that route.
poison reverse	The packets flooded when a topology change occurs, causing network routers to update their topological databases and recalculate routes.
count to infinity	This prevents sending information about a route back out the same interface that originally learned about the route.
LSA	For a given period, this causes the router to ignore any updates with poorer metrics to a lost network.
split horizon	

**Answer:**

Drag the term on the left to its definition on the right. (Not all options are used.)

holddown timer	poison reverse
poison reverse	LSA
count to infinity	split horizon
LSA	holddown timer
split horizon	

**Explanation:**

poison reverse

LSA

split horizon

holddown timer

**QUESTION NO: 56 DRAG DROP**

Drag the description on the left to the routing protocol on the right. (Not all options are used.)

is vendor-specific	EIGRP
uses cost as its metric	
uses hop count as its metric	OSPF
uses the Bellman-Ford algorithm	
elects a DR on each multiaccess network	
has a default administrative distance of 90	

**Answer:**

Drag the description on the left to the routing protocol on the right. (Not all options are used.)

is vendor-specific	EIGRP
uses cost as its metric	
uses hop count as its metric	OSPF
uses the Bellman-Ford algorithm	
elects a DR on each multiaccess network	
has a default administrative distance of 90	

**Explanation:**

EIGRP	
	is vendor-specific
	has a default administrative distance of 90
OSPF	
	uses cost as its metric
	elects a DR on each multiaccess network

**QUESTION NO: 57**

Refer to the exhibit.

```
Cisco#show ip interface brief
Interface          IP-Address      OK? Method Status  Protocol
FastEthernet0/0    192.168.1.1     YES manual up      up
FastEthernet0/1    172.16.1.1     YES manual up      up
Loopback0          1.1.1.1         YES manual up      up
Loopback1          2.2.2.2         YES manual up      up
Vlan1              unassigned      YES unset  administratively down down
```

If the router Cisco returns the given output and has not had its router ID set manually, what value will OSPF use as its router ID?

- A. 192.168.1.1
- B. 172.16.1.1
- C. 1.1.1.1
- D. 2.2.2.2

**Answer: D**

**Explanation:**

**QUESTION NO: 58**

What OSPF command, when configured, will include all interfaces into area 0?

- A. network 0.0.0.0 255.255.255.255 area 0
- B. network 0.0.0.0 0.0.0.0 area 0
- C. network 255.255.255.255 0.0.0.0 area 0
- D. network all-interfaces area 0

**Answer: A**

**Explanation:**

**QUESTION NO: 59**

Which statement describes the process ID that is used to run OSPF on a router?

- A. It is globally significant and is used to represent the AS number.
- B. It is locally significant and is used to identify an instance of the OSPF database.
- C. It is globally significant and is used to identify OSPF stub areas.
- D. It is locally significant and must be the same throughout an area.

**Answer: B**

**Explanation:**

**QUESTION NO: 60**

Which two statements about the OSPF Router ID are true? (Choose two.)

- A. It identifies the source of a Type 1 LSA.
- B. It should be the same on all routers in an OSPF routing instance.
- C. By default, the lowest IP address on the router becomes the OSPF Router ID.
- D. The router automatically chooses the IP address of a loopback as the OSPF Router ID.
- E. It is created using the MAC Address of the loopback interface.

**Answer: A,D**

**Explanation:**

**QUESTION NO: 61**

What are two benefits of using a single OSPF area network design? (Choose two.)

- A. It is less CPU intensive for routers in the single area.
- B. It reduces the types of LSAs that are generated.
- C. It removes the need for virtual links.
- D. It increases LSA response times.
- E. It reduces the number of required OSPF neighbor adjacencies.

**Answer: B,C**

**Explanation:**

**QUESTION NO: 62**

What can cause two OSPF neighbors to be stuck in the EXSTART state?

- A. There is a low bandwidth connection between neighbors.
- B. The neighbors have different MTU settings.
- C. The OSPF interfaces are in a passive state.
- D. There is only layer one connectivity between neighbors.

**Answer: B**

**Explanation:**

**QUESTION NO: 63**

What are two enhancements that OSPFv3 supports over OSPFv2? (Choose two.)

- A. It requires the use of ARP.
- B. It can support multiple IPv6 subnets on a single link.
- C. It supports up to 2 instances of OSPFv3 over a common link.
- D. It routes over links rather than over networks.

**Answer: B,D**

**Explanation:**

**QUESTION NO: 64**

What are the two default metrics used by EIGRP for route selection? (Choose two.)

- A. Bandwidth
- B. Delay
- C. Reliability
- D. Load
- E. MTU

**Answer: A,B**

**Explanation:**

**QUESTION NO: 65**

Refer to the exhibit.

```
R1#show ip eigrp topology
IP-EIGRP Topology Table for AS 100

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

P 10.1.4.0/24, 1 successors, FD is 28160
   via Connected, FastEthernet0/0
P 10.1.2.0/24, 1 successors, FD is 28160
   via Connected, FastEthernet0/1
P 172.16.4.0/24, 1 successors, FD is 30720
   via 10.1.4.4 (30720/28160), FastEthernet0/0
   via 10.1.2.2 (30976/28416), FastEthernet0/1
P 172.16.3.0/24, 1 successors, FD is 28416
   via 10.1.2.2 (28416/25856), FastEthernet0/1
```

What address is a feasible successor?

- A. 172.16.4.0
- B. 10.1.4.4
- C. 10.1.2.2
- D. 172.16.3.0

**Answer: C**

**Explanation:****QUESTION NO: 66**

Which statement describes an EIGRP feasible successor route?

- A. A primary route, added to the routing table
- B. A backup route, added to the routing table
- C. A primary route, added to the topology table
- D. A backup route, added to the topology table

**Answer: D**

**Explanation:**

**QUESTION NO: 67**

Refer to the exhibit.

Interface	IP-Address	OK?	Method	Status	Protocol
FastEthernet0/0	192.168.1.2	YES	manual	up	up
FastEthernet1/0	172.16.4.1	YES	manual	up	up
Serial2/0	192.168.10.2	YES	manual	up	up
Serial3/0	unassigned	YES	unset	administratively down	down
Loopback0	1.1.1.1	YES	manual	up	up

If the router R1 returns the given output and has not had its router ID set manually, what address will EIGRP use as its router ID?

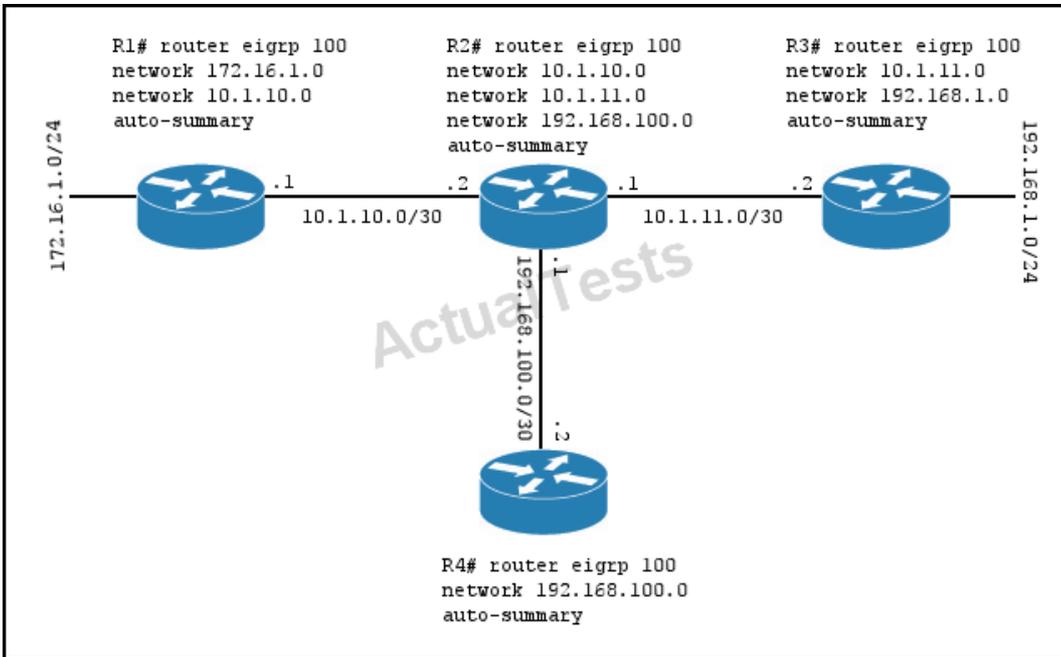
- A. 192.168.1.2
- B. 172.16.4.1
- C. 192.168.10.2
- D. 1.1.1.1

**Answer: D**

**Explanation:**

**QUESTION NO: 68**

Refer to the exhibit.



Which three EIGRP routes will be present in the router R4's routing table? (Choose three.)

- A. 172.16.1.0/24
- B. 10.1.10.0/30
- C. 10.0.0.0/8
- D. 10.1.11.0/30
- E. 172.16.0.0/16
- F. 192.168.1.0/24

**Answer: C,E,F**

**Explanation:**

**QUESTION NO: 69**

A network administrator is troubleshooting an EIGRP problem on a router and needs to confirm the IP addresses of the devices with which the router has established adjacency. The retransmit interval and the queue counts for the adjacent routers also need to be checked. What command will display the required information?

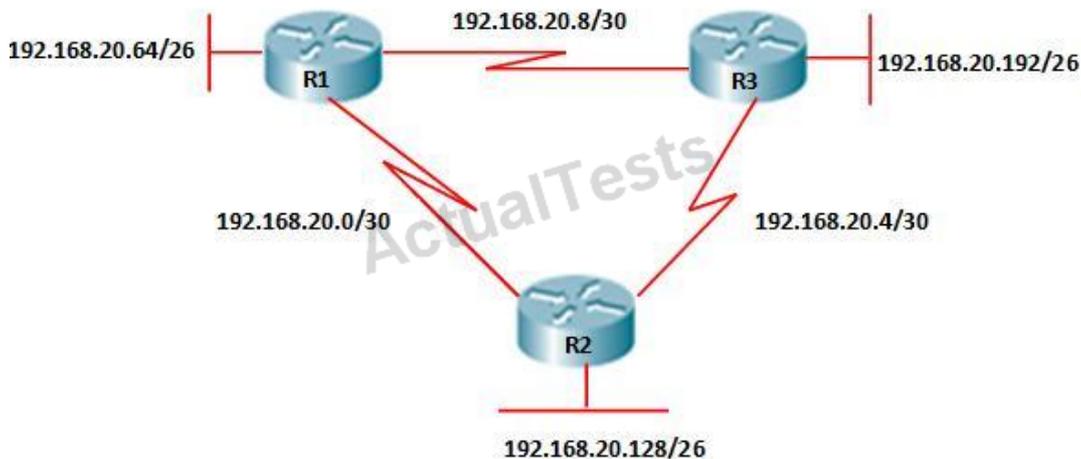
- A. Router# show ip eigrp adjacency
- B. Router# show ip eigrp topology
- C. Router#show ip eigrp interfaces
- D. Router#show ip eigrp neighbors

**Answer: D**

**Explanation:**

### QUESTION NO: 70

Refer to the exhibit.



The company uses EIGRP as the routing protocol. What path will packets take from a host on 192.168.10.192/26 network to a host on the LAN attached to router R1?

R3# show ip route

Gateway of last resort is not set

192.168.20.0/24 is variably subnetted, 6 subnets, 2 masks

D 192.168.20.64/26 [90/2195456] via 192.168.20.9, 00:03:31, Serial0/0

D 192.168.20.0/30 [90/2681856] via 192.168.20.9, 00:03:31, Serial0/0

C 192.168.20.4/30 is directly connected, Serial0/1

C 192.168.20.8/30 is directly connected, Serial0/0

C 192.168.20.192/26 is directly connected, FastEthernet0/0

D 192.168.20.128/26 [90/2195456] via 192.168.20.5,00:03:31, Serial0/1

- A. The path of the packets will be R3 to R2 to R1
- B. The path of the packets will be R3 to R1 to R2
- C. The path of the packets will be both R3 to R2 to R1 and R3 to R1
- D. The path of the packets will be R3 to R1

**Answer: D**

**Explanation:**

#### **QUESTION NO: 71**

A router receives information about network 192.168.10.0/24 from multiple sources. What will the router consider the most reliable information about the path to that network?

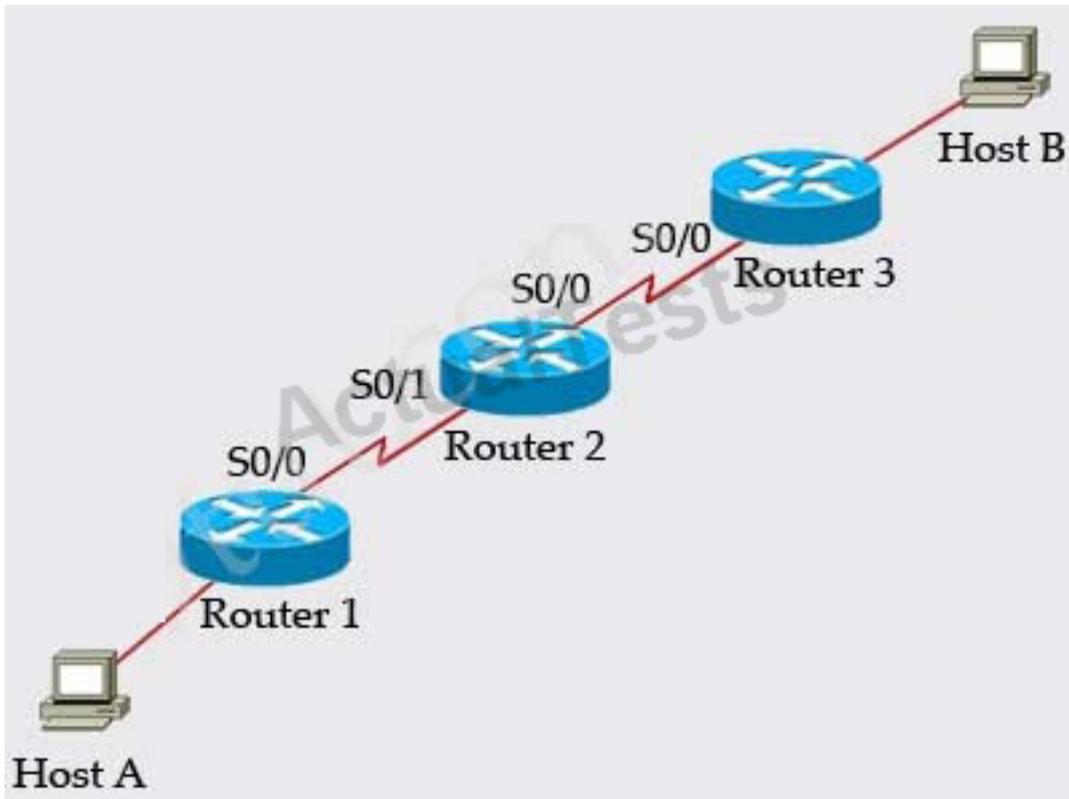
- A. an OSPF update for network 192.168.0.0/16
- B. a static route to network 192.168.10.0/24
- C. a static route to network 192.168.10.0/24 with a local serial interface configured as the next hop
- D. a RIP update for network 192.168.10.0/24
- E. a directly connected interface with an address of 192.168.10.254/24
- F. a default route with a next hop address of 192.168.10.1

**Answer: E**

**Explanation:**

#### **QUESTION NO: 72**

Refer to the exhibit.



Host A pings interface S0/0 on router 3, what is the TTL value for that ping?

- A. 253
- B. 252
- C. 255
- D. 254

**Answer: A**

**Explanation:**

**QUESTION NO: 73**

Refer to the exhibit.

```

AcmeB# show ip route
      |  |
Gateway of last resort is not set
 192.168.3.0/28 is variably subnetted, 6 subnets
D    192.168.3.64 [90/20625671] via 192.168.0.6, 03:17:05, Serial0/01
D    192.168.3.80 [90/20625671] via 192.168.0.6, 03:17:05, Serial0/1
D    192.168.3.32 [90/20625671] via 192.168.9.2, 03:17:05, Serial0/0
D    192.168.3.48 [90/20625671] via 192.168.9.2, 03:17:05, Serial0/0
D    192.168.3.0 [90/30830] via 192.168.2.10, 03:17:05, FastEthernet0/0
D    192.168.3.16 [90/175250] via 192.168.2.10, 03:17:06, FastEthernet0/0
 192.168.9.0/30 is subnetted, 1 subnets
C    192.168.9.0 is directly connected, Serial0/0
 192.168.0.0/30 is subnetted, 1 subnets
C    192.168.0.4 is directly connected, Serial0/1
 192.168.2.0/30 is subnetted, 1 subnets
C    192.168.2.8 is directly connected, FastEthernet0/0
AcmeB#

```

A packet with a source IP address of 192.168.2.4 and a destination IP address of 10.1.1.4 arrives at the AcmeB router. What action does the router take?

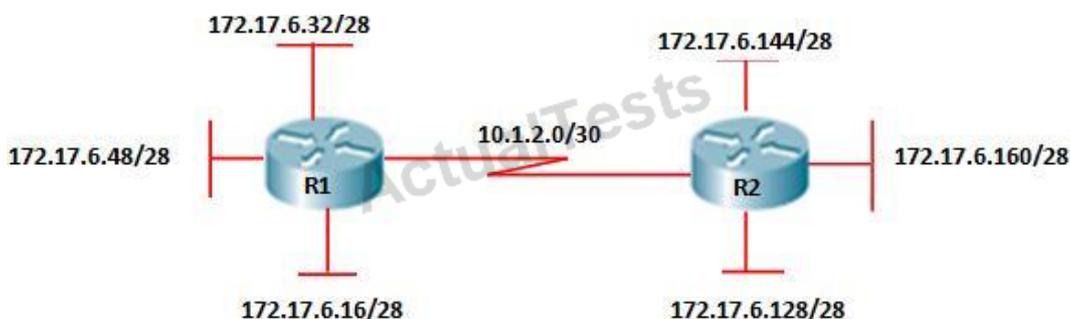
- A. forwards the received packet out the Serial0/0 interface
- B. forwards a packet containing an EIGRP advertisement out the Serial0/1 interface
- C. forwards a packet containing an ICMP message out the FastEthernet0/0 interface
- D. forwards a packet containing an ARP request out the FastEthernet0/1 interface

**Answer: C**

**Explanation:**

#### QUESTION NO: 74

Refer to the exhibit.



<pre> R1#show ip protocols Routing Protocols is "eigrp 501" &lt;output omitted&gt; Routing for Networks: 10.0.0.0 172.17.0.0 Routing Information Services: Gateway    Distances    Last Update (this router) 90          00:10:30 10.1.2.2   90           00:10:30 Distance: internal 90 external 170 R1# </pre>	<pre> R2#show ip protocols Routing Protocols is "eigrp 501" &lt;output omitted&gt; Routing for Networks: 10.0.0.0 172.17.0.0 Routing Information Services: Gateway    Distances    Last Update (this router) 90          00:7:10 10.1.2.1   90           00:7:10 Distance: internal 90 external 170 R2# </pre>
<pre> R2#show ip route &lt;output omitted&gt; Gateway of last resort not set        172.17.0.0/16 is subnetted, 4 subnets, 2 masks C      172.17.6.160/28 is directly connected, FastEthernet0/0 C      172.17.6.144/28 is directly connected, FastEthernet0/1 C      172.17.6.128/28 is directly connected, FastEthernet1/0 D      172.17.0.0/16 is a summary, 00:00:06, Null0       10.0.0.0/8 is a variable subnetted, 2 subnets, 2 masks D      10.0.0.0/8 is a summary, 00:00:07, Null0 C      10.1.2.0/30 is directly connected, Serial0/0 R2# </pre>	

From R1, a network administrator is able to ping the serial interface of R2 but, unable to ping any of the subnets attached to RouterB. Based on the partial outputs in the exhibit, what could be the problem?

- A. EIGRP does not support VLSM.
- B. The EIGRP network statements are incorrectly configured.
- C. The IP addressing on the serial interface of RouterA is incorrect.
- D. The routing protocol has summarized on the classful boundary.
- E. EIGRP has been configured with an invalid autonomous system number.

**Answer: D**

**Explanation:**

#### QUESTION NO: 75

When a router undergoes the exchange protocol within OSPF, in what order does it pass through each state?

- A. exstart state > loading state > exchange state > full state
- B. exstart state > exchange state > loading state > full state
- C. exstart state > full state > loading state > exchange state
- D. loading state > exchange state > full state > exstart state

**Answer: B**

### Topic 3, IP Services

#### QUESTION NO: 76

Which command enables IPv6 forwarding on a Cisco router?

- A. ipv6 local
- B. ipv6 host
- C. ipv6 unicast-routing
- D. ipv6 neighbor

**Answer: C**

**Explanation:**

#### QUESTION NO: 77

The following configuration is applied to a Layer 2 Switch:

```
interface fastethernet 0/4
switchport mode access
switchport port-security
switchport port-security mac-address 0000.1111.1111
switchport port-security maximum 2
switchport port-security
```

What is the result of the above configuration being applied to the switch?

- A. A host with a mac address of 0000.1111.1111 and up to two other hosts can connect to

FastEthernet 0/4 simultaneously

**B.** A host with a mac address of 0000.1111.1111 and one other host can connect to Fast Ethernet 0/4 simultaneously

**C.** Violating addresses are dropped and no record of the violation is kept

**D.** The switch can send an SNMP message to the network management station

**E.** The port is effectively shutdown

**Answer: B,D**

**Explanation:**

**QUESTION NO: 78**

Refer to the exhibit.

```
Switch(config)#interface fastethernet 0/1
Switch(config-if)#switchport mode access
Switch(config-if)#switchport port-security
Switch(config-if)#switchport port-security maximum 3
Switch(config-if)#switchport port-security mac-address sticky
Switch(config-if)#end
```

Which of these correctly describes the results of port security violation of an unknown packet?

**A.** port enabled; unknown packets dropped; no SNMP or syslog messages

**B.** port enabled; unknown packets dropped; SNMP or syslog messages

**C.** port disabled; no SNMP or syslog messages

**D.** port disabled; SNMP or syslog messages

**Answer: D**

**Explanation:**

**QUESTION NO: 79**

Refer to the exhibit.

```
Switch# show port-security interface fa0/20
Port Security           : Enabled
Port Status             : Secure-up
Violation Mode          : Restrict
Aging Time              : 3 mins
Aging Type              : Inactivity
SecureStatic Address Aging : Disabled
Maximum MAC Addresses  : 2
Total MAC Addresses     : 2
Configured MAC Addresses : 0
Sticky MAC Addresses    : 2
Last Source Address:Vlan : 0009.7C10.8E8C:50
Security Violation Count : 1
```

What three actions will the switch take when a frame with an unknown source MAC address arrives at the interface? (Select three.)

- A. Send an SNMP trap.
- B. Send a syslog message.
- C. Increment the Security Violation counter.
- D. Forward the traffic.
- E. Write the MAC address to the startup-config.
- F. Shut down the port.

**Answer: A,B,C**

**Explanation:**

#### QUESTION NO: 80

In GLBP, which router will respond to client ARP requests?

- A. The active virtual gateway will reply with one of four possible virtual MAC addresses.
- B. All GLBP member routers will reply in round-robin fashion.
- C. The active virtual gateway will reply with its own hardware MAC address.
- D. The GLBP member routers will reply with one of four possible burned in hardware addresses.

**Answer: A**

**Explanation:**

**QUESTION NO: 81**

Which statement describes VRRP object tracking?

- A. It monitors traffic flow and link utilization.
- B. It ensures the best VRRP router is the virtual router master for the group.
- C. It causes traffic to dynamically move to higher bandwidth links.
- D. It thwarts man-in-the-middle attacks.

**Answer: B**

**Explanation:**

**QUESTION NO: 82**

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

- A. The virtual IP address and virtual MAC address are active on the HSRP Master router.
- B. The HSRP default timers are a 3 second hello interval and a 10 second dead interval.
- C. HSRP supports only clear-text authentication.
- D. The HSRP virtual IP address must be on a different subnet than the routers' interfaces on the same LAN.
- E. The HSRP virtual IP address must be the same as one of the router's interface addresses on the LAN.
- F. HSRP supports up to 255 groups per interface, enabling an administrative form of load balancing.

**Answer: A,B,F**

**Explanation:**

**QUESTION NO: 83**

What Cisco IOS feature can be enabled to pinpoint an application that is causing slow network performance?

- A. SNMP
- B. Netflow
- C. WCCP
- D. IP SLA

**Answer: B**

**Explanation:**

**QUESTION NO: 84**

What command visualizes the general NetFlow data on the command line?

- A. show ip flow export
- B. show ip flow top-talkers
- C. show ip cache flow
- D. show mls sampling
- E. show mls netflow ip

**Answer: C**

**Explanation:**

**QUESTION NO: 85**

What are three values that must be the same within a sequence of packets for Netflow to consider them a network flow? (Choose three.)

- A. source IP address
- B. source MAC address
- C. egress interface
- D. ingress interface
- E. destination IP address
- F. IP next-hop

**Answer: A,D,E**

**Explanation:**

**QUESTION NO: 86**

What are three factors a network administrator must consider before implementing Netflow in the network? (Choose three.)

- A. CPU utilization
- B. where Netflow data will be sent

- C. number of devices exporting Netflow data
- D. port availability
- E. SNMP version
- F. WAN encapsulation

**Answer: A,B,C**

**Explanation:**

**QUESTION NO: 87**

What are the benefit of using Netflow? (Choose three.)

- A. Network, Application & User Monitoring
- B. Network Planning
- C. Security Analysis
- D. Accounting/Billing

**Answer: A,C,D**

**Explanation:**

**QUESTION NO: 88**

What are three benefits of GLBP? (Choose three.)

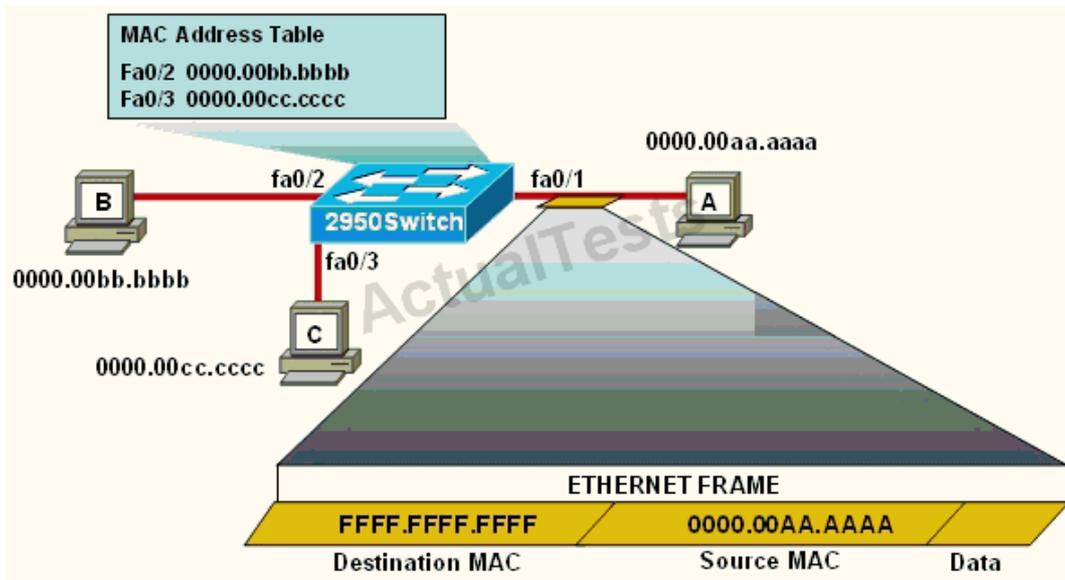
- A. GLBP supports up to eight virtual forwarders per GLBP group.
- B. GLBP supports clear text and MD5 password authentication between GLBP group members.
- C. GLBP is an open source standardized protocol that can be used with multiple vendors.
- D. GLBP supports up to 1024 virtual routers.
- E. GLBP can load share traffic across a maximum of four routers.
- F. GLBP elects two AVGs and two standby AVGs for redundancy.

**Answer: B,D,E**

**Explanation:**

**QUESTION NO: 89**

Refer to the exhibit.



The following commands are executed on interface fa0/1 of 2950Switch.

```
2950Switch(config-if)# switchport port-security
```

```
2950Switch(config-if)# switchport port-security mac-address sticky
```

```
2950Switch(config-if)# switchport port-security maximum 1
```

The Ethernet frame that is shown arrives on interface fa0/1. What two functions will occur when this frame is received by 2950Switch? (Choose two.)

- A. The MAC address table will now have an additional entry of fa0/1 FFFF.FFFF.FFFF.
- B. Only host A will be allowed to transmit frames on fa0/1.
- C. This frame will be discarded when it is received by 2950Switch.
- D. All frames arriving on 2950Switch with a destination of 0000.00aa.aaaa will be forwarded out fa0/1.
- E. Hosts B and C may forward frames out fa0/1 but frames arriving from other switches will not be forwarded out fa0/1.
- F. Only frames from source 0000.00bb.bbbb, the first learned MAC address of 2950Switch, will be forwarded out fa0/1.

**Answer: B,D**

**Explanation:**

#### QUESTION NO: 90

A network administrator needs to configure port security on a switch. Which two statements are true? (Choose two.)

- A. The network administrator can apply port security to dynamic access ports.
- B. When dynamic MAC address learning is enabled on an interface, the switch can learn new addresses, up to the maximum defined.
- C. The sticky learning feature allows the addition of dynamically learned addresses to the running configuration.
- D. The network administrator can configure static secure or sticky secure MAC addresses in the voice VLAN.
- E. The network administrator can apply port security to EtherChannels.

**Answer: B,C**

**Explanation:**

### **QUESTION NO: 91**

The network administrator has been asked to give reasons for moving from IPv4 to IPv6. What are two valid reasons for adopting IPv6 over IPv4? (Choose two.)

- A. no broadcast
- B. change of source address in the IPv6 header
- C. change of destination address in the IPv6 header
- D. Telnet access does not require a password
- E. autoconfig
- F. NAT

**Answer: A,E**

**Explanation:**

### **QUESTION NO: 92**

Which of these represents an IPv6 link-local address?

- A. FE80::380e:611a:e14f:3d69
- B. FE81::280f:512b:e14f:3d69
- C. FEFE:0345:5f1b::e14d:3d69
- D. FE08::280e:611:a:f14f:3d69

**Answer: A**

**Explanation:**

**QUESTION NO: 93**

What is a valid HSRP virtual MAC address?

- A. 0000.5E00.01A3
- B. 0007.B400.AE01
- C. 0000.0C07.AC15
- D. 0007.5E00.B301

**Answer: C**

**Explanation:**

**QUESTION NO: 94**

What Netflow component can be applied to an interface to track IPv4 traffic?

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

**Answer: A**

**Explanation:**

**QUESTION NO: 95**

What are three reasons to collect Netflow data on a company network? (Choose three.)

- A. To identify applications causing congestion
- B. To authorize user network access
- C. To report and alert link up / down instances
- D. To diagnose slow network performance, bandwidth hogs, and bandwidth utilization
- E. To detect suboptimal routing in the network
- F. To confirm the appropriate amount of bandwidth that has been allocated to each Class of Service

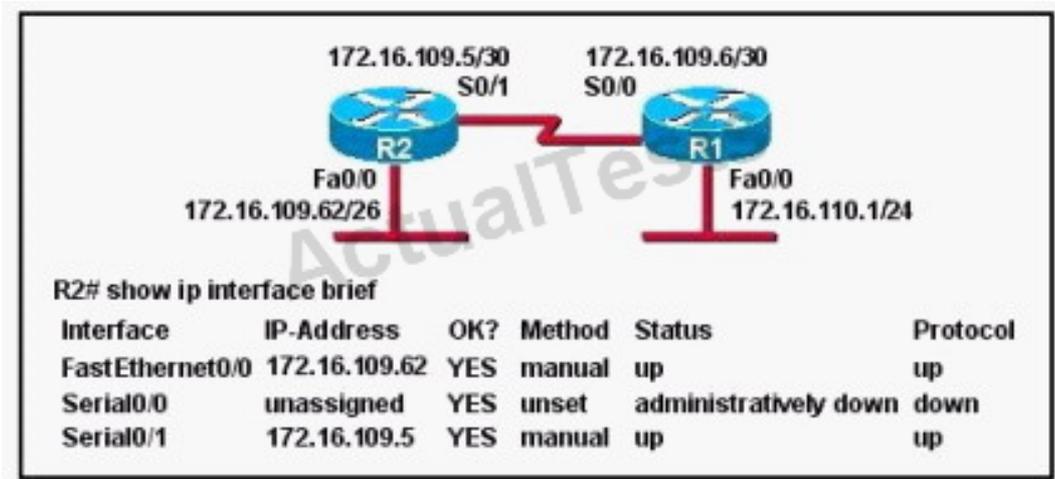
**Answer: A,D,F**

**Explanation:**

## Topic 4, Troubleshooting

## QUESTION NO: 96

Refer to the exhibit.



Assuming that the entire network topology is shown, what is the operational status of the interfaces of R2 as indicated by the command output shown?

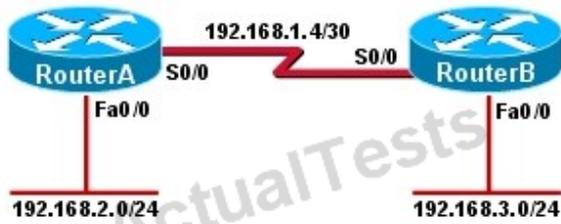
- A. One interface has a problem.
- B. Two interfaces have problems.
- C. The interfaces are functioning correctly.
- D. The operational status of the interfaces cannot be determined from the output shown.

**Answer: C**

**Explanation:**

## QUESTION NO: 97

Refer to the exhibit.



```
RouterA# show ip interface brief
```

Interface	IP-Address	OK?	Method	Status	Protocol
FastEthernet0/0	192.168.2.1	YES	manual	up	up
Serial0/0	192.168.1.5	YES	manual	up	down
Serial0/1	unassigned	YES	manual	administratively down	down

Hosts in network 192.168.2.0 are unable to reach hosts in network 192.168.3.0. Based on the output from RouterA, what are two possible reasons for the failure? (Choose two.)

- A. The cable that is connected to S0/0 on RouterA is faulty.
- B. Interface S0/0 on RouterB is administratively down.
- C. Interface S0/0 on RouterA is configured with an incorrect subnet mask.
- D. The IP address that is configured on S0/0 of RouterB is not in the correct subnet.
- E. Interface S0/0 on RouterA is not receiving a clock signal from the CSU/DSU.
- F. The encapsulation that is configured on S0/0 of RouterB does not match the encapsulation that is configured on S0/0 of RouterA.

**Answer: E,F**

**Explanation:**

**QUESTION NO: 98**

## Instructions

This item contains several questions that you must answer. You can view these questions by clicking on the corresponding button to the left. Changing questions can be accomplished by clicking the numbers to the left of each question. In order to complete the questions, you will need to refer to the topology.

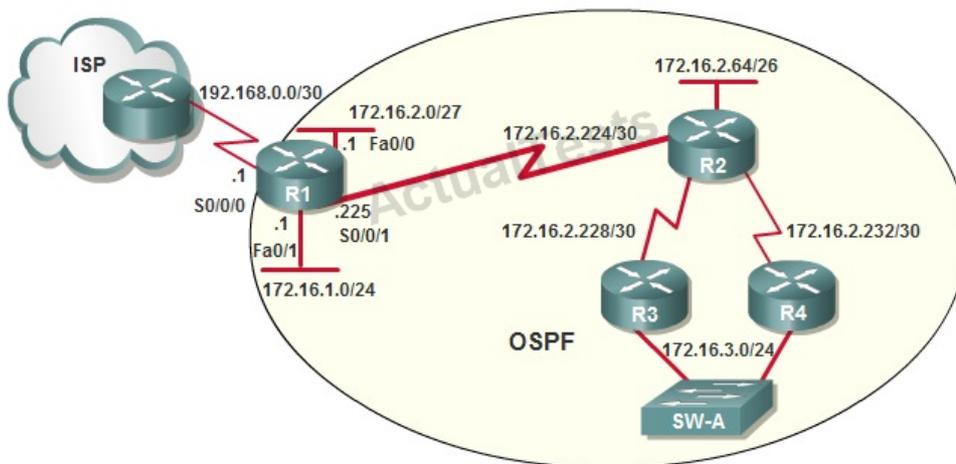
To gain access to the topology, click on the topology button at the bottom of the screen. When you have finished viewing the topology, you can return to your questions by clicking on the Questions button to the left.

Each of the windows can be minimized by clicking on the [-]. You can also reposition a window by dragging it by the title bar.

## Scenario

Refer to the topology. Using the information shown, answer the four questions shown on the Questions tab.

## Topology



OSPF is configured using default classful addressing. With all routers and interfaces operational, how many networks will be in the routing table of R1 that are indicated to be learned by OSPF?

- A. 2
- B. 3
- C. 4
- D. 5
- E. 6
- F. 7

**Answer: C**

**Explanation:**

## QUESTION NO: 99

## Instructions

This item contains several questions that you must answer. You can view these questions by clicking on the corresponding button to the left. Changing questions can be accomplished by clicking the numbers to the left of each question. In order to complete the questions, you will need to refer to the topology.

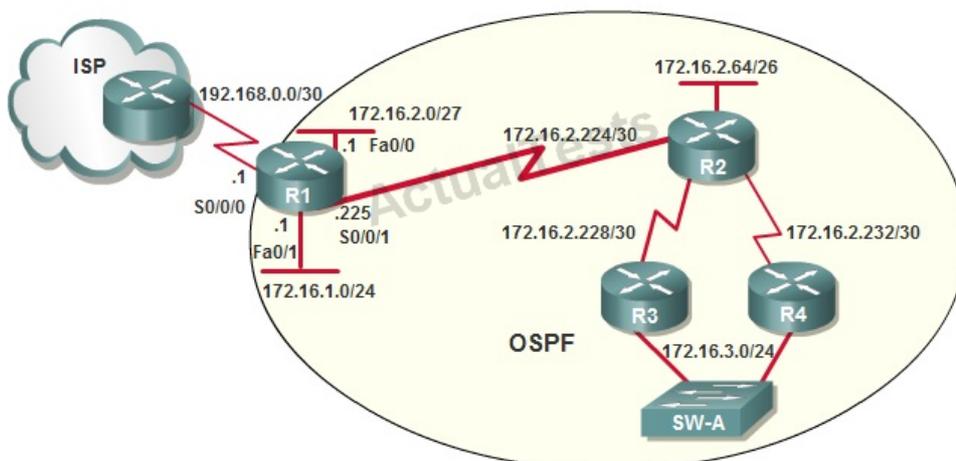
To gain access to the topology, click on the topology button at the bottom of the screen. When you have finished viewing the topology, you can return to your questions by clicking on the Questions button to the left.

Each of the windows can be minimized by clicking on the [-]. You can also reposition a window by dragging it by the title bar.

## Scenario

Refer to the topology. Using the information shown, answer the four questions shown on the Questions tab.

## Topology



After the network has converged, what type of messaging, if any, occurs between R3 and R4?

- A. No messages are exchanged.
- B. Hellos are sent every 10 seconds.
- C. The full database from each router is sent every 30 seconds.
- D. The routing table from each router is sent every 60 seconds.

**Answer: B**

**Explanation:**

**QUESTION NO: 100**

**Instructions**

This item contains several questions that you must answer. You can view these questions by clicking on the corresponding button to the left. Changing questions can be accomplished by clicking the numbers to the left of each question. In order to complete the questions, you will need to refer to the topology.

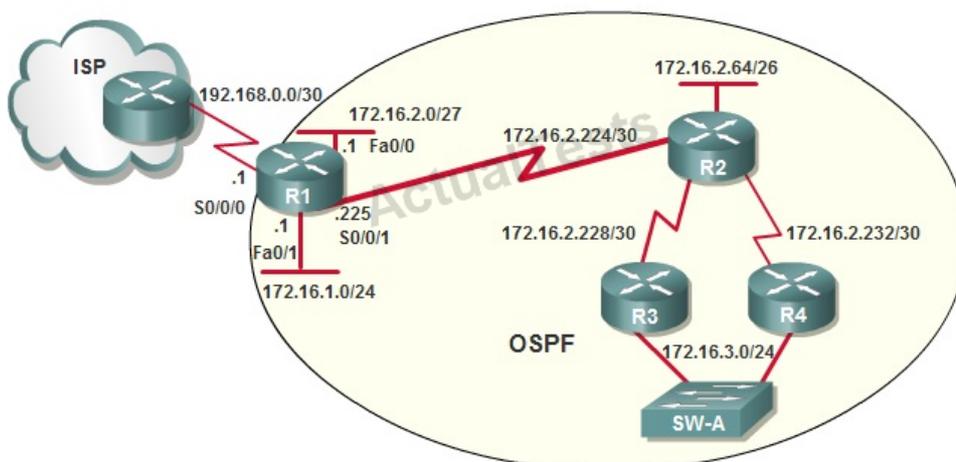
To gain access to the topology, click on the topology button at the bottom of the screen. When you have finished viewing the topology, you can return to your questions by clicking on the Questions button to the left.

Each of the windows can be minimized by clicking on the [-]. You can also reposition a window by dragging it by the title bar.

**Scenario**

Refer to the topology. Using the information shown, answer the four questions shown on the Questions tab.

**Topology**



To allow or prevent load balancing to network 172.16.3.0/24, which of the following commands could be used in R2? (Choose two.)

- A. R2(config-if)#clock rate
- B. R2(config-if)#bandwidth

- C. R2(config-if)#ip ospf cost
- D. R2(config-if)#ip ospf priority
- E. R2(config-router)#distance ospf

**Answer: B,C**

**Explanation:**

## QUESTION NO: 101

### Instructions

This item contains several questions that you must answer. You can view these questions by clicking on the corresponding button to the left. Changing questions can be accomplished by clicking the numbers to the left of each question. In order to complete the questions, you will need to refer to the topology.

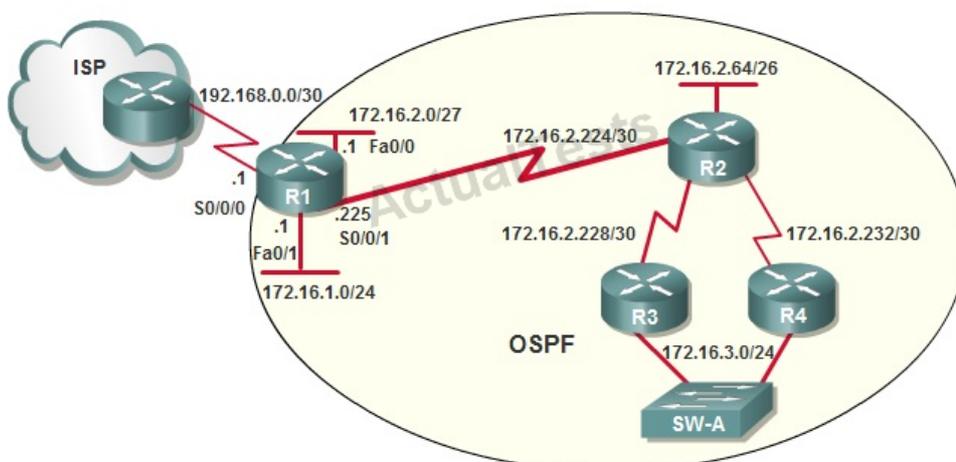
To gain access to the topology, click on the topology button at the bottom of the screen. When you have finished viewing the topology, you can return to your questions by clicking on the Questions button to the left.

Each of the windows can be minimized by clicking on the [-]. You can also reposition a window by dragging it by the title bar.

### Scenario

Refer to the topology. Using the information shown, answer the four questions shown on the Questions tab.

### Topology



R1 is configured with the default configuration of OSPF.

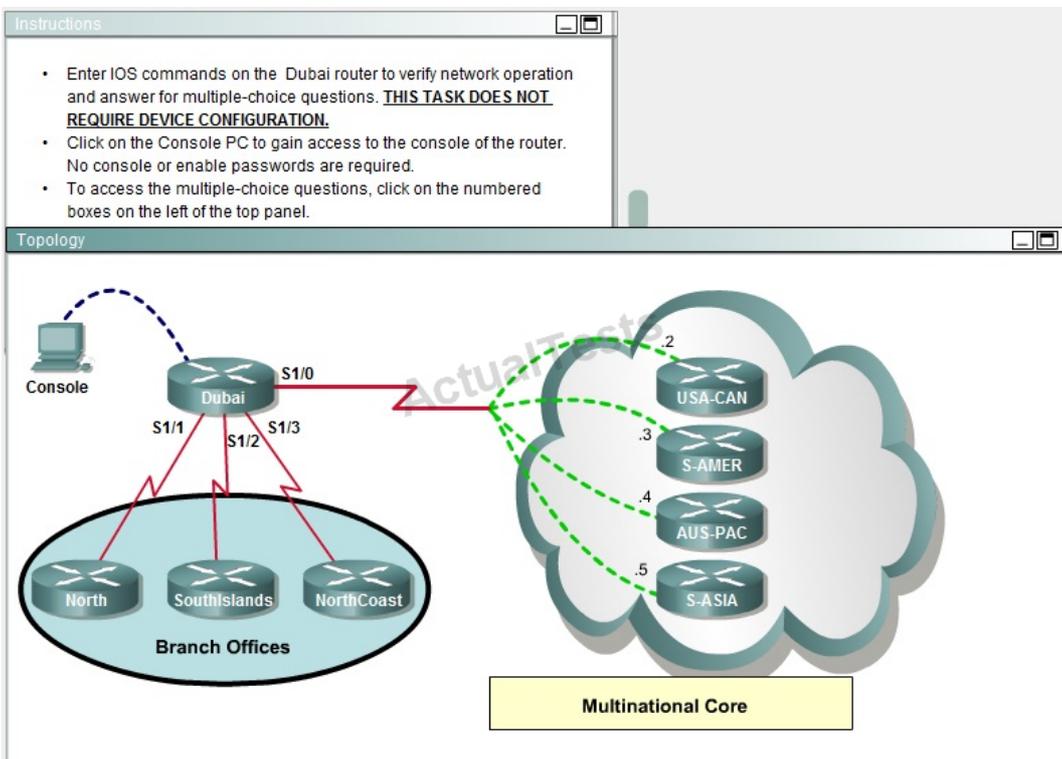
From the following list of IP addresses configured on R1, which address will the OSPF process select as the router ID?

- A. 192.168.0.1
- B. 172.16.1.1
- C. 172.16.2.1
- D. 172.16.2.225

**Answer: A**

**Explanation:**

### QUESTION NO: 102

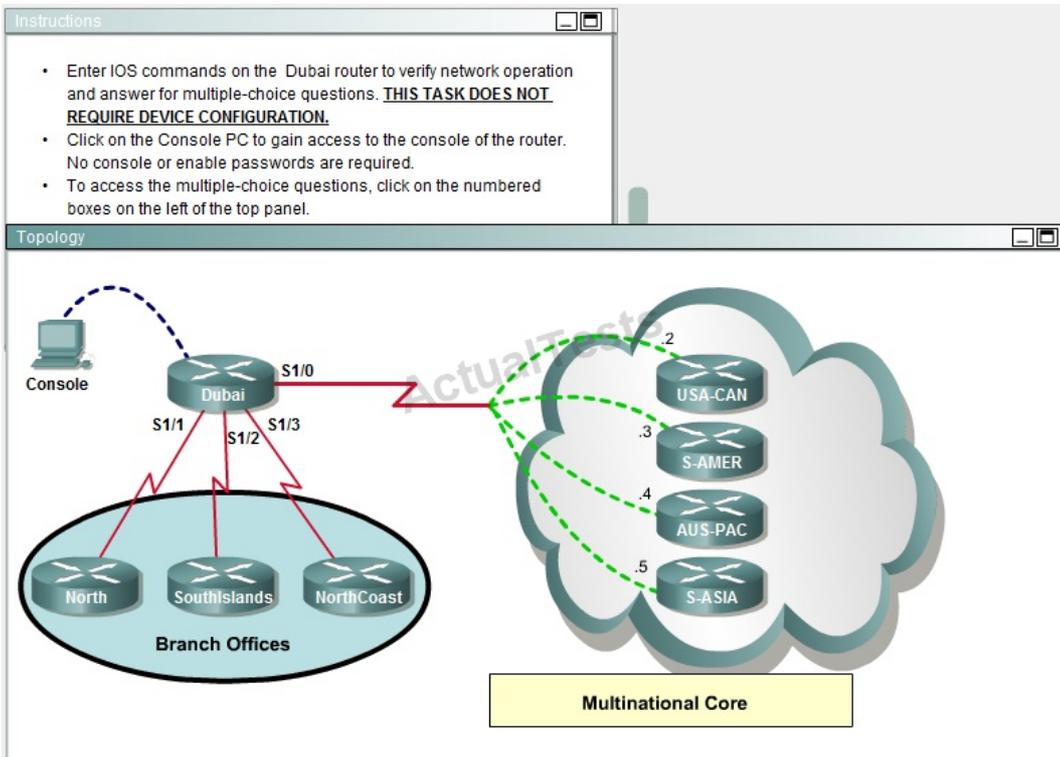


```
Dubai
%LINK-3-UPDOWN: Interface FastEthernet0/0, changed state to administratively down
%LINK-3-UPDOWN: Interface Serial1/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial1/0, changed state to up
%LINK-3-UPDOWN: Interface Serial1/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial1/1, changed state to up
%LINK-3-UPDOWN: Interface Serial1/2, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial1/2, changed state to up
%LINK-3-UPDOWN: Interface Serial1/3, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial1/3, changed state to up
Press RETURN to get started!
Dubai>
```

```
Dubai#sh frame-relay map
Serial1/0 (up): ip 172.30.0.2 dlci 825 (0x7B,0x1CB0), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.3 dlci 230 (0xEA,0x38A0), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.4 dlci 694 (0x159,0x5490), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.5 dlci 387 (0x1C8,0x7080), dynamic,
                broadcast,, status defined, active
Dubai#
interface FastEthernet0/0
  no ip address
  shutdown
!
interface Serial1/0
  ip address 172.30.0.1 255.255.255.240
  encapsulation frame-relay
  no fair-queue
!
interface Serial1/1
  ip address 192.168.0.1 255.255.255.252
!
interface Serial1/2
  ip address 192.168.0.5 255.255.255.252
  encapsulation ppp
!
interface Serial1/3
  ip address 192.168.0.9 255.255.255.252
  encapsulation ppp
  ppp authentication chap
!
router rip
  version 2
  network 172.30.0.0
  network 192.168.0.0
  no auto-summary
!
line con 0
  exec-timeout 0 0
line aux 0
line vty 0 4
  password Tlnet
  login
!
end
```

If required, what password should be configured on the DeepSouth router in the branch office to allow a connection to be established with the MidEast router?

- A. No password is required.
- B. Enable
- C. Secret
- D. Telnet
- E. Console

**Answer: B****Explanation:****QUESTION NO: 103**

Dubai

```

%LINK-3-UPDOWN: Interface FastEthernet0/0, changed state to administratively down
%LINK-3-UPDOWN: Interface Serial1/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial1/0, changed state to up
%LINK-3-UPDOWN: Interface Serial1/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial1/1, changed state to up
%LINK-3-UPDOWN: Interface Serial1/2, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial1/2, changed state to up
%LINK-3-UPDOWN: Interface Serial1/3, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial1/3, changed state to up
Press RETURN to get started!
Dubai>

```

```
Dubai#sh frame-relay map
Serial1/0 (up): ip 172.30.0.2 dlci 825 (0x7B,0x1CB0), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.3 dlci 230 (0xEA,0x38A0), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.4 dlci 694 (0x159,0x5490), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.5 dlci 387 (0x1C8,0x7080), dynamic,
                broadcast,, status defined, active
Dubai#
interface FastEthernet0/0
  no ip address
  shutdown
!
interface Serial1/0
  ip address 172.30.0.1 255.255.255.240
  encapsulation frame-relay
  no fair-queue
!
interface Serial1/1
  ip address 192.168.0.1 255.255.255.252
!
interface Serial1/2
  ip address 192.168.0.5 255.255.255.252
  encapsulation ppp
!
interface Serial1/3
  ip address 192.168.0.9 255.255.255.252
  encapsulation ppp
  ppp authentication chap
!
router rip
  version 2
  network 172.30.0.0
  network 192.168.0.0
  no auto-summary
!
line con 0
  exec-timeout 0 0
line aux 0
line vty 0 4
  password Tinet
  login
!
end
```

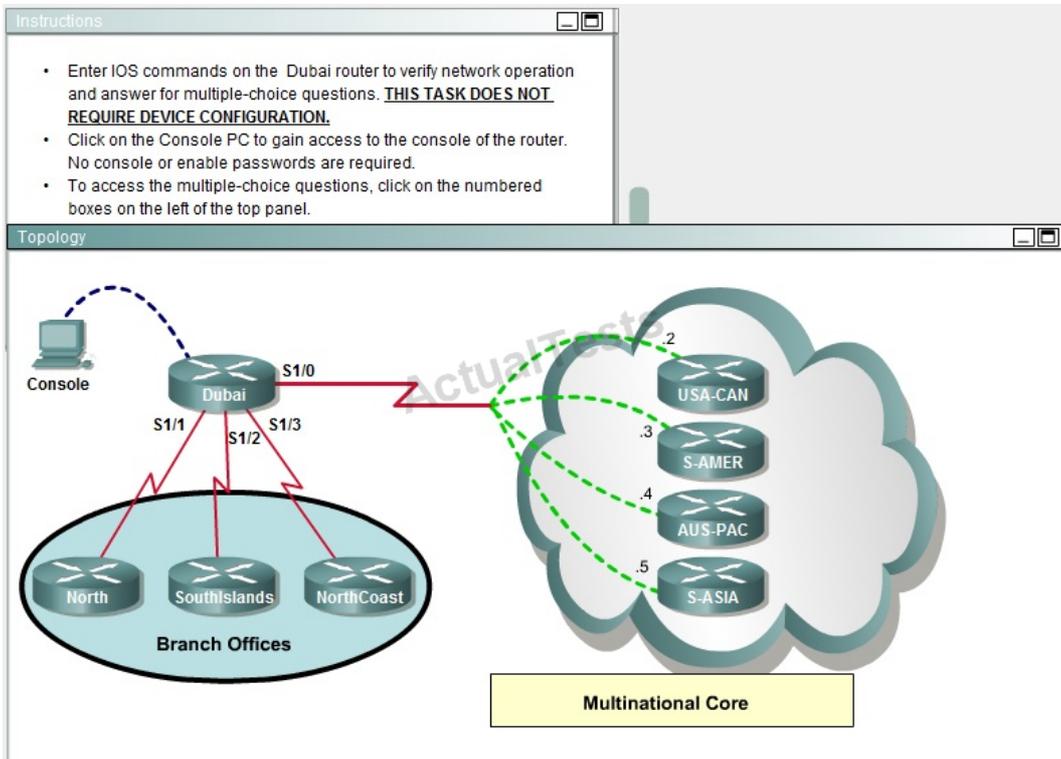
What would be the destination Layer 2 address in the frame header for a frame that is being forwarded by Dubai to the host address of 172.30.4.4?

- A. 825
- B. 230
- C. 694
- D. 387

**Answer: C**

## Explanation:

## QUESTION NO: 104



Dubai

```

%LINK-3-UPDOWN: Interface FastEthernet0/0, changed state to administratively down
%LINK-3-UPDOWN: Interface Serial1/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial1/0, changed state to up
%LINK-3-UPDOWN: Interface Serial1/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial1/1, changed state to up
%LINK-3-UPDOWN: Interface Serial1/2, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial1/2, changed state to up
%LINK-3-UPDOWN: Interface Serial1/3, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial1/3, changed state to up
Press RETURN to get started!
Dubai>

```

```
Dubai#sh frame-relay map
Serial1/0 (up): ip 172.30.0.2 dlci 825 (0x7B,0x1CB0), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.3 dlci 230 (0xEA,0x38A0), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.4 dlci 694 (0x159,0x5490), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.5 dlci 387 (0x1C8,0x7080), dynamic,
                broadcast,, status defined, active
Dubai#
interface FastEthernet0/0
 no ip address
 shutdown
!
interface Serial1/0
 ip address 172.30.0.1 255.255.255.240
 encapsulation frame-relay
 no fair-queue
!
interface Serial1/1
 ip address 192.168.0.1 255.255.255.252
!
interface Serial1/2
 ip address 192.168.0.5 255.255.255.252
 encapsulation ppp
!
interface Serial1/3
 ip address 192.168.0.9 255.255.255.252
 encapsulation ppp
 ppp authentication chap
!
router rip
 version 2
 network 172.30.0.0
 network 192.168.0.0
 no auto-summary
!
line con 0
 exec-timeout 0 0
line aux 0
line vty 0 4
 password Tlnet
 login
!
end
```

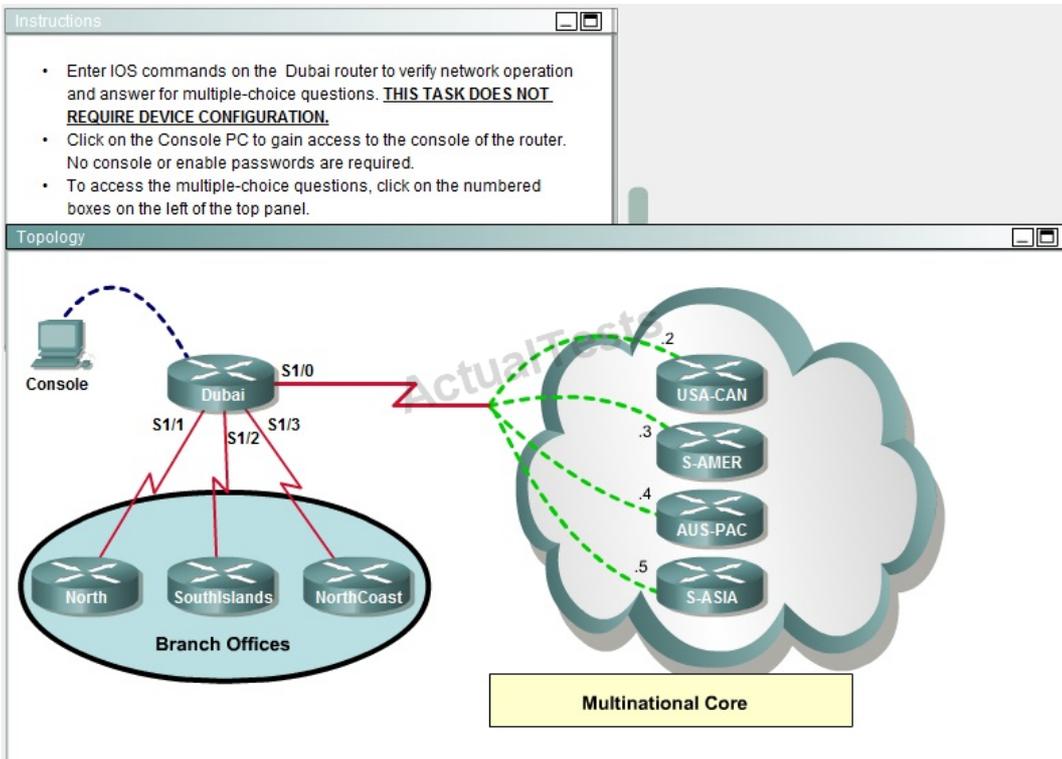
Which connection uses the default encapsulation for serial interfaces on Cisco routers?

- A. The serial connection to the NorthCoast branch office.
- B. The serial connection to the North branch office.
- C. The serial connection to the Southlands branch office.
- D. The serial connection to the Multinational Core.

**Answer: B**

## Explanation:

## QUESTION NO: 105



Dubai

```

%LINK-3-UPDOWN: Interface FastEthernet0/0, changed state to administratively down
%LINK-3-UPDOWN: Interface Serial1/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial1/0, changed state to up
%LINK-3-UPDOWN: Interface Serial1/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial1/1, changed state to up
%LINK-3-UPDOWN: Interface Serial1/2, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial1/2, changed state to up
%LINK-3-UPDOWN: Interface Serial1/3, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial1/3, changed state to up
Press RETURN to get started!
Dubai>

```

```
Dubai#sh frame-relay map
Serial1/0 (up): ip 172.30.0.2 dlci 825 (0x7B,0x1CB0), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.3 dlci 230 (0xEA,0x38A0), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.4 dlci 694 (0x159,0x5490), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.5 dlci 387 (0x1C8,0x7080), dynamic,
                broadcast,, status defined, active
Dubai#
interface FastEthernet0/0
 no ip address
 shutdown
!
interface Serial1/0
 ip address 172.30.0.1 255.255.255.240
 encapsulation frame-relay
 no fair-queue
!
interface Serial1/1
 ip address 192.168.0.1 255.255.255.252
!
interface Serial1/2
 ip address 192.168.0.5 255.255.255.252
 encapsulation ppp
!
interface Serial1/3
 ip address 192.168.0.9 255.255.255.252
 encapsulation ppp
 ppp authentication chap
!
router rip
 version 2
 network 172.30.0.0
 network 192.168.0.0
 no auto-summary
!
line con 0
 exec-timeout 0 0
line aux 0
line vty 0 4
 password Tinet
 login
!
end
```

A static map to the S-AMER location is required. Which command should be used to create this map?

- A. frame-relay map ip 172.30.0.3 825 broadcast
- B. frame-relay map ip 172.30.0.3 230 broadcast
- C. frame-relay map ip 172.30.0.3 694 broadcast
- D. frame-relay map ip 172.30.0.3 387 broadcast

**Answer: B**

**Explanation:****QUESTION NO: 106**

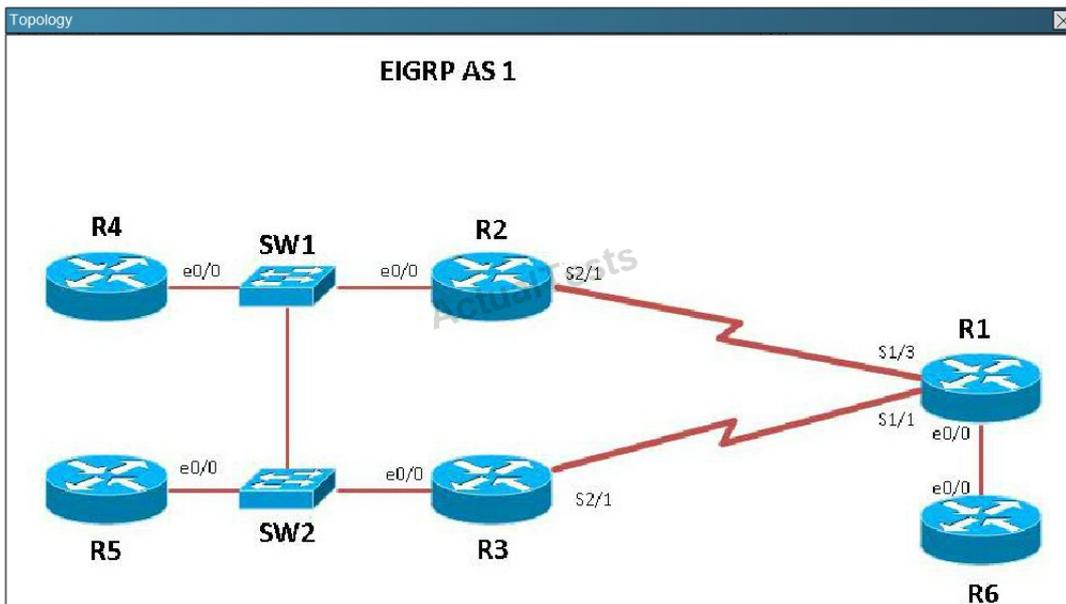
## Scenario

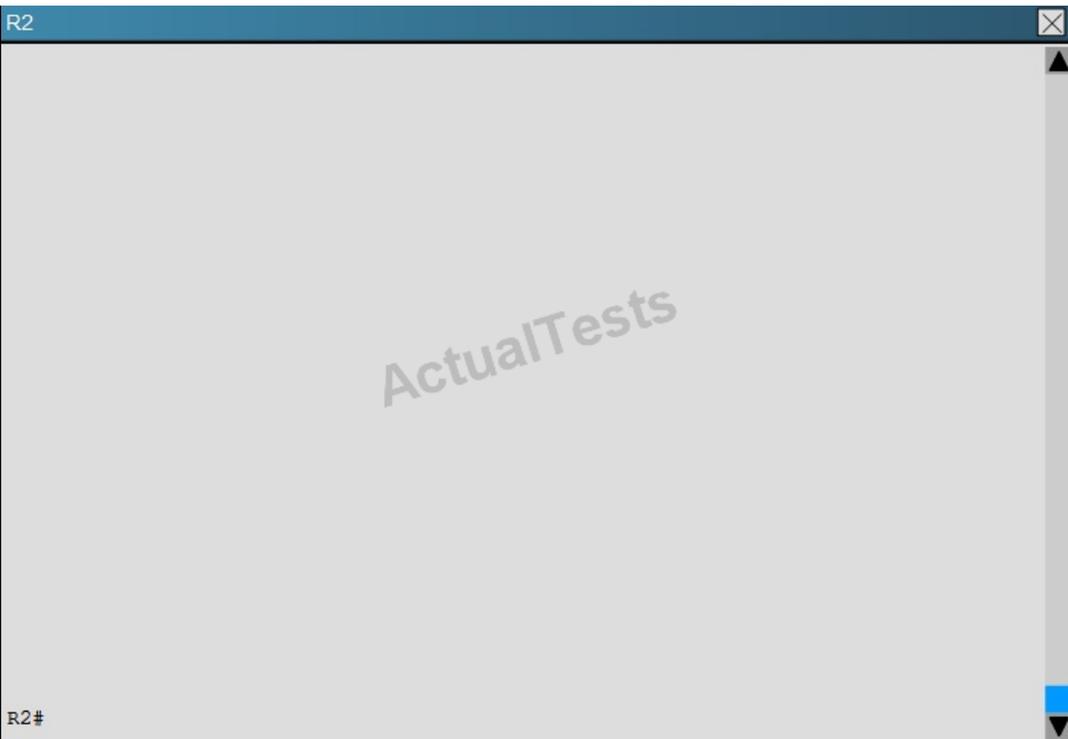
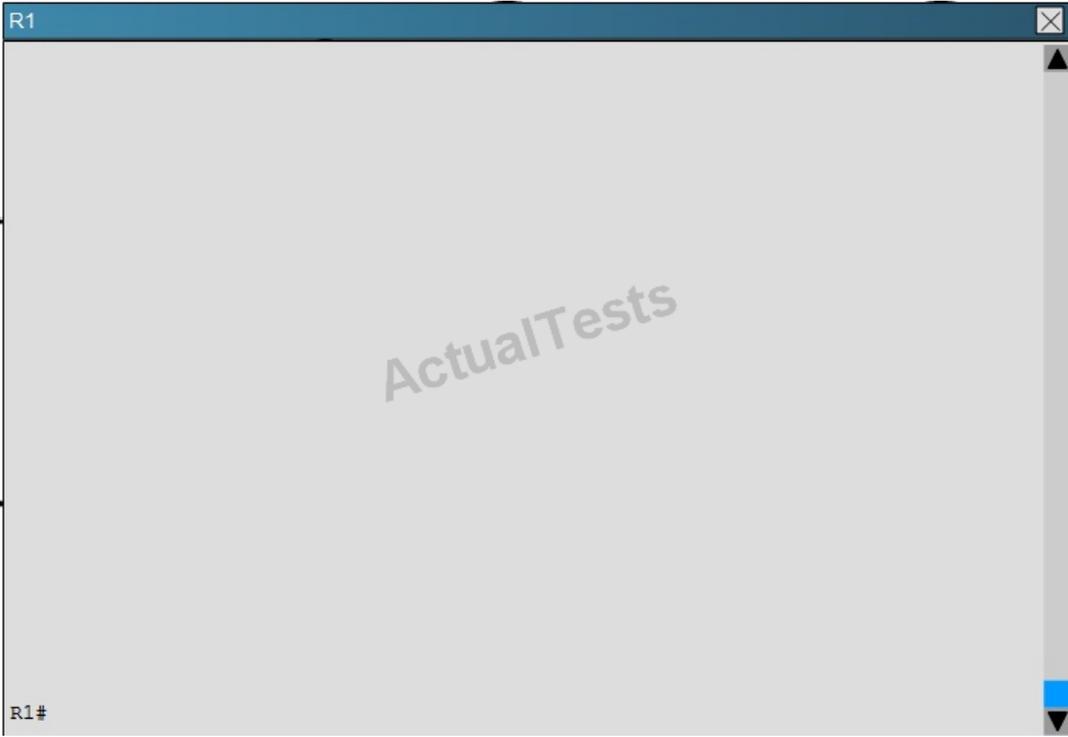
Refer to the topology. Your company has connected the routers R1, R2, and R3 with serial links. R2 and R3 are connected to the switches SW1 and SW2, respectively. SW1 and SW2 are also connected to the routers R4 and R5.

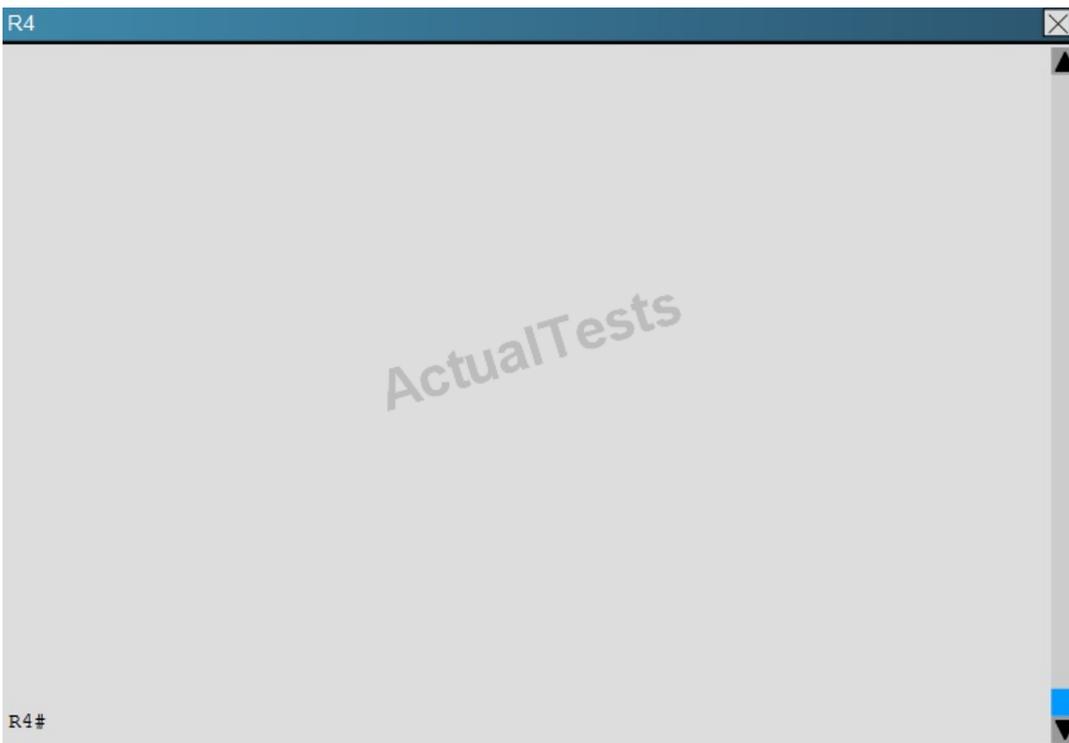
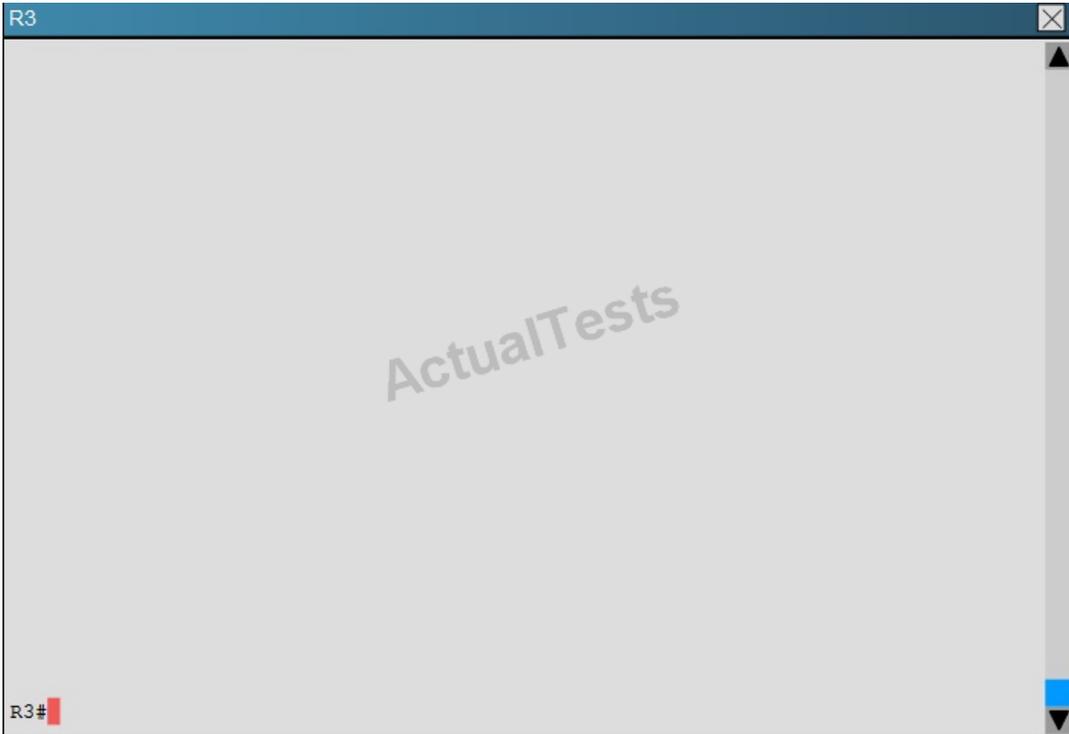
The EIGRP routing protocol is configured.

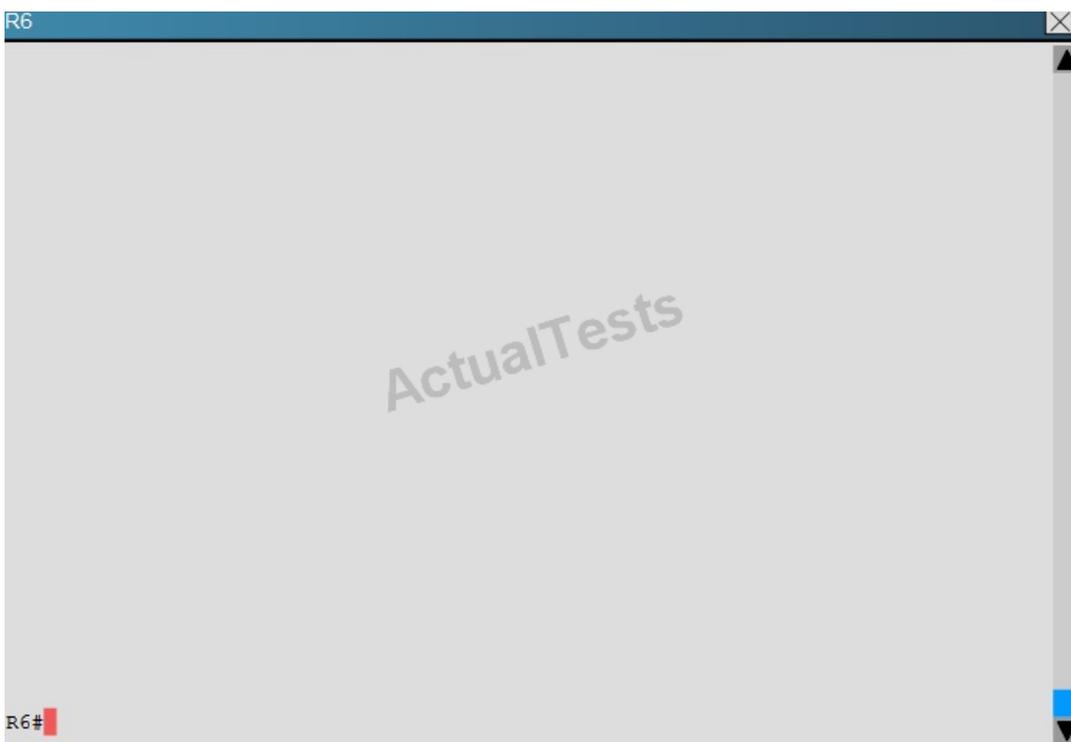
You are required to troubleshoot and resolve the EIGRP issues between the various routers.

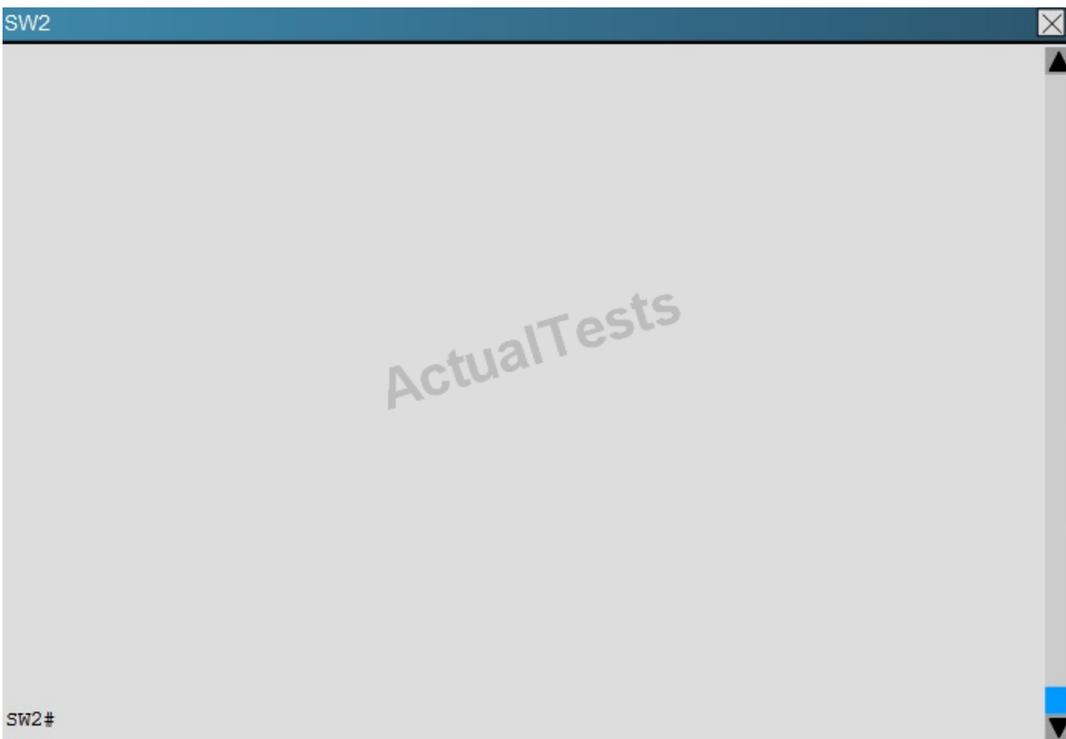
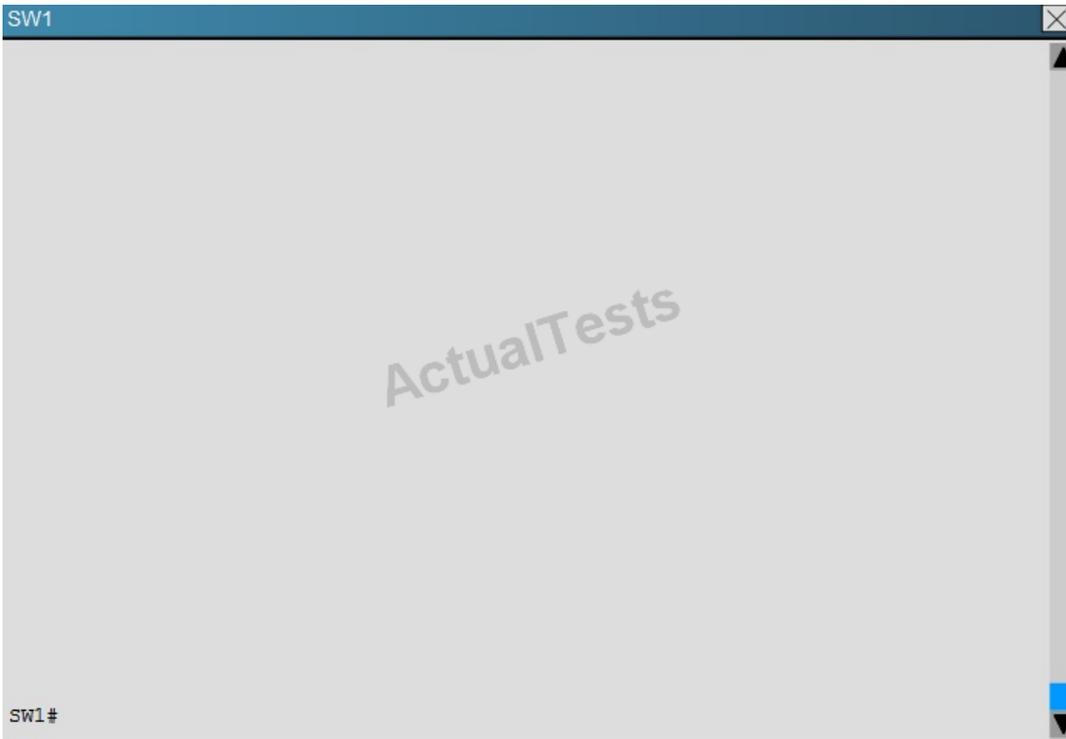
Use the appropriate show commands to troubleshoot the issues.











The loopback interfaces on R4 with the IP addresses of 10.4.4.4 /32, 10.4.4.5/32. and 10.4.4.6/32 are not appearing in the routing table of R5 Why are the interfaces missing?

- A. The interfaces are shutdown, so they are not being advertised.
- B. R4 has been incorrectly configured to be in another AS, so it does not peer with R5.
- C. Automatic summarization is enabled, so only the 10.0.0.0 network is displayed.
- D. The loopback addresses haven't been advertised, and the network command is missing on R4.

**Answer: B**

**Explanation:**

**QUESTION NO: 107**

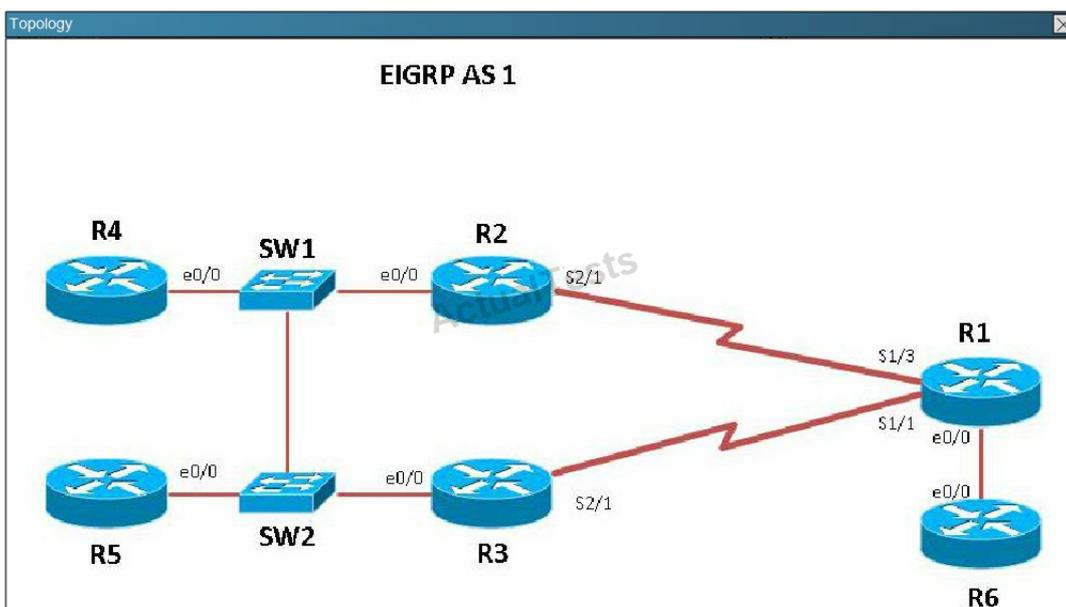
Scenario

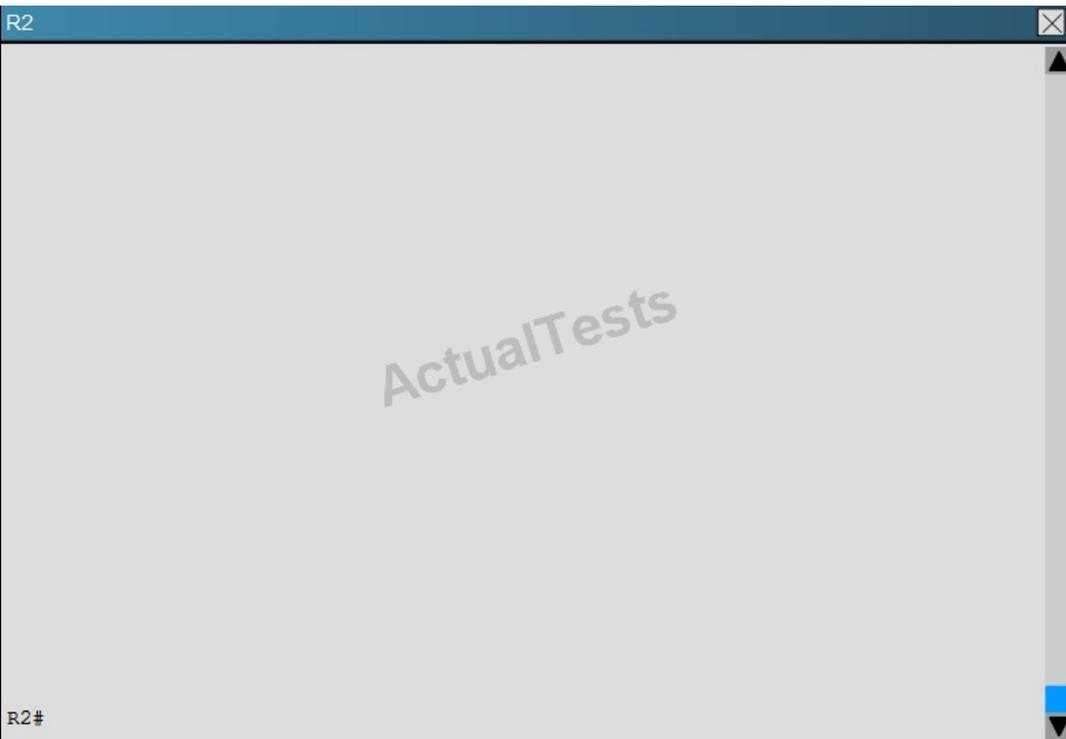
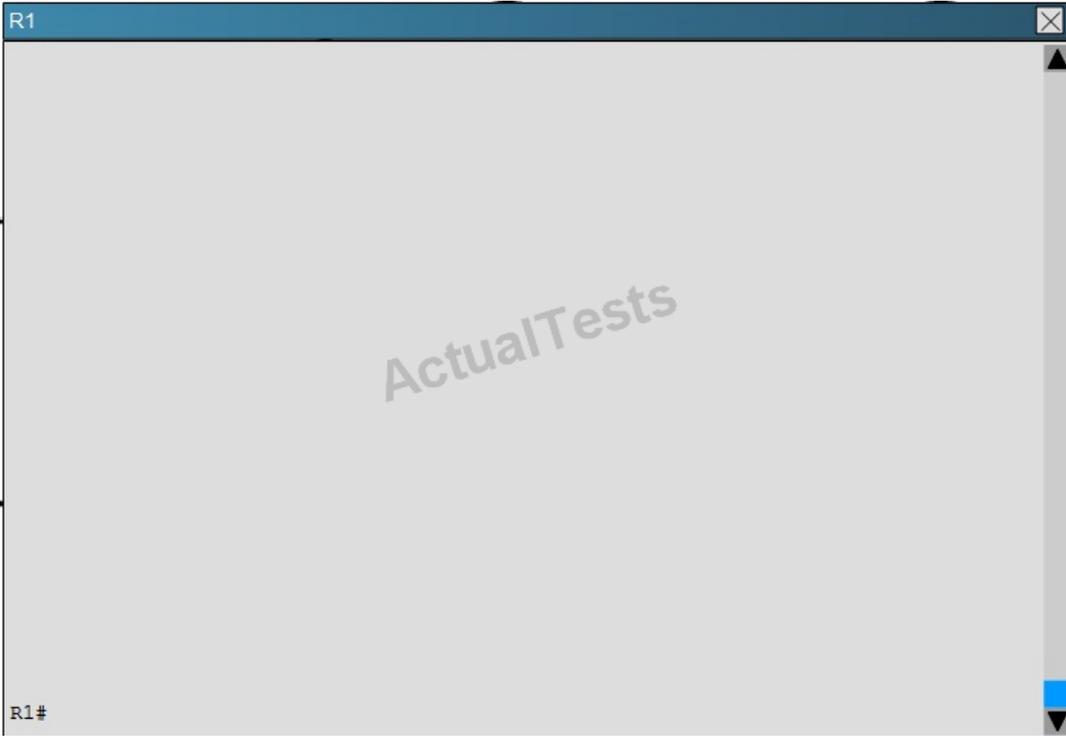
Refer to the topology. Your company has connected the routers R1, R2, and R3 with serial links. R2 and R3 are connected to the switches SW1 and SW2, respectively. SW1 and SW2 are also connected to the routers R4 and R5.

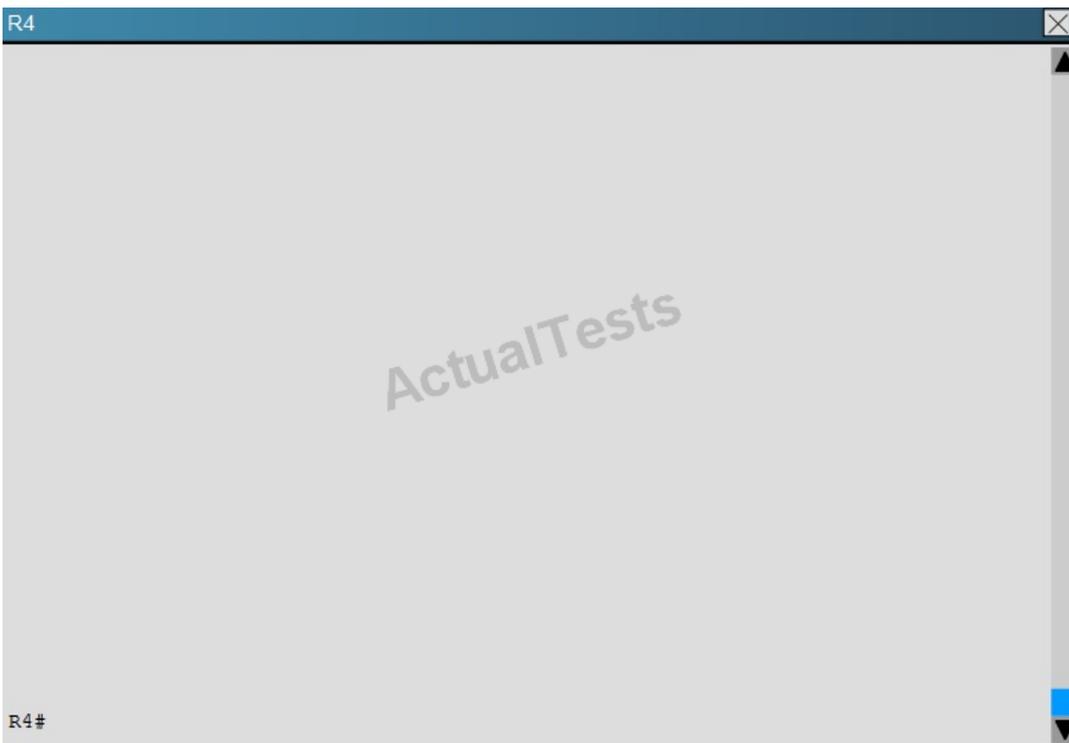
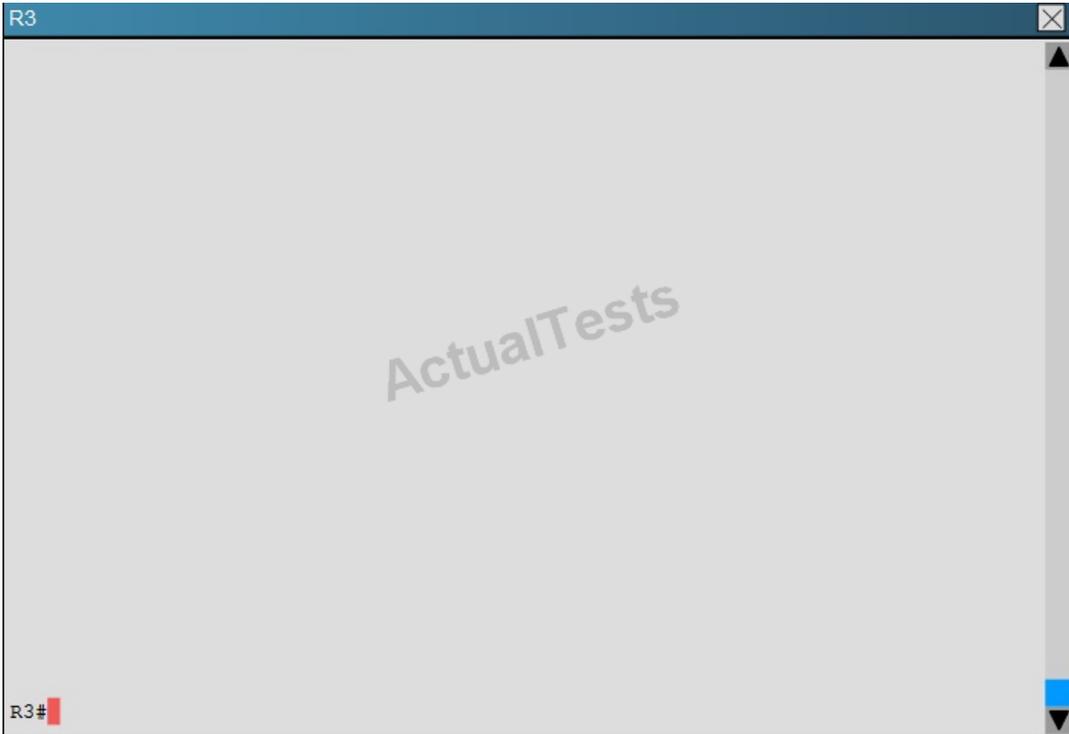
The EIGRP routing protocol is configured.

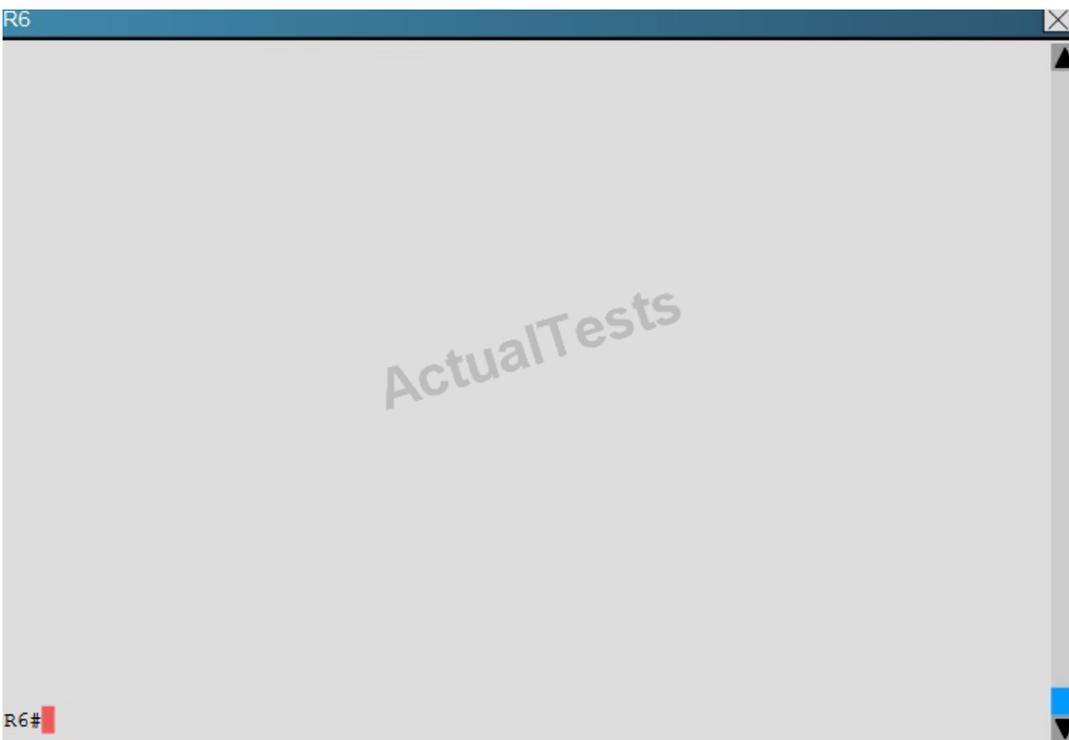
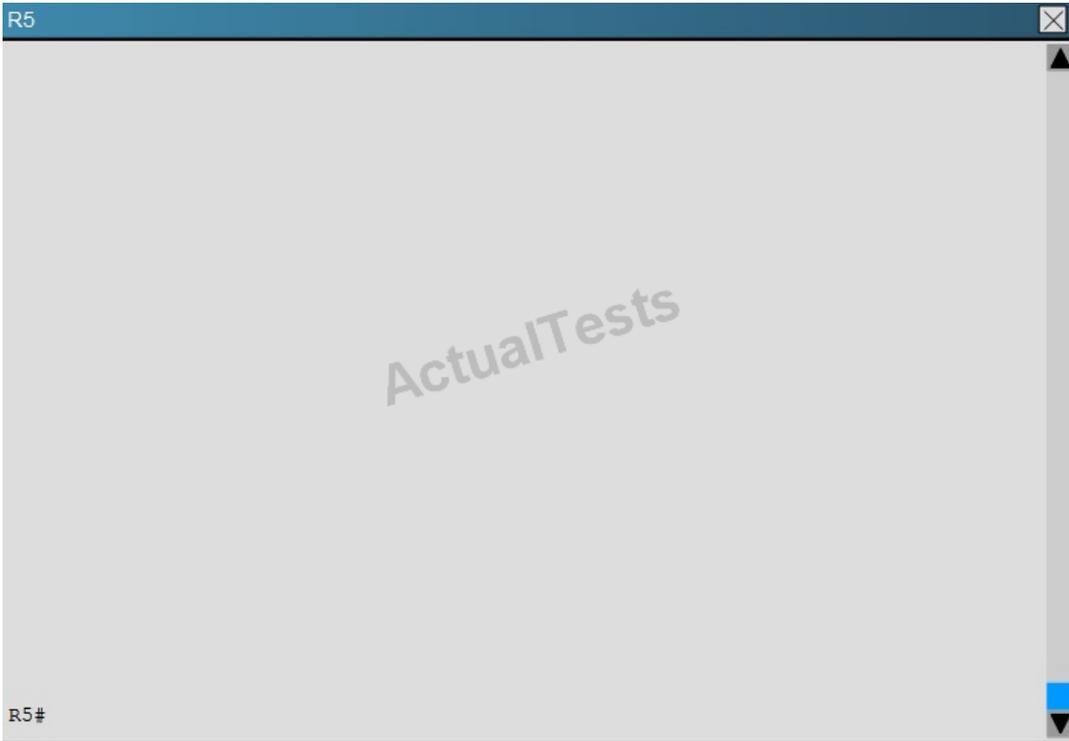
You are required to troubleshoot and resolve the EIGRP issues between the various routers.

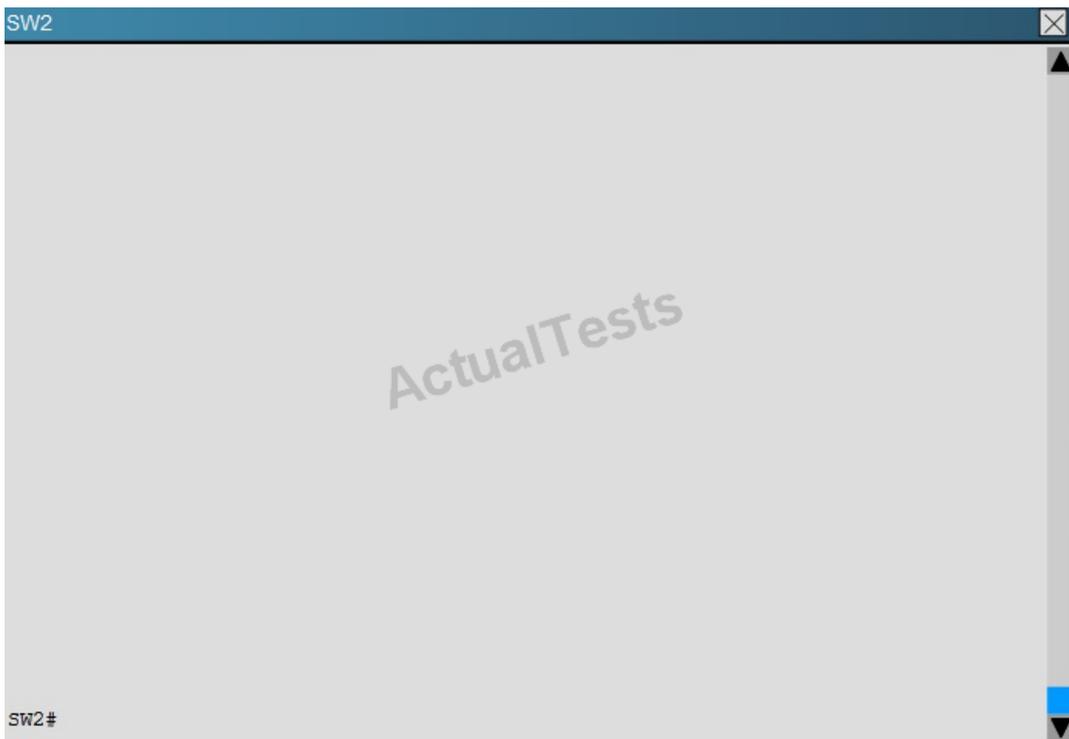
Use the appropriate show commands to troubleshoot the issues.











Which path does traffic take from R1 to R5?

- A. The traffic goes through R2.
- B. The traffic goes through R3.
- C. The traffic is equally load-balanced over R2 and R3.
- D. The traffic is unequally load-balanced over R2 and R3.

**Answer: A**

**Explanation:**

### QUESTION NO: 108

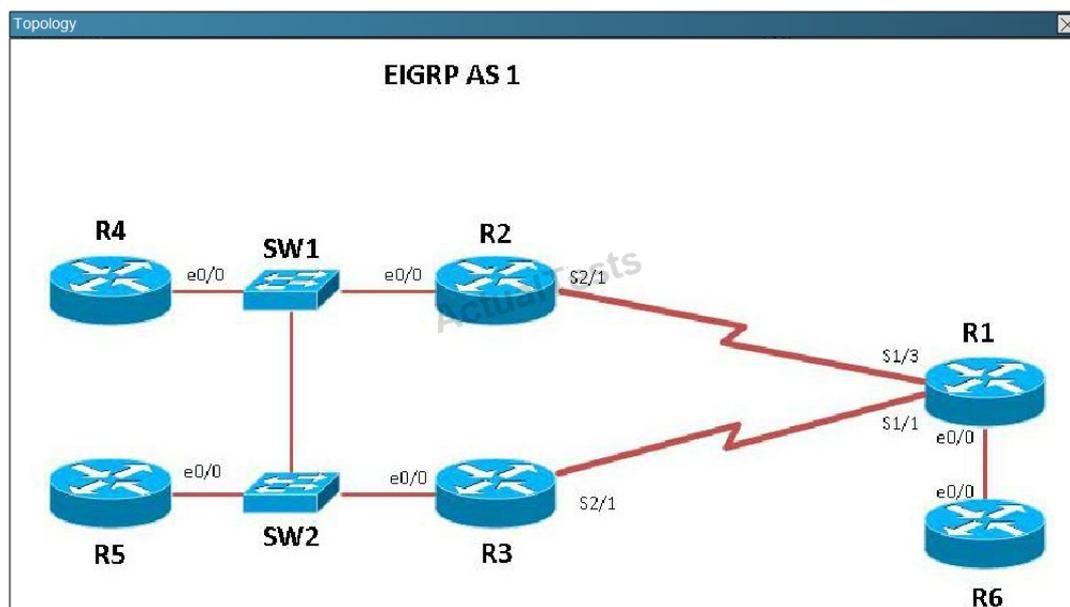
Scenario

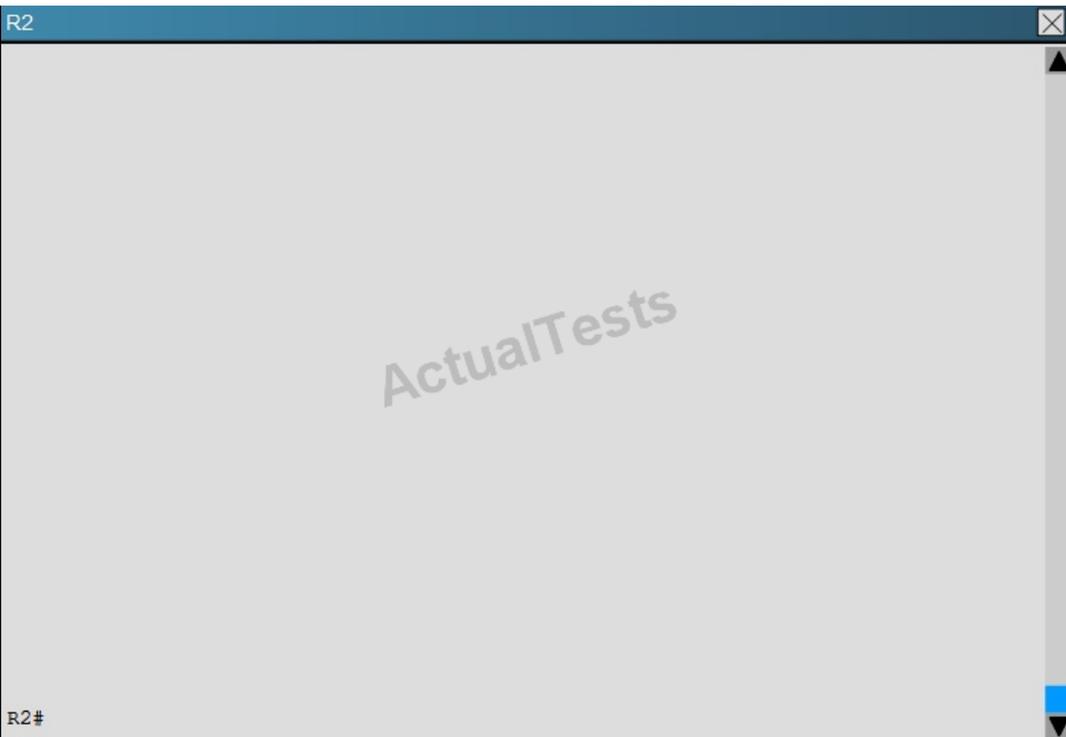
Refer to the topology. Your company has connected the routers R1, R2, and R3 with serial links. R2 and R3 are connected to the switches SW1 and SW2, respectively. SW1 and SW2 are also connected to the routers R4 and R5.

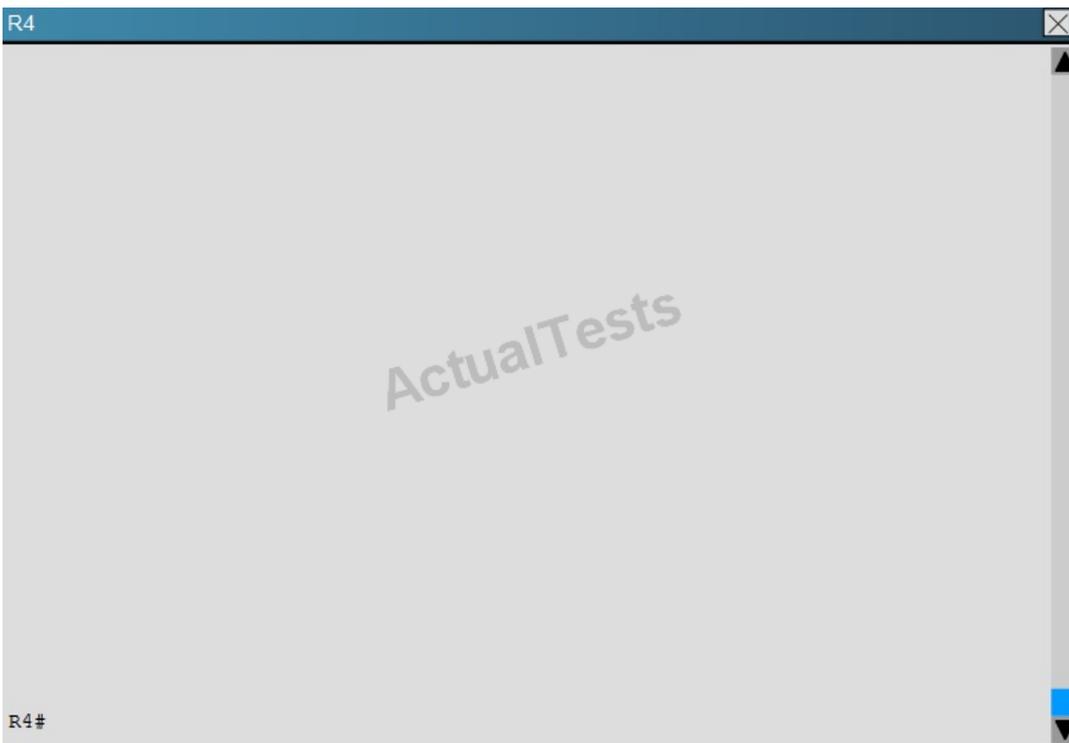
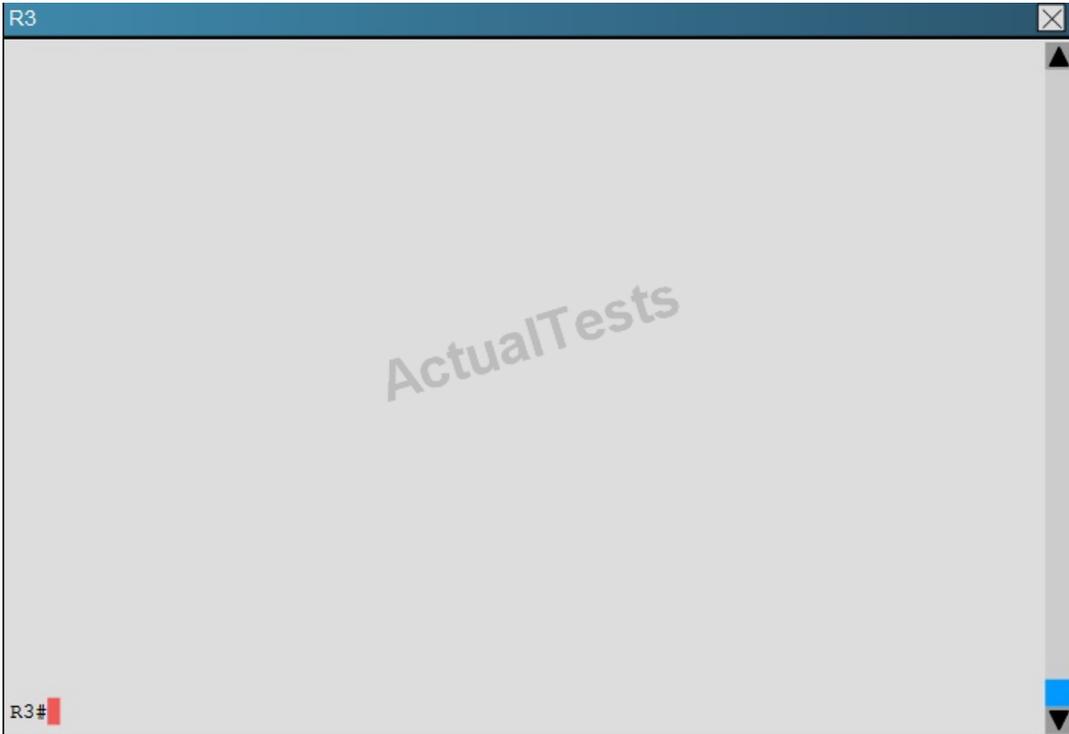
The EIGRP routing protocol is configured.

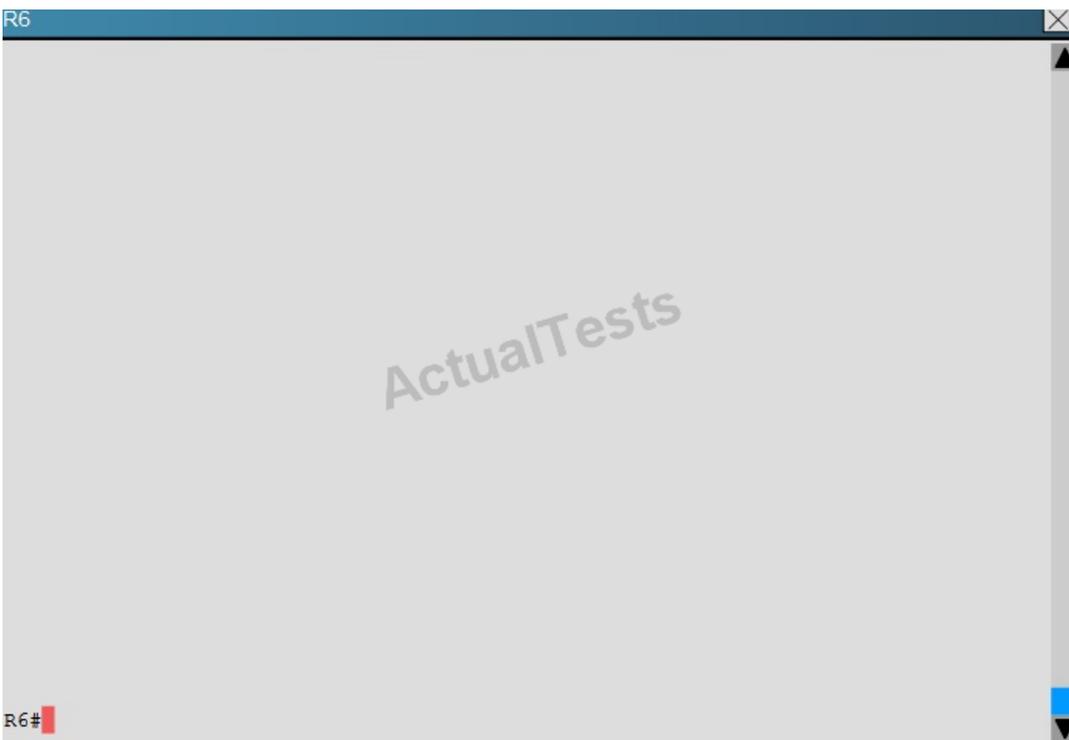
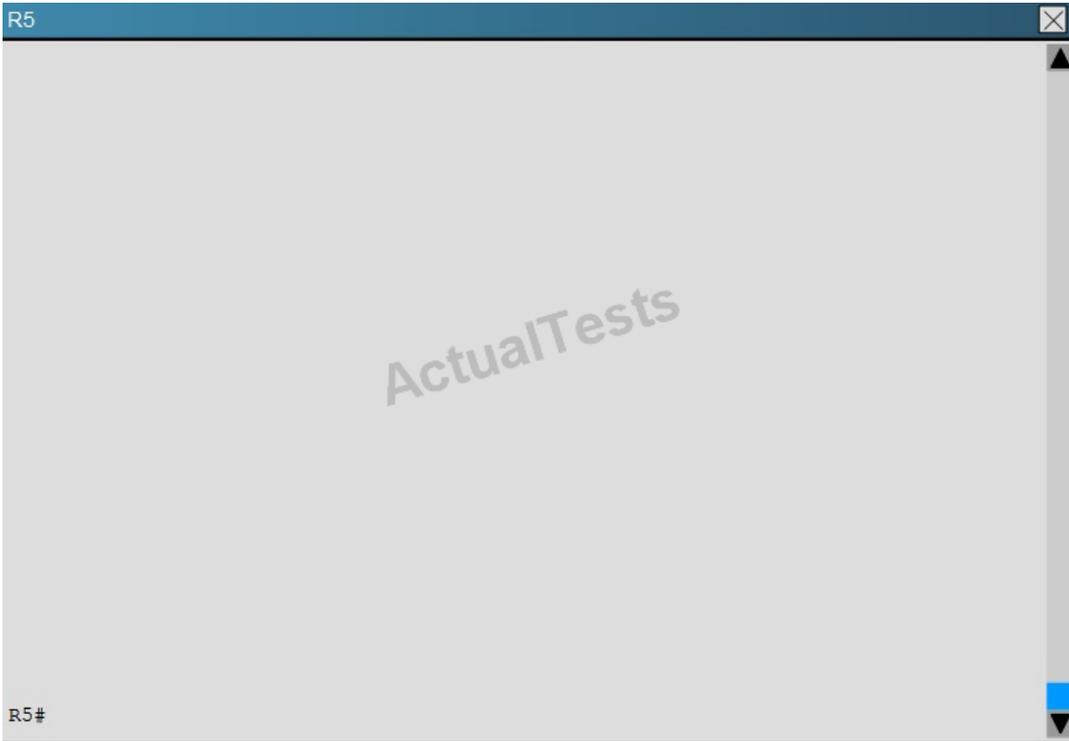
You are required to troubleshoot and resolve the EIGRP issues between the various routers.

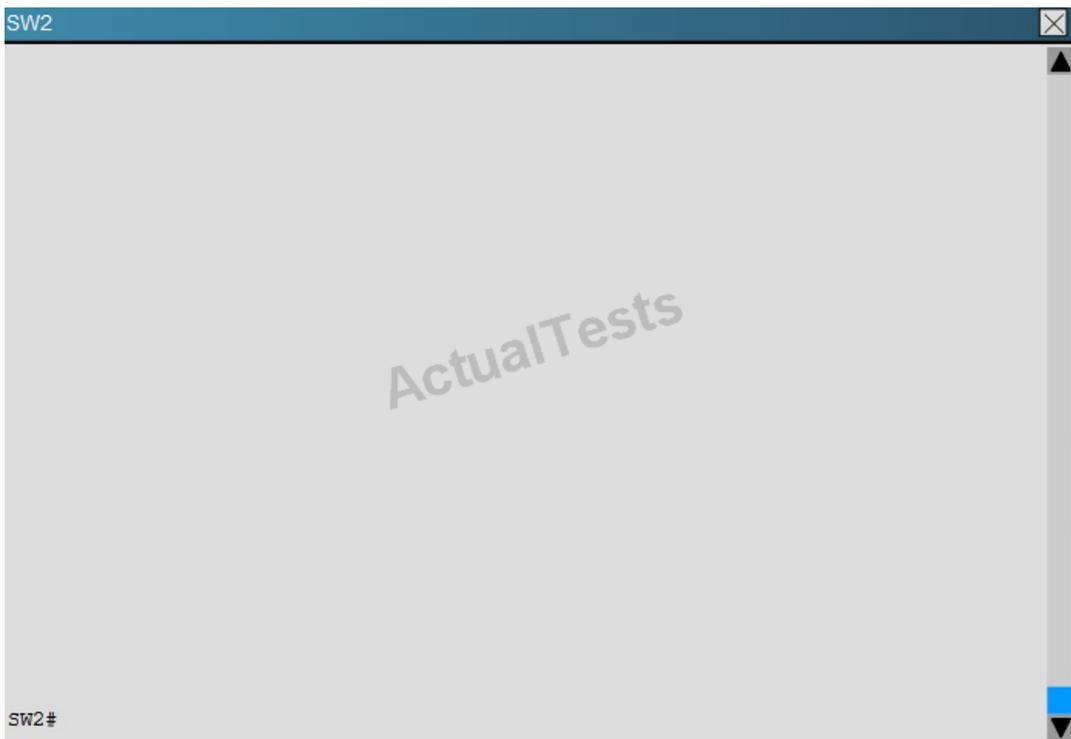
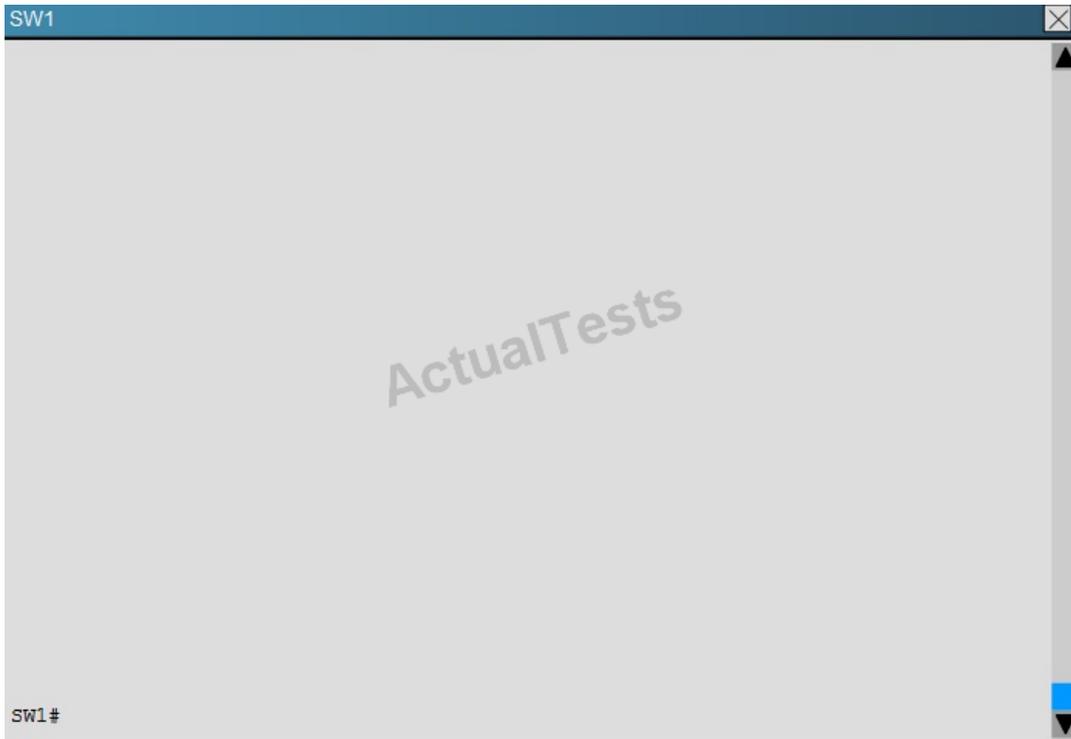
Use the appropriate show commands to troubleshoot the issues.











Router R6 does not form an EIGRP neighbor relationship correctly with router R1. What is the cause for this misconfiguration?

- A. The K values mismatch.
- B. The AS does not match.
- C. The network command is missing.

D. The passive-interface command is enabled.

**Answer: C**

**Explanation:**

### QUESTION NO: 109

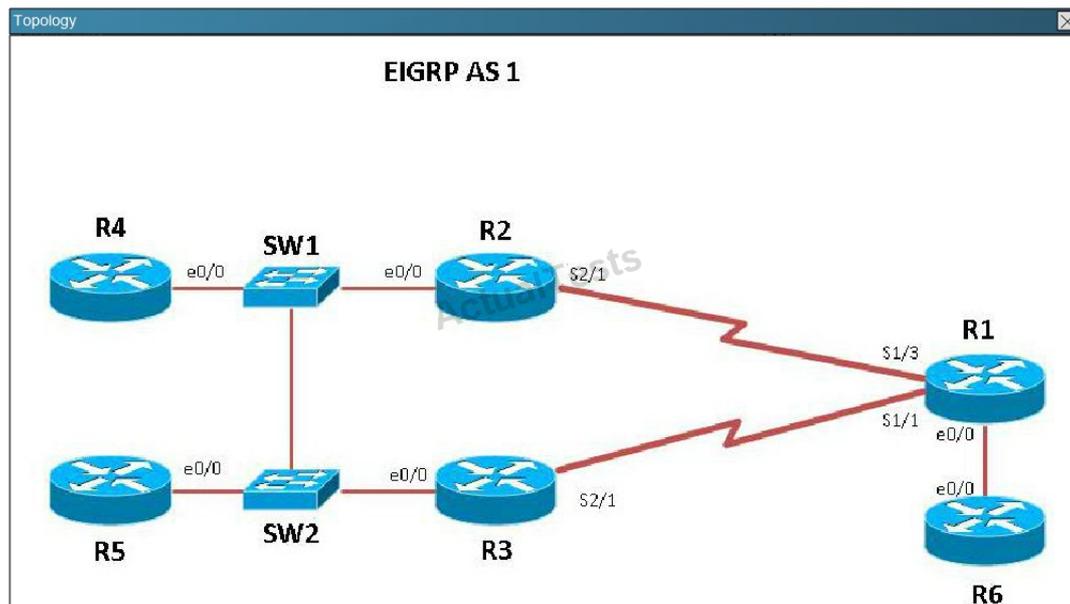
Scenario

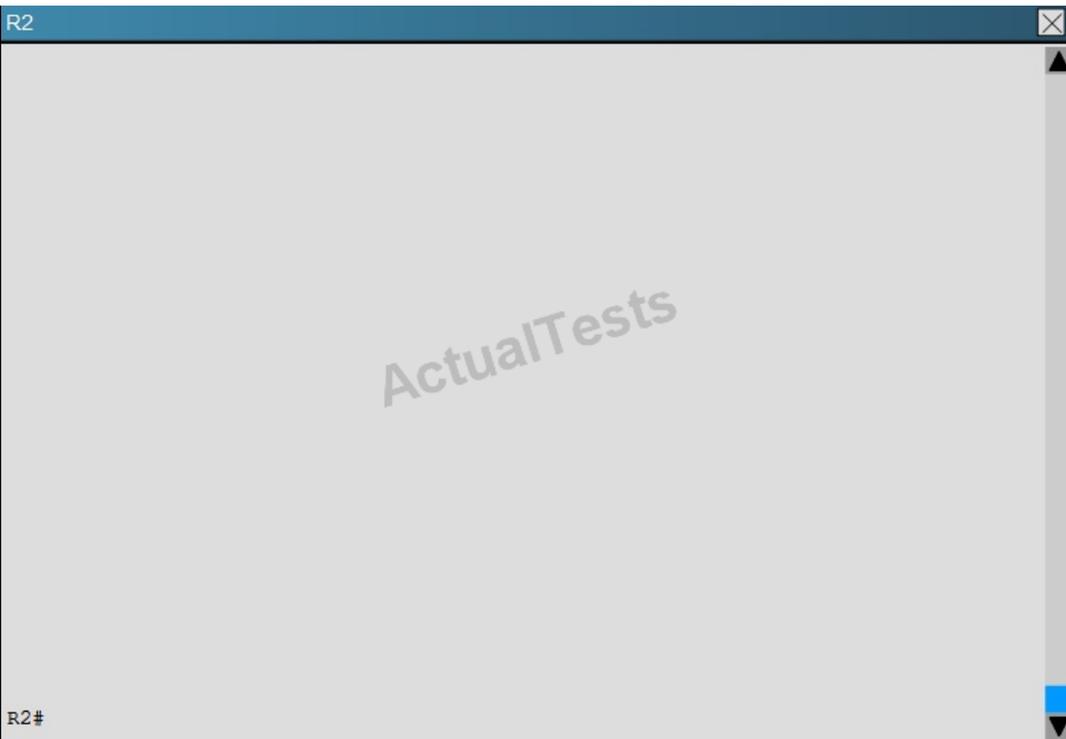
Refer to the topology. Your company has connected the routers R1, R2, and R3 with serial links. R2 and R3 are connected to the switches SW1 and SW2, respectively. SW1 and SW2 are also connected to the routers R4 and R5.

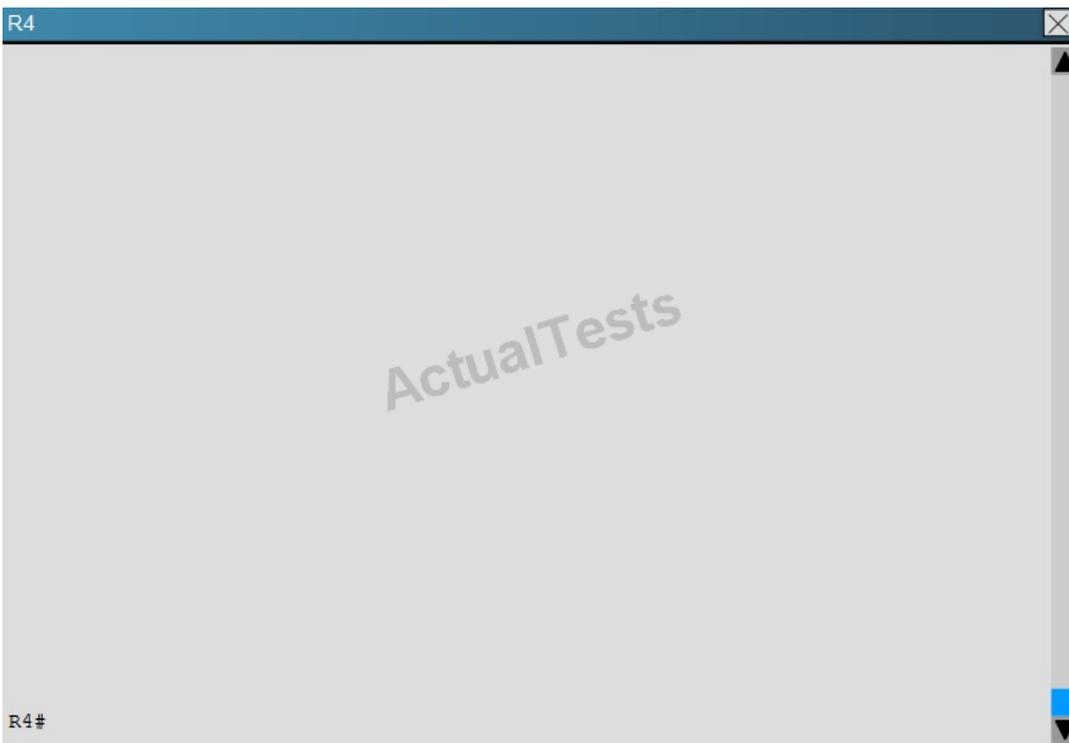
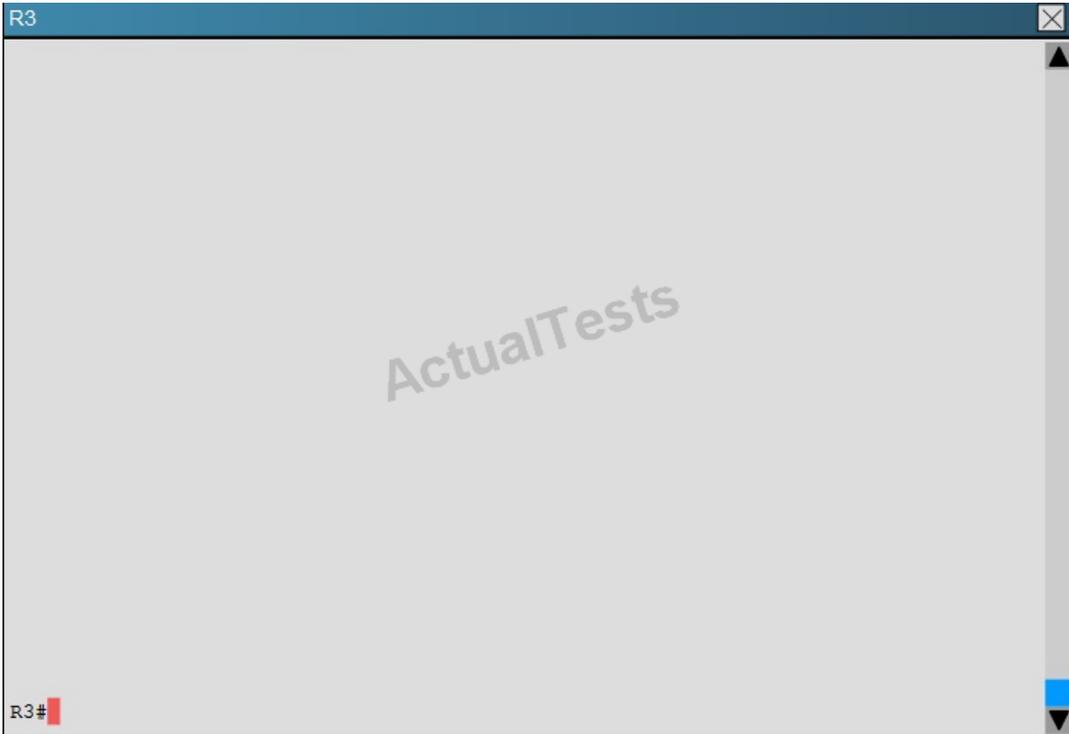
The EIGRP routing protocol is configured.

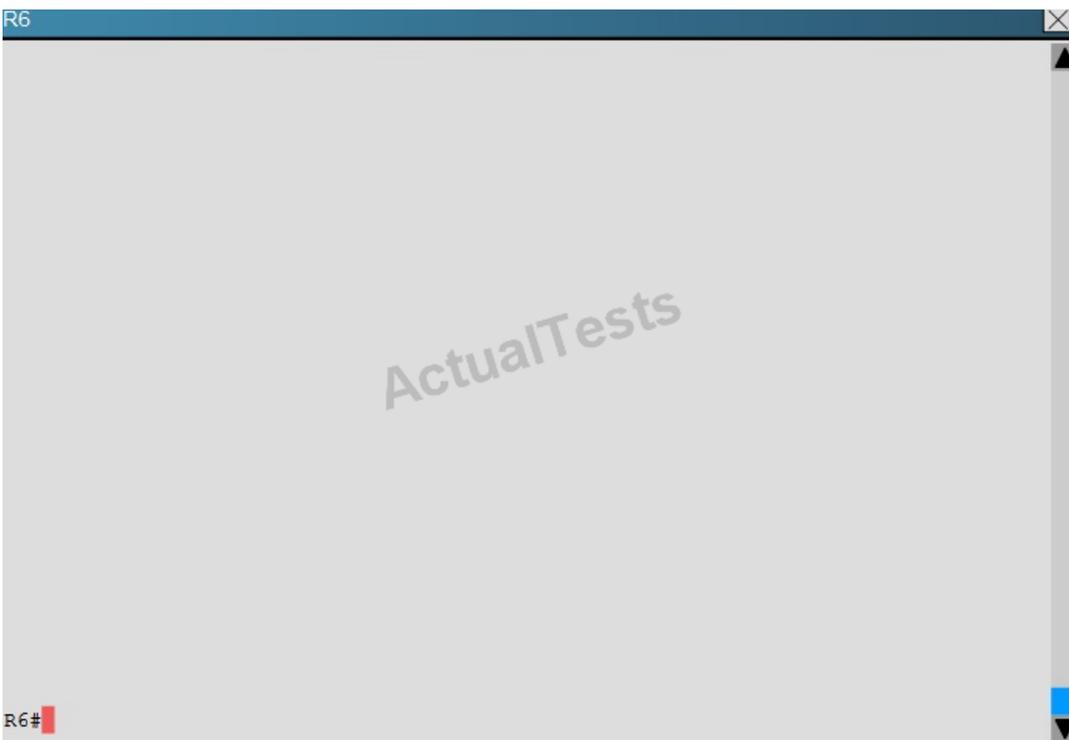
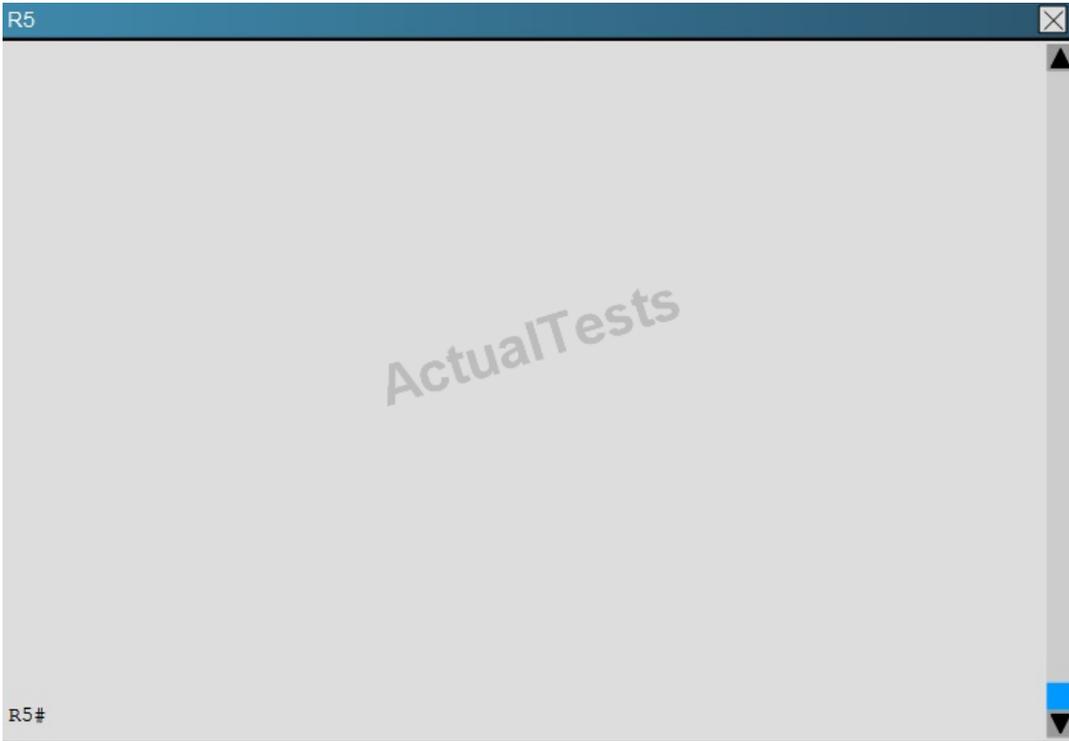
You are required to troubleshoot and resolve the EIGRP issues between the various routers.

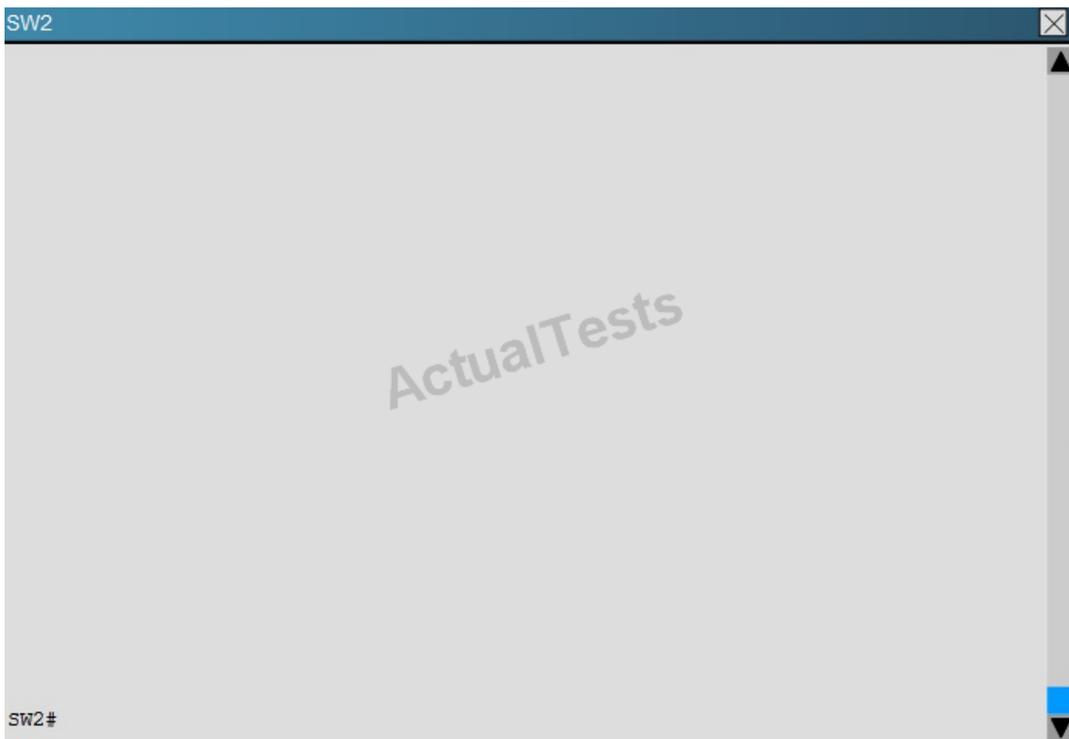
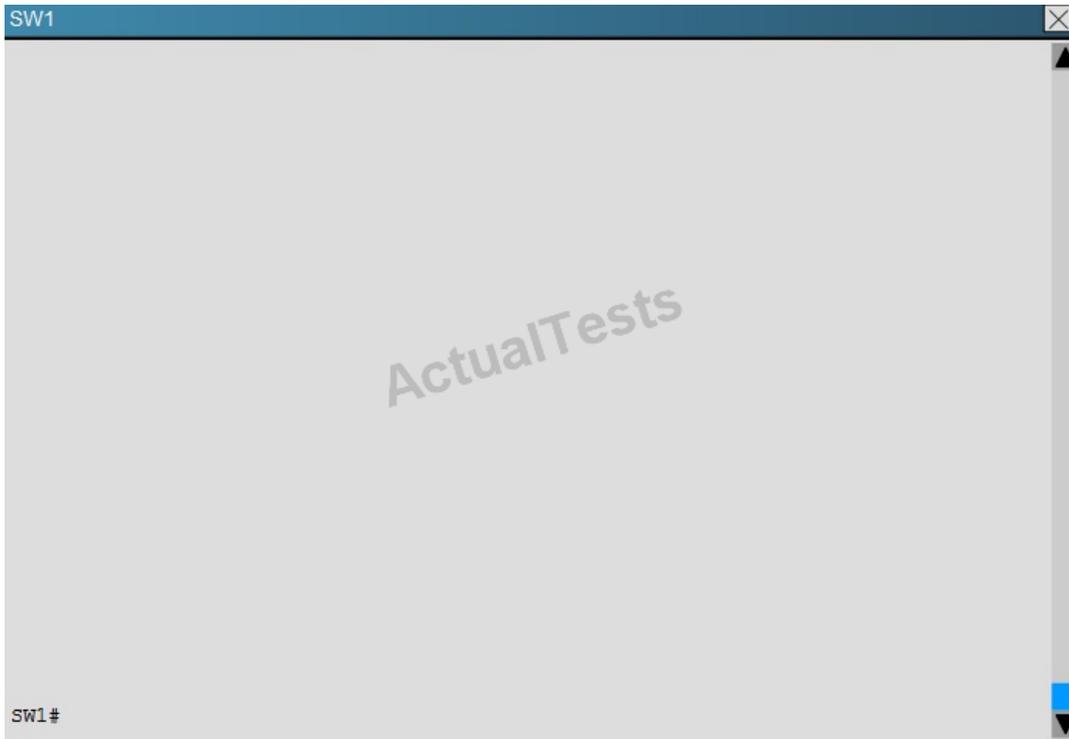
Use the appropriate show commands to troubleshoot the issues.











Study the following output taken on R1:

```
R1# Ping 10.5.5.55 source 10.1.1.1
```

Type escape sequence to abort.

Sending 5.100-byte ICMP Echos to 10.5.5.55, timeout is 2 seconds:

Packet sent with a source address of 10.1.1.1

Why are the pings failing?

- A. The network statement is missing on R5.
- B. The loopback interface is shut down on R5.
- C. The network statement is missing on R1.
- D. The IP address that is configured on the Lo1 interface on R5 is incorrect.

**Answer: C**

**Explanation:**

### QUESTION NO: 110 CORRECT TEXT

**Instructions** ☐ ☐

To configure the router (**Gotha**) click on the console host icon that is connected to a router by a serial console cable (shown in the diagram as a dashed black line).

You can click on the buttons below to view the different windows.

Each of the windows can be minimized by clicking on the **[\_]**. You can also reposition a window by dragging it by the title bar.

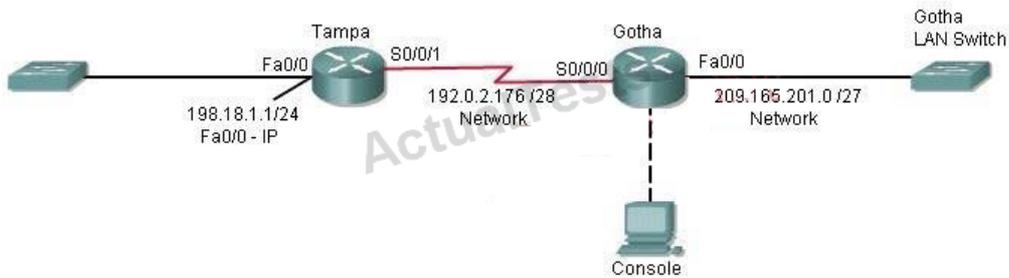
The "Tab" key and most commands that use the "Control" or "Escape" keys are not supported and are not necessary to complete this simulation. The **help** command does not display all commands of the help system.

**Scenario** ☐ ☐

Central Florida Widgets recently installed a new router in their Gotha office. Complete the network installation by performing the initial router configurations and configuring RIPv2 routing using the router command line interface (CLI) on the Gotha router.

Configure the router per the following requirements:

Name of the router is **Gotha**  
Enable-secret password is **mi222ke**  
The password to access user EXEC mode using the console is **G8tors1**  
The password to allow telnet access to the router is **dun63lap**  
IPv4 addresses must be configured as follows:  
Ethernet network **209.165.201.0 /27** - router has **fourth** assignable host address in subnet.  
Serial network is **192.0.2.176 /28** - router has **last** assignable host address in the subnet.  
Interfaces should be enabled.  
Routing protocol is **RIPv2**.



Attention:

In practical examinations, please note the following, the actual information will prevail.

1. Name of the router is xxx
2. Enable secret password is xxx
3. Password In access user EXEC mode using the console is xxx
4. The password to allow telnet access to the router is xxx
5. IP information

Answer: Router>enable

Router#config terminal

Router(config)#hostname Gotha

Gotha(config)#enable secret mi222ke

Gotha(config)#line console 0

Gotha(config-line)#password G8tors1

Gotha(config-line)#exit

Gotha(config)#line vty 0 4

Gotha(config-line)#password dun63lap

Gotha(config-line)#login

Gotha(config-line)#exit

Gotha(config)#interface fa0/0

Gotha(config-if)#no shutdown

Gotha(config-if)#ip address 209.165.201.4 255.255.255.224

Gotha(config)#interface s0/0/0

Gotha(config-if)#ip address 192.0.2.190 255.255.255.240

Gotha(config-if)#no shutdown

Gotha(config-if)#exit

Gotha(config)#router rip

Gotha(config-router)#version 2

Gotha(config-router)#network 209.165.201.0

```
Gotha(config-router)#network 192.0.2.176  
Gotha(config-router)#end  
Gotha#copy running-config startup-config
```

### QUESTION NO: 111 CORRECT TEXT

#### Lab - Access List Simulation

A network associate is adding security to the configuration of the Corp1 router. The user on host C should be able to use a web browser to access financial information from the Finance Web Server. No other hosts from the LAN nor the Core should be able to use a web browser to access this server. Since there are multiple resources for the corporation at this location including other resources on the Finance Web Server, all other traffic should be allowed.

The task is to create and apply a numbered access-list with no more than three statements that will allow ONLY host C web access to the Finance Web Server. No other hosts will have web access to the Finance Web Server. All other traffic is permitted.

Access to the router CLI can be gained by clicking on the appropriate host.

All passwords have been temporarily set to "cisco".

The Core connection uses an IP address of 198.18.196.65

The computers in the Hosts LAN have been assigned addresses of 192.168.33.1 – 92.168.33.254

Host A 192.168.33.1

Host B 192.168.33.2

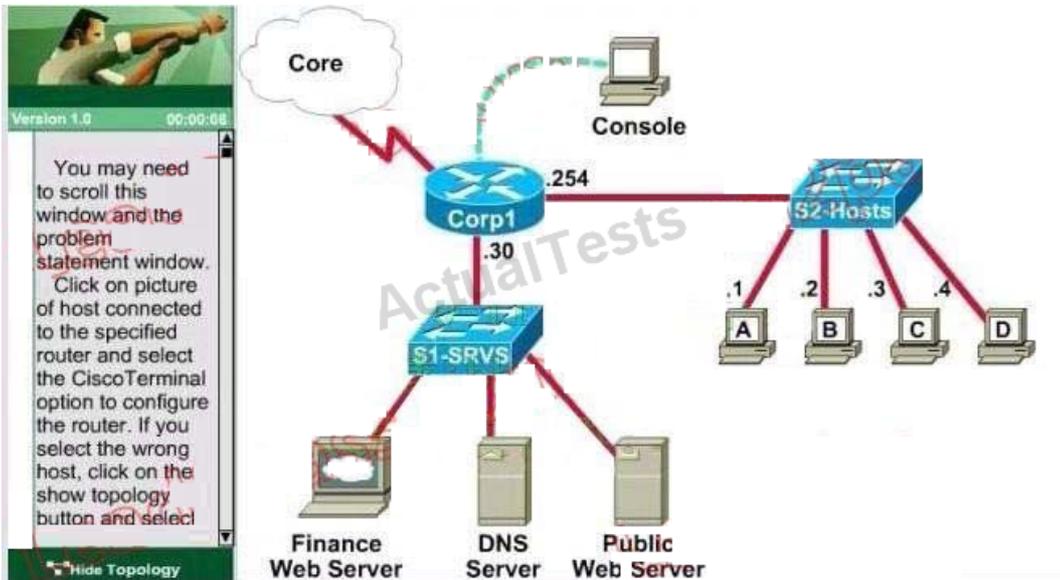
Host C 192.168.33.3

Host D 192.168.33.4

The servers in the Server LAN have been assigned addresses of 172.22.242.17 – 172.22.242.30

The Finance Web Server is assigned an IP address of 172.22.242.23.

The Public Web Server is assigned an IP address of 172.22.242.17



Answer: Corp1#configure terminal

#### QUESTION NO: 112 CORRECT TEXT

A sporting goods manufacturer has decided to network three (3) locations to improve efficiency in inventory control. The routers have been named to reflect the location: Boston, Frankfurt, and Lancaster.

The necessary networking has been completed at each location, and the routers have been configured with single area OSPF as the routing protocol. The Boston router was recently installed but connectivity is not complete because of incomplete routing tables. Identify and correct any problem you see in the configuration.

Note: The OSPF process must be configured to allow interfaces in specific subnets to participate in the routing process.

**Lab A**

Name : Boston

E0 : 192.168.4.1/24

S0 : 192.168.155.5/30

Secret Password : cisco

**Lab B**

Name : Frankfurt

E0 : 192.168.29.1/24

S0 : 192.168.155.10/30

S1 : 192.168.155.6/30

Secret Password : cisco

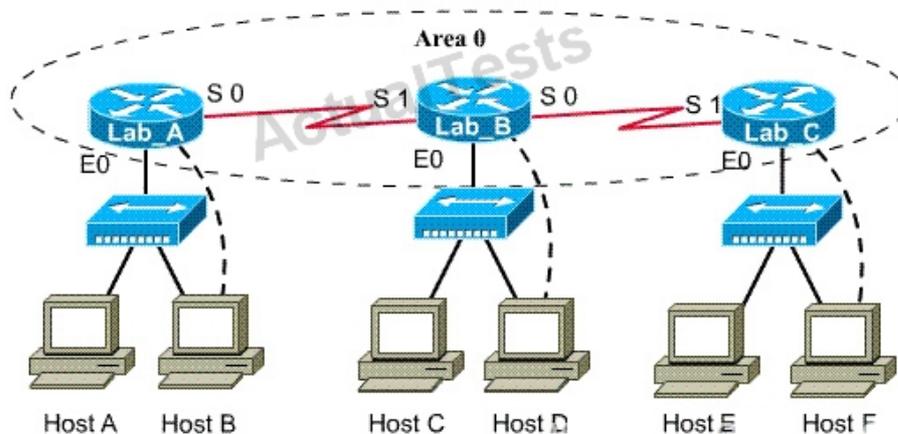
**Lab C**

Name : Lancaster

E0 : 192.168.43.1/24

S1 : 192.168.155.9/30

Secret Password : cisco



Answer: The question mentioned Boston router was not configured correctly or incomplete so we should check this router first. Click on Host B to access the command line interface (CLI) of Boston router.

**QUESTION NO: 113 CORRECT TEXT**

A new switch is being added to the River Campus LAN. You will work to complete this process by first configuring the building\_2 switch with an IP address and default gateway. For the switch host address, you should use the last available IP address on the management subnet. In addition, the switch needs to be configured to be in the same VTP domain as the building\_1 switch and also needs to be configured as a VTP client. Assume that the IP configuration and VTP configuration on building\_1 are complete and correct. The configuration of the router is not accessible for this exercise. You must accomplish the following tasks:

Determine and configure the IP host address of the new switch. Determine and configure the default gateway of the new switch. Determine and configure the correct VTP domain name for the new switch.

Configure the new switch as a VTP client.

eSIM™ Professional 00:00:23  
Scenario 1 Version 1.0

You will have to scroll this window and the problem statement window to view the entire problem.

To configure the switch click on a host icon that is connected to a switch by a serial console cable (shown in the diagram as a curved solid dashed line).

The [Tab] key

Hide Topology

The diagram shows a network topology. On the left is Router1. A line labeled 'VLAN trunk' connects Router1's Fa0/1 to building\_1's Fa0/24. Another line labeled 'VLAN trunk' connects building\_1's Fa0/23 to building\_2's Fa0/24. building\_1 is connected to Host A (Fa0/1), Host B (Fa0/12), and a Console (Fa0/12). building\_2 is connected to Host C (Fa0/1), Host D (Fa0/12), and a Console (Fa0/12).

Answer: Here are the Steps for this Lab Solution:

**QUESTION NO: 114 CORRECT TEXT**

A network associate is configuring a router for the weaver company to provide internet access. The ISP has provided the company six public IP addresses of 198.18.184.105 198.18.184.110. The company has 14 hosts that need to access the internet simultaneously. The hosts in the company LAN have been assigned private space addresses in the range of 192.168.100.17 - 192.168.100.30.

eSIM™ Professional 00:00:01  
Scenario 1 Version 1.0

You will have to scroll this window and the problem statement window to view the entire problem.

To configure the router click on a host icon that is connected to a router by a serial console cable (shown in the diagram as a dotted line).

The [Tab] key and most

Hide Topology

The diagram shows a Weaver router. It is connected to a switch via Fa0/0 with IP 192.168.100.30. The router has a console connection to a 'Console' host and a 'Host for Testing'. The router's S0/0 interface (IP 192.0.2.113) is connected to an ISP cloud via S0/1 (IP 192.0.2.114).

Note:

The following have already been configured on the router :

- The basic router configuration
- The appropriate interfaces have been configured for NAT inside and NAT outside
- The appropriate static routes have also been configured (since the company will be a stub network, no routing protocol will be required.)
- All passwords have been temporarily set to "Cisco"

The task is to complete the NAT configuration using all IP addresses assigned by the ISP to provide internet access for the hosts in the weaver LAN. Functionality can be tested by clicking on the host provided for testing.

Configuration information:

Router name – Weaver

Inside global addresses – 198.18.184.105 - 198.18.184.110/29

Inside local addresses – 192.168.100.17 – 192.168.100.30/28

Number of inside hosts 14

Answer: Here are the Steps for this Lab Solution:

## Topic 5, WAN Technologies

### QUESTION NO: 115 DRAG DROP

Drag the Frame Relay acronym on the left to match its definition on the right. (Not all acronyms are used.)

CIR	a router is this type of device
DCE	the most common type of virtual circuit
DTE	provides status messages between DTE and DCE devices
LMI	identifies the virtual connection between the DTE and the switch
PVC	
SVC	
DLCI	

**Answer:**

Drag the Frame Relay acronym on the left to match its definition on the right. (Not all acronyms are used.)

CIR	DTE
DCE	PVC
DTE	LMI
LMI	DLCI
PVC	
SVC	
DLCI	

**Explanation:**

1) a router is this type of device: DTE  
 2) the most common type of virtual circuit: PVC  
 3) provides status messages between DTE and DCE devices: LMI  
 4) identifies the virtual connection between the DTE and the switch: DLCI

DTE
PVC
LMI
DLCI

**QUESTION NO: 116**

Which two options are valid WAN connectivity methods? (Choose two.)

- A. PPP
- B. WAP
- C. DSL
- D. L2TPv3
- E. Ethernet

**Answer: A,C**

**Explanation:**

**QUESTION NO: 117**

Refer to the exhibit.

```
RouterA#show interface pos8/0/0
pos8/0/0 is up, line protocol is up
  Hardware is Packet over Sonet
  Keepalive set (10 sec)
  Scramble disabled
  LMI enq sent 2474988, LMI stat recvd 2474969, LMI upd recvd 0, DTE LMI up
  Broadcast queue 0/256, broadcasts sent/dropped 25760668/0, interface broadcasts 25348176
  Last input 00:00:00, output 00:00:00, output hang never
  Last clearing of "show interface" counters 40w6d
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 39000 bits/sec, 60 packets/sec
    63153396 packets input, 4389121455 bytes, 0 no buffer
    Received 0 broadcasts (0 IP multicast)
    0 runts, 0 giants, 0 throttles
    0 parity
  44773 input errors, 39138 CRC, 0 frame, 0 overrun, 0 ignored, 27 abort
  945596253 packets output, 62753244360 bytes, 0 underruns
  0 output errors, 0 applique, 0 interface resets
  0 output buffer failures, 0 output buffers swapped out
  0 carrier transitions
```

Which WAN protocol is being used?

- A. ATM
- B. HDLC
- C. Frame Relay
- D. PPP

**Answer: C**

**Explanation:**

**QUESTION NO: 118**

What occurs on a Frame Relay network when the CIR is exceeded?

- A. All TCP traffic is marked discard eligible.
- B. All UDP traffic is marked discard eligible and a BECN is sent.
- C. All TCP traffic is marked discard eligible and a BECN is sent.
- D. All traffic exceeding the CIR is marked discard eligible.

**Answer: D**

**Explanation:**

**QUESTION NO: 119**

What are two characteristics of Frame Relay point-to-point subinterfaces? (Choose two.)

- A. They create split-horizon issues.
- B. They require a unique subnet within a routing domain.
- C. They emulate leased lines.
- D. They are ideal for full-mesh topologies.
- E. They require the use of NBMA options when using OSPF.

**Answer: B,C**

**Explanation:**

**QUESTION NO: 120**

Which two statements about using the CHAP authentication mechanism in a PPP link are true? (Choose two.)

- A. CHAP uses a two-way handshake.
- B. CHAP uses a three-way handshake.
- C. CHAP authentication periodically occurs after link establishment.
- D. CHAP authentication passwords are sent in plaintext.
- E. CHAP authentication is performed only upon link establishment.
- F. CHAP has no protection from playback attacks.

**Answer: B,C**

**Explanation:**

**QUESTION NO: 121**

Which command allows you to verify the encapsulation type (CISCO or IETF) for a Frame Relay

link?

- A. show frame-relay lmi
- B. show frame-relay map
- C. show frame-relay pvc
- D. show interfaces serial

**Answer: B**

**Explanation:**

### QUESTION NO: 122

What is the purpose of Inverse ARP?

- A. to map a known IP address to a MAC address
- B. to map a known DLCI to a MAC address
- C. to map a known MAC address to an IP address
- D. to map a known DLCI to an IP address
- E. to map a known IP address to a SPID
- F. to map a known SPID to a MAC address

**Answer: D**

**Explanation:**

### QUESTION NO: 123

Refer to the exhibit.

```
City#show ip interface brief
```

Interface	IP-Address	OK?	Method	Status	Protocol
FastEthernet0/0	192.168.12.48	YES	manual	up	up
FastEthernet0/1	192.168.12.65	YES	manual	up	up
Serial0/0	192.168.12.121	YES	manual	up	up
Serial0/1	unassigned	YES	unset	up	up
Serial0/1.102	192.168.12.125	YES	manual	up	up
Serial0/1.103	192.168.12.129	YES	manual	up	up
Serial0/1.104	192.168.12.133	YES	manual	up	up

City#

A network associate has configured OSPF with the command:

```
City(config-router)# network 192.168.12.64 0.0.0.63 area 0
```

After completing the configuration, the associate discovers that not all the interfaces are participating in OSPF. Which three of the interfaces shown in the exhibit will participate in OSPF according to this configuration statement? (Choose three.)

- A. FastEthernet0 /0
- B. FastEthernet0 /1
- C. Serial0/0
- D. Serial0/1.102
- E. Serial0/1.103
- F. Serial0/1.104

**Answer: B,C,D**

**Explanation:**

#### QUESTION NO: 124

What is the advantage of using a multipoint interface instead of point-to-point subinterfaces when configuring a Frame Relay hub in a hub-and-spoke topology?

- A. It avoids split-horizon issues with distance vector routing protocols.
- B. IP addresses can be conserved if VLSM is not being used for subnetting.
- C. A multipoint interface offers greater security compared to point-to-point subinterface configurations.
- D. The multiple IP network addresses required for a multipoint interface provide greater addressing flexibility over point-to-point configurations.

**Answer: B**

**Explanation:**

#### QUESTION NO: 125

Which two statistics appear in show frame-relay map output? (Choose two.)

- A. the number of BECN packets that are received by the router
- B. the value of the local DLCI
- C. the number of FECN packets that are received by the router
- D. the status of the PVC that is configured on the router
- E. the IP address of the local router

**Answer: B,D**

**Explanation:**

**QUESTION NO: 126**

Which protocol is an open standard protocol framework that is commonly used in VPNs, to provide secure end-to-end communications?

- A. RSA
- B. L2TP
- C. IPsec
- D. PPTP

**Answer: C**

**Explanation:**

**QUESTION NO: 127**

At which layer of the OSI model does PPP perform?

- A. Layer 2
- B. Layer 3
- C. Layer 4
- D. Layer 5

**Answer: A**

**Explanation:**

**QUESTION NO: 128**

The command show frame-relay map gives the following output:

Serial 0 (up): ip 192.168.151.4 dlci 122, dynamic, broadcast, status defined, active

Which statements represent what is shown?(Choose three.)

- A. 192.168.151.4 represents the IP address of the remote router
- B. 192.168.151.4 represents the IP address of the local serial interface
- C. DLCI 122 represents the interface of the remote serial interface
- D. DLCI 122 represents the local number used to connect to the remote address
- E. broadcast indicates that a dynamic routing protocol such as RIP v1 can send packets across this PVC
- F. active indicates that the ARP process is working

**Answer: A,D,E**

**Explanation:**

#### **QUESTION NO: 129**

What can be done to Frame Relay to resolve split-horizon issues?(Choose two.)

- A. Disable Inverse ARP.
- B. Create a full-mesh topology.
- C. Develop multipoint subinterfaces.
- D. Configure point-to-point subinterfaces.
- E. Remove the broadcast keyword from the frame-relay map command.

**Answer: B,D**

**Explanation:**

#### **QUESTION NO: 130**

What are three reasons that an organization with multiple branch offices and roaming users might implement a Cisco VPN solution instead of point-to-point WAN links? (Choose three.)

- A. reduced cost
- B. better throughput
- C. broadband incompatibility
- D. increased security
- E. scalability
- F. reduced latency

**Answer: A,D,E**

**Explanation:**

**QUESTION NO: 131**

Which command is used to enable CHAP authentication, with PAP as the fallback method, on a serial interface?

- A. Router(config-if)# ppp authentication chap fallback ppp
- B. Router(config-if)# ppp authentication chap pap
- C. Router(config-if)# authentication ppp chap fallback ppp
- D. Router(config-if)# authentication ppp chap pap

**Answer: B**

**Explanation:**

**QUESTION NO: 132**

What is the result of issuing the frame-relay map ip 192.168.1.2 202 broadcast command?

- A. defines the destination IP address that is used in all broadcast packets on DCLI 202
- B. defines the source IP address that is used in all broadcast packets on DCLI 202
- C. defines the DLCI on which packets from the 192.168.1.2 IP address are received
- D. defines the DLCI that is used for all packets that are sent to the 192.168.1.2 IP address

**Answer: D**

**Explanation:**

**QUESTION NO: 133**

Which Layer 2 protocol encapsulation type supports synchronous and asynchronous circuits and has built-in security mechanisms?

- A. HDLC
- B. PPP
- C. X.25
- D. Frame Relay

**Answer: B**

**Explanation:**

**QUESTION NO: 134**

Which encapsulation type is a Frame Relay encapsulation type that is supported by Cisco routers?

- A. IETF
- B. ANSI Annex D
- C. Q9333-A Annex A
- D. HDLC

**Answer: A**

**Explanation:**

**QUESTION NO: 135**

A network administrator needs to configure a serial link between the main office and a remote location. The router at the remote office is a non-Cisco router. How should the network administrator configure the serial interface of the main office router to make the connection?

- A. Main(config)# interface serial 0/0  
Main(config-if)# ip address 172.16.1.1 255.255.255.252  
Main(config-if)# no shut
- B. Main(config)# interface serial 0/0  
Main(config-if)# ip address 172.16.1.1 255.255.255.252  
Main(config-if)# encapsulation ppp  
Main(config-if)# no shut
- C. Main(config)# interface serial 0/0  
Main(config-if)# ip address 172.16.1.1 255.255.255.252  
Main(config-if)# encapsulation frame-relay  
Main(config-if)# authentication chap  
Main(config-if)# no shut
- D. Main(config)# interface serial 0/0  
Main(config-if)# ip address 172.16.1.1 255.255.255.252  
Main(config-if)# encapsulation ietf  
Main(config-if)# no shut

**Answer: B**

**Explanation:**

**QUESTION NO: 136**

Which PPP subprotocol negotiates authentication options?

- A. NCP
- B. ISDN
- C. SLIP
- D. LCP
- E. DLCI

**Answer: D**

**Explanation:**

**QUESTION NO: 137**

What command is used to verify the DLCI destination address in a Frame Relay static configuration?

- A. show frame-relay pvc
- B. show frame-relay lmi
- C. show frame-relay map
- D. show frame relay end-to-end

**Answer: C**

**Explanation:**

**QUESTION NO: 138**

The output of the show frame-relay pvc command shows "PVC STATUS = INACTIVE". What does this mean?

- A. The PVC is configured correctly and is operating normally, but no data packets have been detected for more than five minutes.
- B. The PVC is configured correctly, is operating normally, and is no longer actively seeking the address of the remote router.
- C. The PVC is configured correctly, is operating normally, and is waiting for interesting traffic to trigger a call to the remote router.

D. The PVC is configured correctly on the local switch, but there is a problem on the remote end of the PVC.

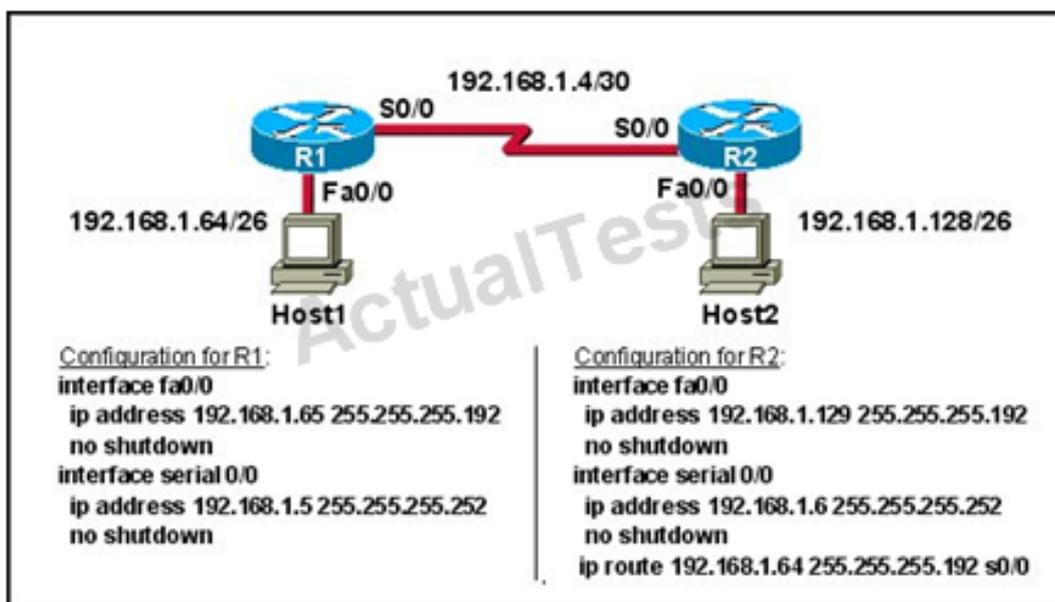
E. The PVC is not configured on the local switch.

**Answer: D**

**Explanation:**

### QUESTION NO: 139

Refer to the exhibit.



A technician pastes the configurations in the exhibit into the two new routers shown. Otherwise, the routers are configured with their default configurations. A ping from Host1 to Host2 fails, but the technician is able to ping the S0/0 interface of R2 from Host1. The configurations of the hosts have been verified as correct. What is the cause of the problem?

- A. The serial cable on R1 needs to be replaced.
- B. The interfaces on R2 are not configured properly.
- C. R1 has no route to the 192.168.1.128 network.
- D. The IP addressing scheme has overlapping subnetworks.
- E. The ip subnet-zero command must be configured on both routers.

**Answer: C**

**Explanation:**

**QUESTION NO: 140**

What does the frame-relay interface-dlci command configure?

- A. local DLCI on the subinterface
- B. remote DLCI on the main interface
- C. remote DCLI on the subinterface
- D. local DLCI on the main interface

**Answer: A**

**Explanation:**

**QUESTION NO: 141**

Refer to the exhibit.

```
R10-1# show interfaces serial 0/1
Serial0/1 is up, line protocol is up
Hardware is cxBus Serial
MTU 1500 bytes, BW 1544 Kbit, DLY 20000 usec, reliability 255/255,
txload 1/255, rxload 1/255
Encapsulation HDLC, crc 16, loopback not set
Keepalive set (10 sec)
Last input 00:00:09, output 00:00:07, output hang 5w2d
Last clearing of "show interface" counters 00:39:17
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: weighted fair
Output queue: 0/1000/64/0 (size/max total/threshold/drops)
Conversations 0/1/256 (active/max active/max total)
Reserved Conversations 0/0 (allocated/max allocated)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
277 packets input, 16980 bytes, 0 no buffer
Received 0 broadcasts, 0 runts, 0 giants, 0 throttles
0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
277 packets output, 17106 bytes, 0 underruns
0 output errors, 0 collisions, 0 interface resets
0 output buffer failures, 0 output buffers swapped out
0 carrier transitions
RTS up, CTS up, DTR up, DCD up, DSR up
```

The show interfaces serial 0/1 command was issued on the R10-1 router. Based on the output displayed which statement is correct?

- A. The cable connected to the serial 0/1 interface of the R10-1 router is a DTE cable.

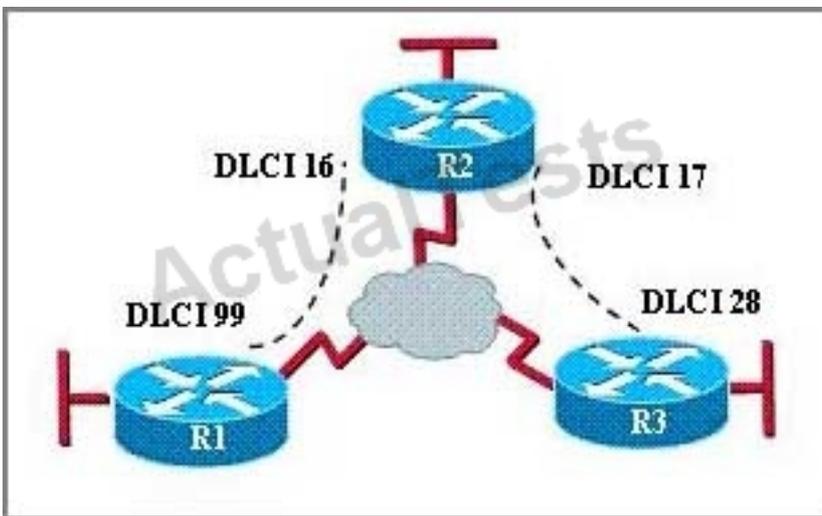
- B. The R10-1 router can ping the router interface connected to the serial 0/1 interface.
- C. The clock rate used for interface serial 0/1 of the R10-1 router is 1,544,000 bits per second.
- D. The CSU used with the serial 0/1 interface of the R10-1 router has lost connection to the service provider.
- E. The interface of the remote router connected to the serial 0/1 interface of the R10-1 router is using the default serial interface encapsulation.

**Answer: E**

**Explanation:**

#### QUESTION NO: 142

Refer to the exhibit.



Which statement describes DLCI 17?

- A. DLCI 17 describes the ISDN circuit between R2 and R3.
- B. DLCI 17 describes a PVC on R2. It cannot be used on R3 or R1.
- C. DLCI 17 is the Layer 2 address used by R2 to describe a PVC to R3.
- D. DLCI 17 describes the dial-up circuit from R2 and R3 to the service provider.

**Answer: C**

**Explanation:**

#### QUESTION NO: 143

Users have been complaining that their Frame Relay connection to the corporate site is very slow.

The network administrator suspects that the link is overloaded. Based on the partial output of the Router # show frame relay pvc command shown in the graphic, which output value indicates to the local router that traffic sent to the corporate site is experiencing congestion?

```
PVC Statistics for interface Serial0 (Frame Relay DTE)

      Active  Inactive  Deleted  Static
Local      1         0         0         0
Switched   0         0         0         0
Unused     0         0         0         0

DLCI = 100, DLCI USAGE = LOCAL, PVC STATUS = ACTIVE, INTERFACE =
Serial0

input pkts 1300      output pkts 1270      in bytes 22121000
out bytes 21802000  dropped pkts 4        in FECN pkts 147
in BECN pkts 192    out FECN pkts 259    out BECN pkts 214
in DE pkts 0        out DE pkts 0
out bcst pkts 107   out bcst bytes 19722
pvc create time 00:25:50, last time pvc status changed 00:25:40
```

- A. DLCI=100
- B. last time PVC status changed 00:25:40
- C. in BECN packets 192
- D. in FECN packets 147
- E. in DF packets 0

**Answer: C**

**Explanation:**

#### QUESTION NO: 144

Refer to the exhibit.

```
R1# show frame-relay map
Serial0/0 (up): ip 172.16.3.1 dlcI 100 (0x64, 0x1840), dynamic
broadcast,, status defined, active
```

What is the meaning of the term dynamic as displayed in the output of the show frame-relay map command shown?

- A. The Serial0/0 interface is passing traffic.
- B. The DLCI 100 was dynamically allocated by the router
- C. The Serial0/0 interface acquired the IP address of 172.16.3.1 from a DHCP server
- D. The DLCI 100 will be dynamically changed as required to adapt to changes in the Frame Relay cloud
- E. The mapping between DLCI 100 and the end station IP address 172.16.3.1 was learned through Inverse ARP

**Answer: E**

**Explanation:**

#### QUESTION NO: 145

The command `frame-relay map ip 10.121.16.8 102 broadcast` was entered on the router. Which of the following statements is true concerning this command?

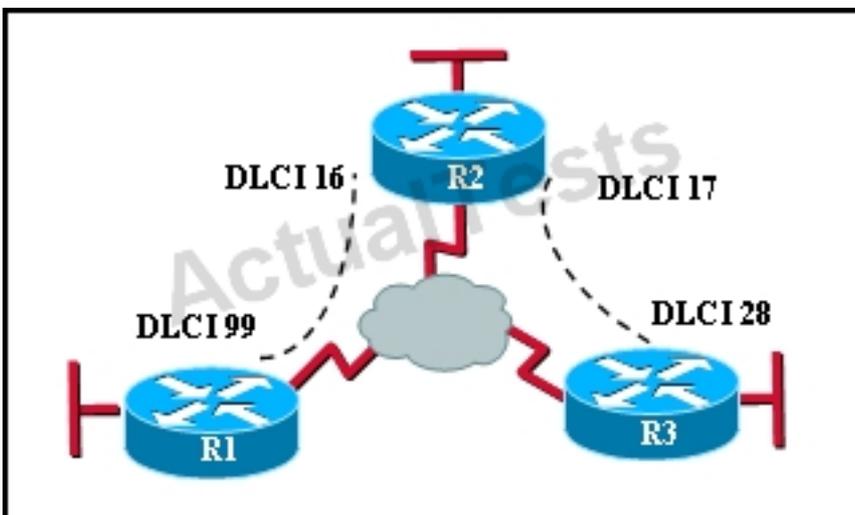
- A. This command should be executed from the global configuration mode.
- B. The IP address 10.121.16.8 is the local router port used to forward data.
- C. 102 is the remote DLCI that will receive the information.
- D. This command is required for all Frame Relay configurations.
- E. The broadcast option allows packets, such as RIP updates, to be forwarded across the PVC.

**Answer: E**

**Explanation:**

#### QUESTION NO: 146

In the Frame Relay network,



which IP addresses would be assigned to the interfaces with point-to-point PVCs?

**A.** DLCI 16 192.168.10.1/24

DLCI 17 192.168.10.1/24

DLCI 99 192.168.10.2/24

DLCI 28 192.168.10.3/24

**B.** DLCI 16 192.168.10.1 /24

DLCI 17 192.168.11.1/24

DLCI 99 192.168.12.1/24

DLCI 28 192.168.13.1/24

**C.** DLCI 16 192.168.10.1/24

DLCI 17 192.168.11.1/24

DLCI 99 192.168.10.2/24

DLCI 28 192.168.11.2/24

**D.** DLCI 16 192.168.10.1/24

DLCI 17 192.168.10.2/24

DLCI 99 192.168.10.3/24

DLCI 28 192.168.10.4/24

**Answer: C**

**Explanation:**

#### **QUESTION NO: 147**

It has become necessary to configure an existing serial interface to accept a second Frame Relay virtual circuit. Which of the following are required to solve this? (Choose three)

**A.** configure static frame relay map entries for each subinterface network.

**B.** remove the ip address from the physical interface

**C.** create the virtual interfaces with the interface command

**D.** configure each subinterface with its own IP address

**E.** disable split horizon to prevent routing loops between the subinterface networks

**F.** encapsulate the physical interface with multipoint PPP

**Answer: B,C,D**

**Explanation:**

#### **QUESTION NO: 148**

Which feature does PPP use to encapsulate multiple protocols?

- A. NCP
- B. LCP
- C. IPCP
- D. IPXP

**Answer: A**

**Explanation:**

**QUESTION NO: 149**

What is the purpose of LCP?

- A. to perform authentication
- B. to negotiate control options
- C. to encapsulate multiple protocols
- D. to specify asynchronous versus synchronous

**Answer: B**