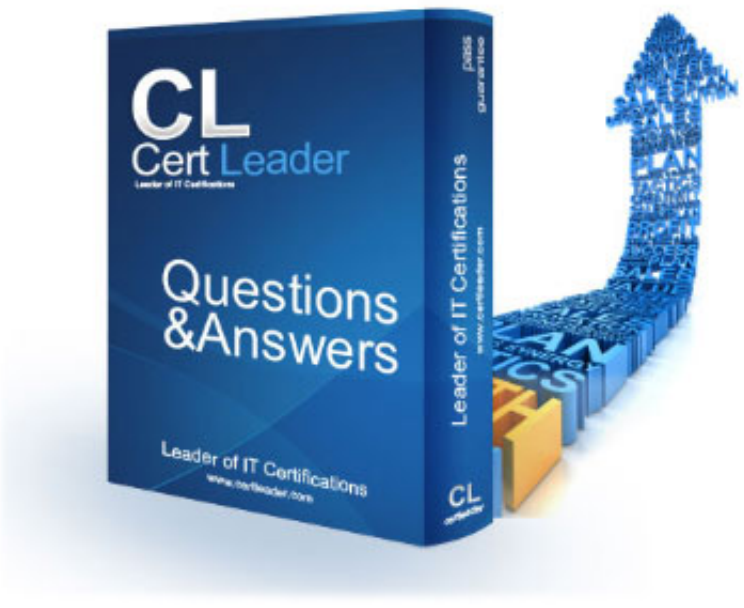
200-101 Dumps

Interconnecting Cisco Networking Devices Part 2 (ICND2)

https://www.certleader.com/200-101-dumps.html



NEW QUESTION 1
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: ACE

Explanation: From the output, we see that all ports are in Designated role (forwarding state) -> A and E are correct.
The command “show spanning-tree vlan 30 only shows us information about VLAN 30. We don’t know how many VLAN exists in this switch -> B is not correct.
The bridge priority of this switch is 24606 which is lower than the default value bridge priority 32768 -> C is correct.
All three interfaces on this switch have the connection type “p2p”, which means Point-to-
point environment – not a shared media -> D is not correct.
The only thing we can specify is this switch is the root bridge for VLAN 3o but we can not guarantee it is also the root bridge for other VLANs -> F is not correct.

NEW QUESTION 2

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: BE

Explanation: http://www.cisco.com/en/US/tech/tk389/tk621/technologies_white_paper09186a0080094cf a.shtml
Port Roles
The role is now a variable assigned to a given port. The root port and designated port roles remain, while the blocking port role is split into the backup and alternate port roles. The Spanning Tree Algorithm (STA) determines the role of a port based on Bridge Protocol Data Units (BPDUs). In order to simplify matters, the thing to remember about a BPDU is there is always a method to compare any two of them and decide whether one is more useful than the other. This is based on the value stored in the BPDU and occasionally on the port on which they are received. This considered, the information in this section explains practical approaches to port roles.
Compatibility with 802.1D
RSTP is able to interoperate with legacy STP protocols. However, it is important to note that the inherent fast convergence benefits of 802.1w are lost when it interacts with legacy bridges.

NEW QUESTION 3
Which term describes a spanning-tree network that has all switch ports in either the blocking or fowarding state?

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

Answer: A

Explanation: Spanning Tree Protocol convergence (Layer 2 convergence) happens when bridges and switches have transitioned to either the forwarding or blocking state. When layer 2 is converged, root bridge is elected and all port roles (Root, Designated and Non-Designated) in all switches are selected.

NEW QUESTION 4
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.Nbr 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: http://www.cisco.com/en/US/tech/tk389/tk621/technologies_tech_note09186a008009482f.s html
When a switch receives a BPDU, it first compares priority, the lower number wins. If a tie, compare MAC, the smaller one wins. Here Switch has 32769 priority which is greater than 20481 so switch will not elect for root bridge. It says the bridge priority for Switch is 32769, andthe root priority is 20481. Which means that some other switch has the lower priority and won the election for VLAN 1.

NEW QUESTION 5
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: ACE

Explanation: CCNA Self-Study (ICND Exam): Extending Switched Networks with Virtual LANs
http://www.ciscopress.com/articles/article.asp?p=102157&seqNum=2

NEW QUESTION 6
What is one benefit of PVST+?

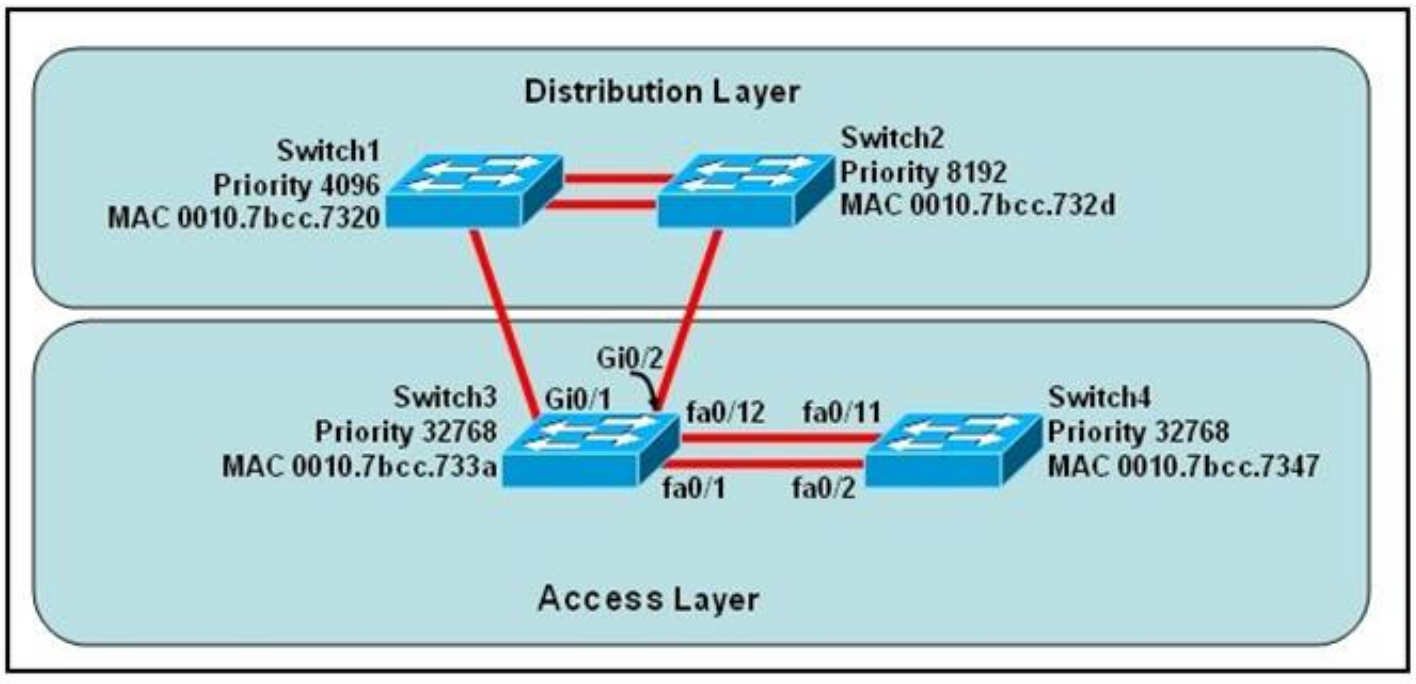
A. PVST+ supports Layer 3 load balancing without loops.
B. PVST+ reduces the CPU cycles for all the switches in the network.
C. PVST+ allows the root switch location to be optimized per VLAN.
D. PVST+ automatically selects the root bridge location, to provide optimized bandwidth usage.

Answer: C

Explanation: Per VLAN Spanning Tree (PVST)
Introduction http://www.cisco.com/en/US/tech/tk389/tk621/tk846/tsd_technology_support_sub-protocol_home.html
Per VLAN Spanning Tree (PVST) maintains a spanning tree instance for each VLAN configured in the network. This means a switch can be the root bridge of a VLAN while another switch can be the root bridge of other VLANs in a common topology. For example, Switch 1 can be the root bridge for Voice data while Switch 2 can be the root bridge for Video data. If designed correctly, it can optimize the network traffic.
http://www.ciscopress.com/articles/article.asp?p=102157&seqNum=4

NEW QUESTION 7

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: In this question, we only care about the Access Layer switches (Switch3 & 4). Switch 3 has a lower bridge ID than Switch 4 (because the MAC of Switch3 is smaller than thatof Switch4) so both ports of Switch3 will be in forwarding state. The alternative port will surely belong to Switch4.
Switch4 will need to block one of its ports to avoid a bridging loop between the two switches. But how does Switch4 select its blocked port? Well, the answer is based on the BPDUs it receives from Switch3. A BPDU is superior than another if it has:
1. A lower Root Bridge ID2. A lower path cost to the Root3. A lower Sending Bridge ID4. A lower Sending Port ID
These four parameters are examined in order. In this specific case, all the BPDUs sent by Switch3 have the same Root Bridge ID, the same path cost to the Root and the same Sending Bridge ID. The only parameter left to select the best one is the Sending Port ID (Port ID = port priority + port index). In this case the port priorities are equal because they use the default value, so Switch4 will compare port index values, which are unique to each port on the switch, and because Fa0/12 is inferior to Fa0/1, Switch4 will select the port connected with Fa0/1 (of Switch3) as its root port and block the other port -> Port fa0/11 of Switch4 will be blocked (discarding role)

NEW QUESTION 8
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: ABD

Explanation: http://www.cisco.com/en/US/tech/tk389/tk621/technologies_white_paper09186a0080094cf a.shtml
Convergence
Cisco enhanced the original 802.1D specification with features such as Uplink Fast, Backbone Fast, and Port Fast to speed up the convergence time of a bridged network. The drawback is that these mechanisms are proprietary and need additional configuration.
Alternate and Backup Port Roles
These two port roles correspond to the blocking state of 802.1D. A blocked port is defined as not being the designated or root port. A blocked port receives a more useful BPDU than the one it sends out on its segment.
Remember that a port absolutely needs to receive BPDUs in order to stay blocked. RSTP introduces these two roles for this purpose.
Rapid Transition to Forwarding State
Rapid transition is the most important feature introduced by 802.1w. The legacy STA passively waited for the network to converge before it turned a port into the forwarding state. The achievement of faster convergence was a matter of tuning the conservative default parameters (forward delay and max_age timers) and often put the stability of the network at stake. The new rapid STP is able to actively confirm that a port can safely
transition to the forwarding state without having to rely on any timer configuration. There is now a real feedback mechanism that takes place between RSTP-compliant bridges. In order to achieve fast convergence on a port, the protocol relies upon two new variables: edge ports and link type.

Topic 2, IP Routing Technologies

NEW QUESTION 9
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: BG

Explanation: http://www.ciscopress.com/articles/article.asp?p=24090&seqNum=6 http://www.ciscopress.com/articles/article.asp?p=24090

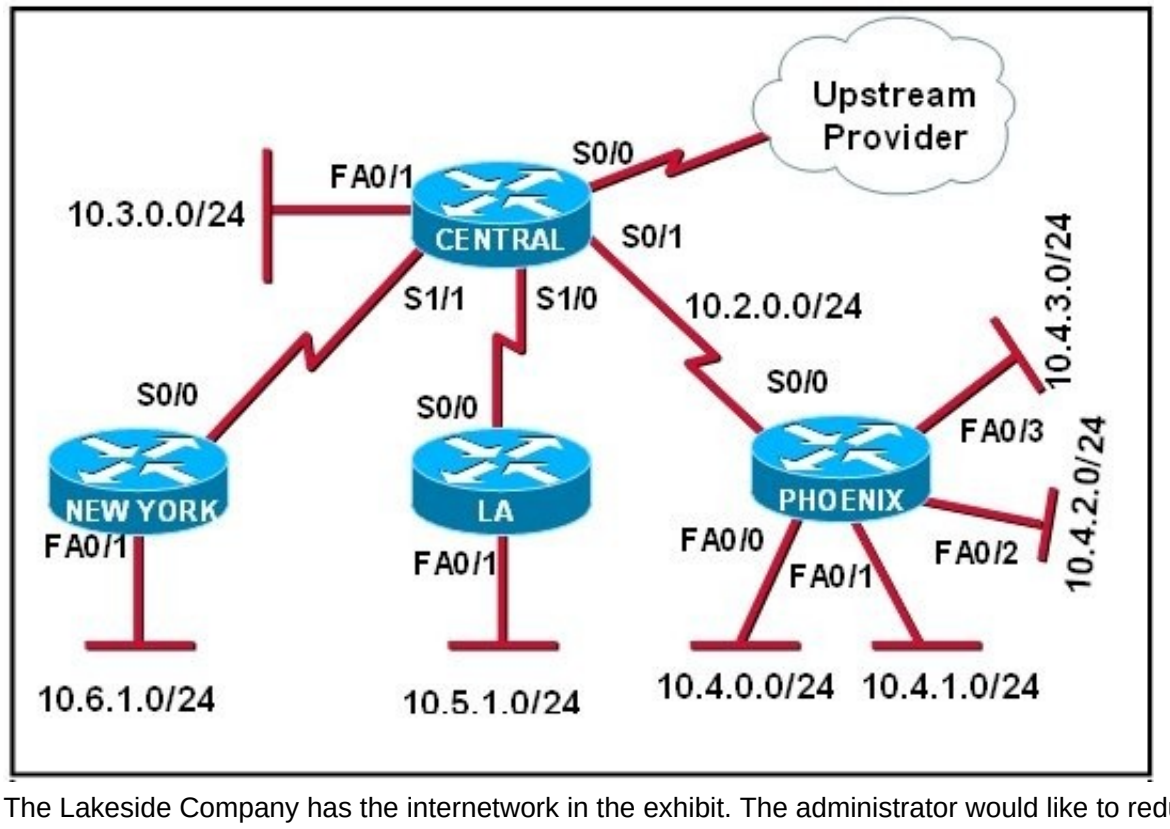
NEW QUESTION 10
Which two statements describe the process identifier that is used in the command to configure OSPF on a router? (Choose two.)
Router(config)# router ospf 1

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: CD

Explanation: we all know that The areas can be any number from 0 to 4.2 billion and 1 to 65,535 for the Process ID.
The process ID is the ID of the OSPF process to which the interface belongs. The process ID is local to the router, and two OSPF neighboring routers can have different OSPF process IDs. (This is not true of Enhanced Interior Gateway Routing Protocol [EIGRP], in which the routers need to be in the same autonomous system). Cisco IOS Software can run multiple OSPF processes on the same router, and the process ID merely distinguishes one process from the another. The process ID should be a positive integer.

NEW QUESTION 10
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: All the above networks can be summarized to 10.0.0.0 network but the question requires to “represent the LANs in Phoenix but no additional subnets” so we must summarized to
10.4.0.0 network. The Phoenix router has 4 subnets so we need to “move left” 2 bits of
“/24-> /22 is the best choice - D is correct.

NEW QUESTION 15
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: BD

Explanation: Link State routing protocols, such as OSPF and IS-IS, converge more quickly than their distance vector routing protocols such as RIPv1, RIPv2, EIGRP and so on, through the use of flooding and triggered updates. In link state protocols, changes are flooded immediately and computed in parallel. Triggered updates improve convergence time by requiring routers to send an update message immediately upon learning of a route change. These updates are triggered by some event, such as a new link becoming available oor an existing link failing. The main drawbacks to link state routing protocols are the amount of CPU overhead involved in calculating route changes and memory resources that are required to store neighbor tables, route tables and a complete topology table.
http://www.ciscopress.com/articles/article.asp?p=24090&seqNum=4

NEW QUESTION 16
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: http://www.cisco.com/en/US/tech/tk365/technologies_white_paper09186a0080094e9e.sht ml#t6
OSPF Cost
The cost (also called metric) of an interface in OSPF is an indication of the overhead required to send packets across a certain interface. The cost of an interface is inversely proportional to the bandwidth of that interface. A higher bandwidth indicates a lower cost. There is more overhead (higher cost) and time delays involved in crossing a 56k serial line than crossing a 10M Ethernet line. The formula used to calculate the cost is:
Cost= 10000 0000/bandwidth in bps
For example, it will cost 10 EXP8/10 EXP7 = 10 to cross a 10M Ethernet line and will cost
10 EXP8/1544000 =64 to cross a T1 line. By default, the cost of an interface is calculated based on the bandwidth; you can force the cost of an interface with the ip ospf cost
<value> interface sub configuration mode command.

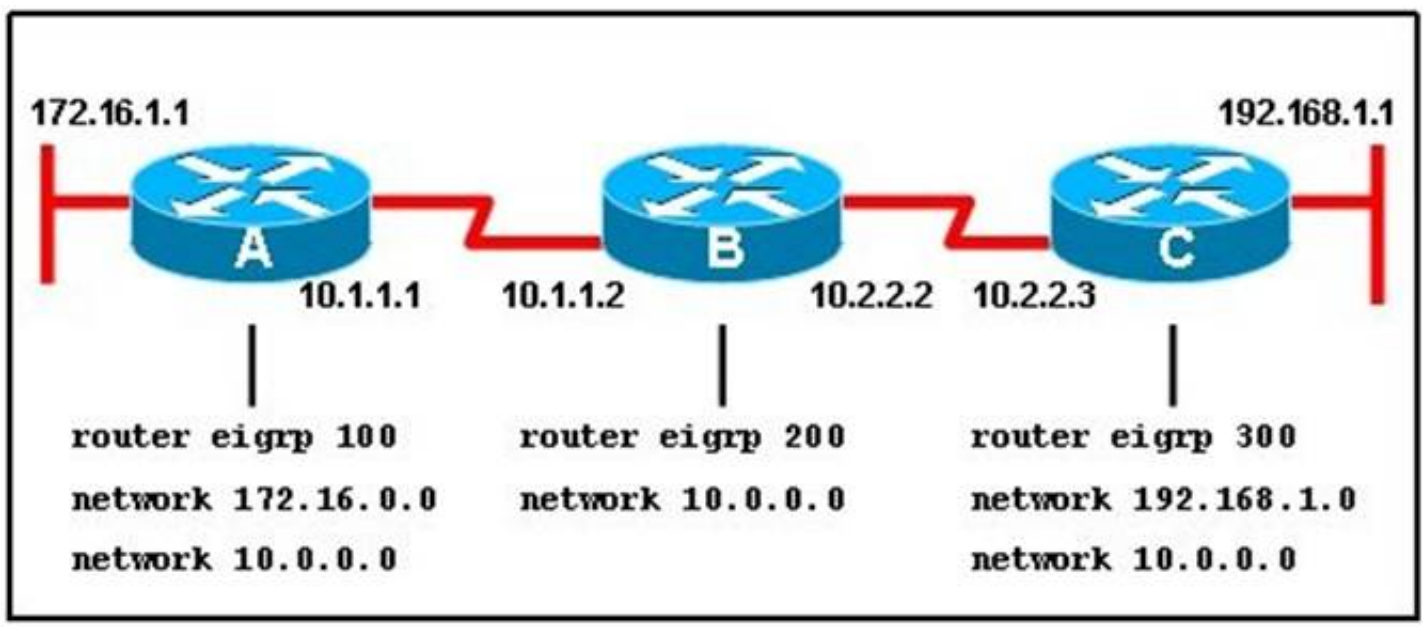
NEW QUESTION 17
What is the default maximum number of equal-cost paths that can be placed into the routing table of a Cisco OSPF router?

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

Answer: B

Explanation: 4 is the default number of routes that OSPF will include in routing table if more than 4 equal cost routes exist for the same subnet. However, OSPF can include up to 16 equal cost routes in the routing table and perform load balancing amongst them. In order to configure this feature, you need to use the OSPF subcommandmaximum-paths, i.e. maximum- paths 16.

NEW QUESTION 22
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: Here we required same autonomous system between router A,B,C.Routing updated always exchange between in same EIGRP EIGRP autonomous system.you can configure more than one EIGRP autonomous system on the same router. This is typically done at a redistribution point where two EIGRP autonomous systems are interconnected. Individual router interfaces should only be included within a single EIGRP autonomous system. Cisco does not recommend running multiple EIGRP autonomous systems on the same set of interfaces on the router. If multiple EIGRP autonomous systems are used with multiple points of mutual redistribution, it can cause discrepancies in the EIGRP topology table if correct filtering is not performed at the redistribution points. If possible, Cisco recommends you configure only one EIGRP autonomous system in any single autonomous system.

http://www.cisco.com/en/US/tech/tk365/technologies_tech_note09186a0080093f07.shtml

NEW QUESTION 24
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: http://networklessons.com/eigrp/eigrp-neighbor-and-topology-table-explained/
To be the feasible successor, the Advertised Distance (AD) of that route must be less than the Feasible Distance (FD) of the successor. From the output of the "show ip eigrp topology 10.0.0.5 255.255.255.255 we learn that the FD of the successor is 41152000.
Now we will mention about the answers, in the "Composite metric is (…/…)" statement the first parameter is the FD while the second parameter is the AD of that route. So we need to find out which route has the second parameter (AD) less than 41152000 -> only answer B satisfies this requirement with an AD of 128256.

NEW QUESTION 28
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 discontiguous subnets.
D. EIGRP and OSPF are classful routing protocols and summarize routes by default.

Answer: C

Explanation: http://www.ciscopress.com/articles/article.asp?p=174107&seqNum=3
RIPv1, RIPv2, IGRP, and EIGRP all auto-summarize classful boundaries by default (OSPF does not).To make discontiguous networks work, meaning you don't want classful boundries to summarize, you need to turn off auto-summary.

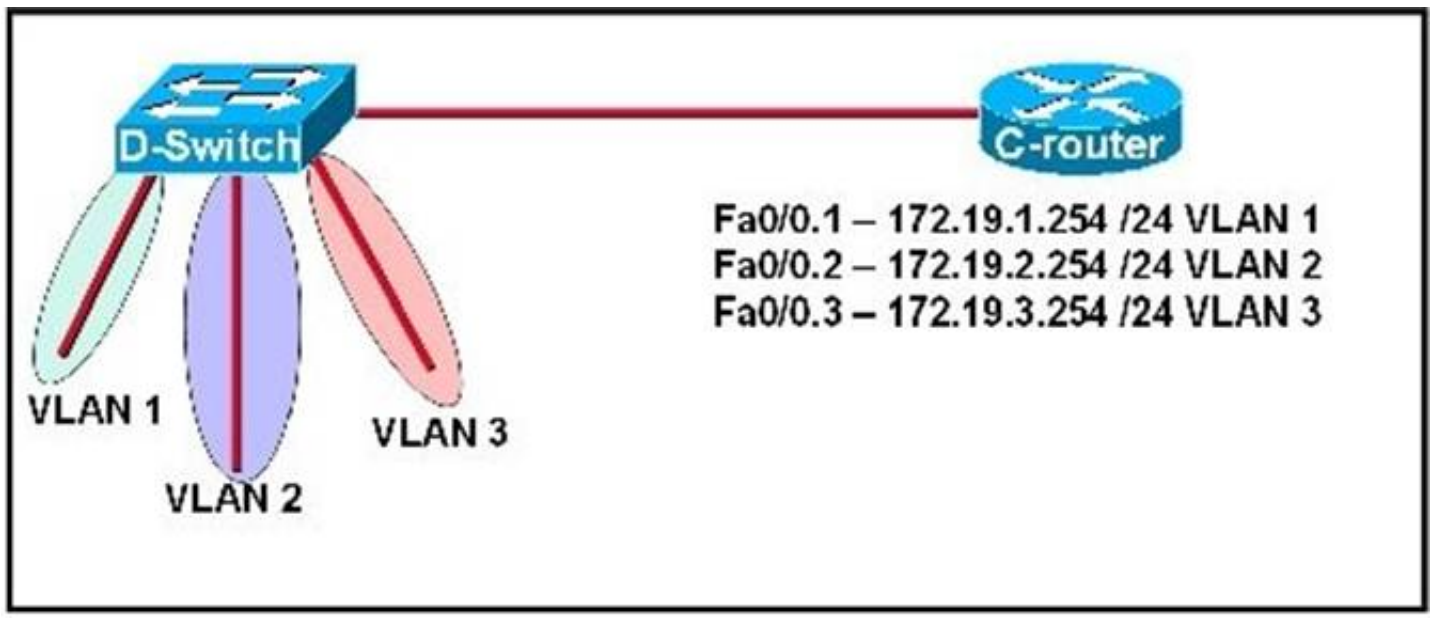
NEW QUESTION 29
What does a router do if it has no EIGRP feasible successor route to a destination network and the successor route to that destination network is in active status?

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: Feasible Successors
A destination entry is moved from the topology table to the routing table when there is a feasible successor. All minimum cost paths to the destination form a set. From this set, the neighbors that have an advertised metric less than the current routing table metric are considered feasible successors.
Feasible successors are viewed by a router as neighbors that are downstream with respect to the destination.
These neighbors and the associated metrics are placed in the forwarding table.
When a neighbor changes the metric it has been advertising or a topology change occurs in the network, the set of feasible successors may have to be re-evaluated. However, this is not categorized as a route recomputation.
Route States
A topology table entry for a destination can have one of two states. A route is considered in the Passive state when a router is not performing a route recomputation. The route is in Active state when a router is undergoing a route recomputation. If there are always feasible successors, a route never has to go into Active state and avoids a route recomputation.
When there are no feasible successors, a route goes into Active state and a route recomputation occurs. A route recomputation commences with a router sending a query packet to all neighbors. Neighboring routers can either reply if they have feasible successors for the destination or optionally return a query indicating that they are performing a route recomputation. While in Active state, a router cannot change the next- hop neighbor it is using to forward packets. Once all replies are received for a given query, the destination can transition to Passive state and a new successor can be selected.
When a link to a neighbor that is the only feasible successor goes down, all routes through that neighbor commence a route recomputation and enter the Active state.

NEW QUESTION 30
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 123C-router(config-router)# network 172.19.0.0
B. These commands need to be added to the configuration: C-router(config)# router ospf 1C-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 ripC-router(config-router)# network 172.19.0.0
D. No further routing configuration is required.

Answer: D

Explanation: http://www.cisco.com/en/US/tech/tk389/tk815/technologies_configuration_example09186a 00800949fd.shtml
https://learningnetwork.cisco.com/servlet/JiveServlet/download/5669-2461/Router%20on%20a%20Stick.pdf.

NEW QUESTION 33
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: DE

Explanation: It is a waste to administratively shut down the interface. Moreover, someone can still access the virtual terminal interfaces via other interfaces -> A is not correct.
We can not physically secure a virtual interface because it is “virtual” -> B is not correct. To apply an access list to a virtual terminal interface we must use the “access-class” command. The “access-group” command is only used to apply an access list to a physical interface -> C is not correct; E is correct.
The most simple way to secure the virtual terminal interface is to configure a username & password to prevent unauthorized login -> D is correct.

NEW QUESTION 35
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
```

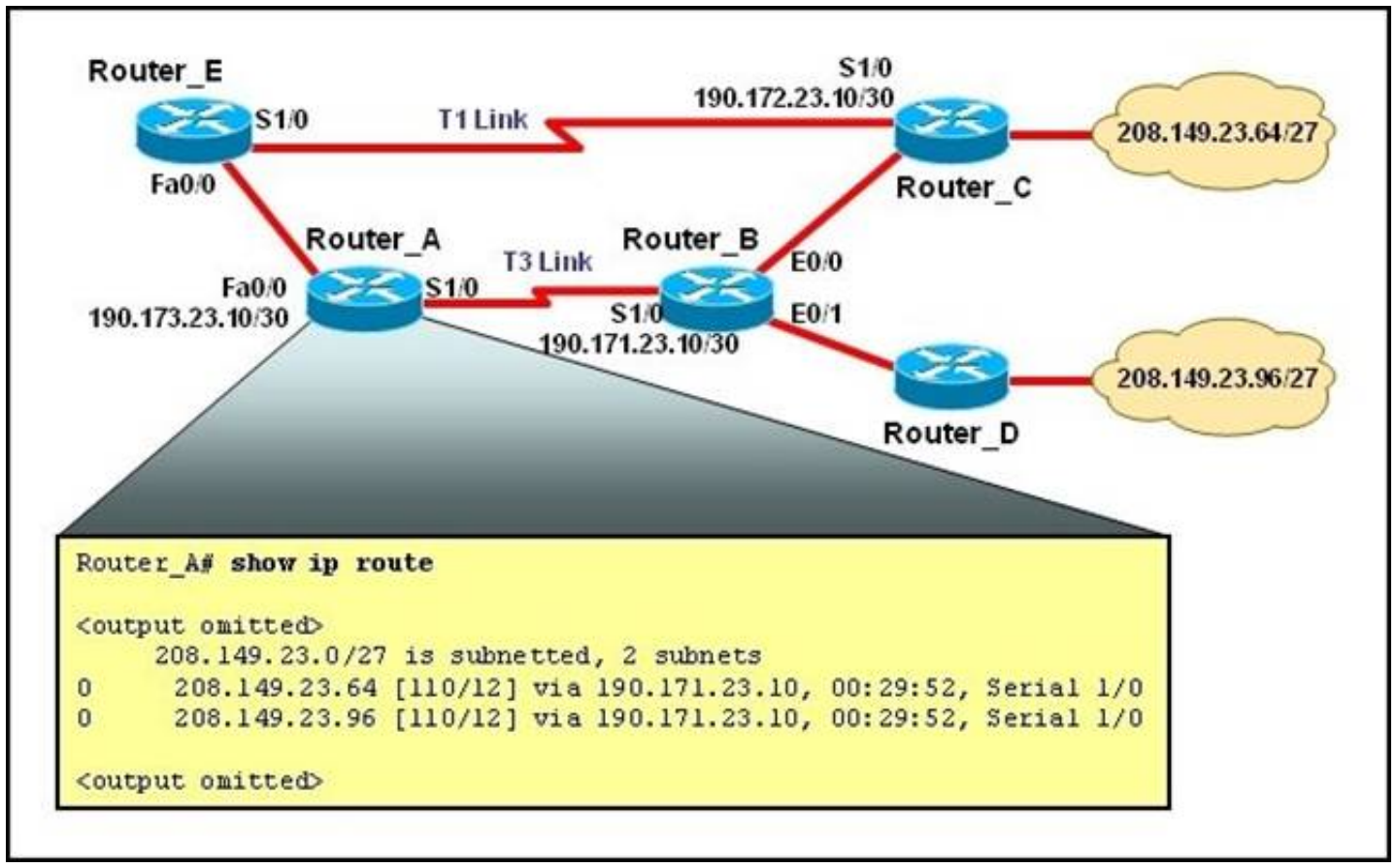
How will the router handle a packet destined for 192.0.2.156?

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: Router has pointed default router to 192.168.4.1 and this subnet is connected via serial 2 interface. Router does not have router for the 192.0.2.156. so it will use the default gateway 192.168.4.1. A default route identifies the gateway IP address to which the router sends all IP packets for which it does not have a learned or static route.

NEW QUESTION 39
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. O 208.149.23.64 [110/13] via 190.173.23.10, 00:00:07, FastEthernet 0/0 O 208.149.23.96 [110/13] via 190.173.23.10, 00:00:16, FastEthernet 0/0
B. O 208.149.23.64 [110/1] via 190.172.23.10, 00:00:07, Serial 1/0 O 208.149.23.96 [110/3] via 190.173.23.10, 00:00:16, FastEthernet 0/0
C. O 208.149.23.64 [110/13] via 190.172.23.10, 00:00:07, Serial 1/0 O 208.149.23.96 [110/13] via 190.172.23.10, 00:00:16, Serial 1/0 O 208.149.23.96 [110/13] via 190.173.23.10, 00:00:16, FastEthernet 0/0
D. O 208.149.23.64 [110/3] via 190.172.23.10, 00:00:07, Serial 1/0 O 208.149.23.96 [110/3] via 190.172.23.10, 00:00:16, Serial 1/0

Answer: A

Explanation: Router_E learns two subnets subnets 208.149.23.64 and 208.149.23.96 via Router_A through FastEthernet interface. The interface cost is calculated with the formula 108
/Bandwidth. For FastEthernet it is 108 / 100 Mbps = 108 / 100,000,000 = 1. Therefore the cost is12(learned from Router_A)+ 1=13for both subnets - B is not correct.
The cost through T1 link is much higher than through T3 link (T1 cost = 108 / 1.544 Mbps = 64; T3 cost = 108 / 45 Mbps = 2) so surely OSPF will choose the path through T3 link -> Router_E will choose the path from Router_A through FastEthernet0/0, not Serial1/0 - C & D are not correct.
In fact, we can quickly eliminate answers B, C and D because they contain at least one subnet learned from Serial1/0 - they are surely incorrect.

NEW QUESTION 40
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: BE

Explanation: In the router ospf
Command, theranges from 1 to 65535 so o is an invalid number - B is correct but A is not correct. To configure OSPF, we need a wildcard in the “network” statement, not a subnet mask. We also need to assgin an area to this process - E is correct.

NEW QUESTION 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?

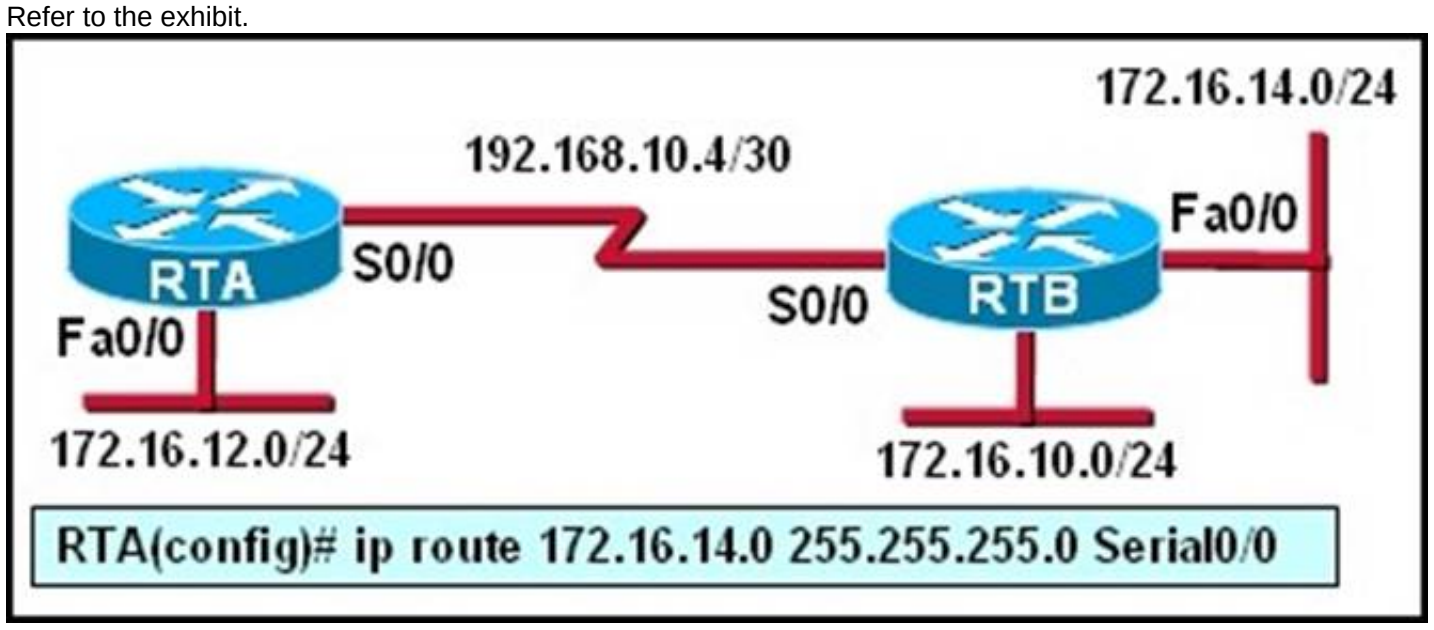
A. 10.1.1.2
B. 10.154.154.1
C. 172.16.5.1

D. 192.168.5.3

Answer: C

Explanation: CCNA Tutorial: The OSPF Router ID (RID) http://www.thebryantadvantage.com/CCNACertificationExamTutorialOSPFRouterIDRID.ht m
When determining the Router ID (RID) of an OSPF-enabled router, OSPF will always use the numerically highest IP address on the router's loopback interfaces, regardless of whether that loopback is OSPF-enabled.
What if there is no loopback? OSPF will then use the numerically highest IP address of the physical interfaces, regardless of whether that interface is OSPF-enabled.

NEW QUESTION 44
Refer to the exhibit.



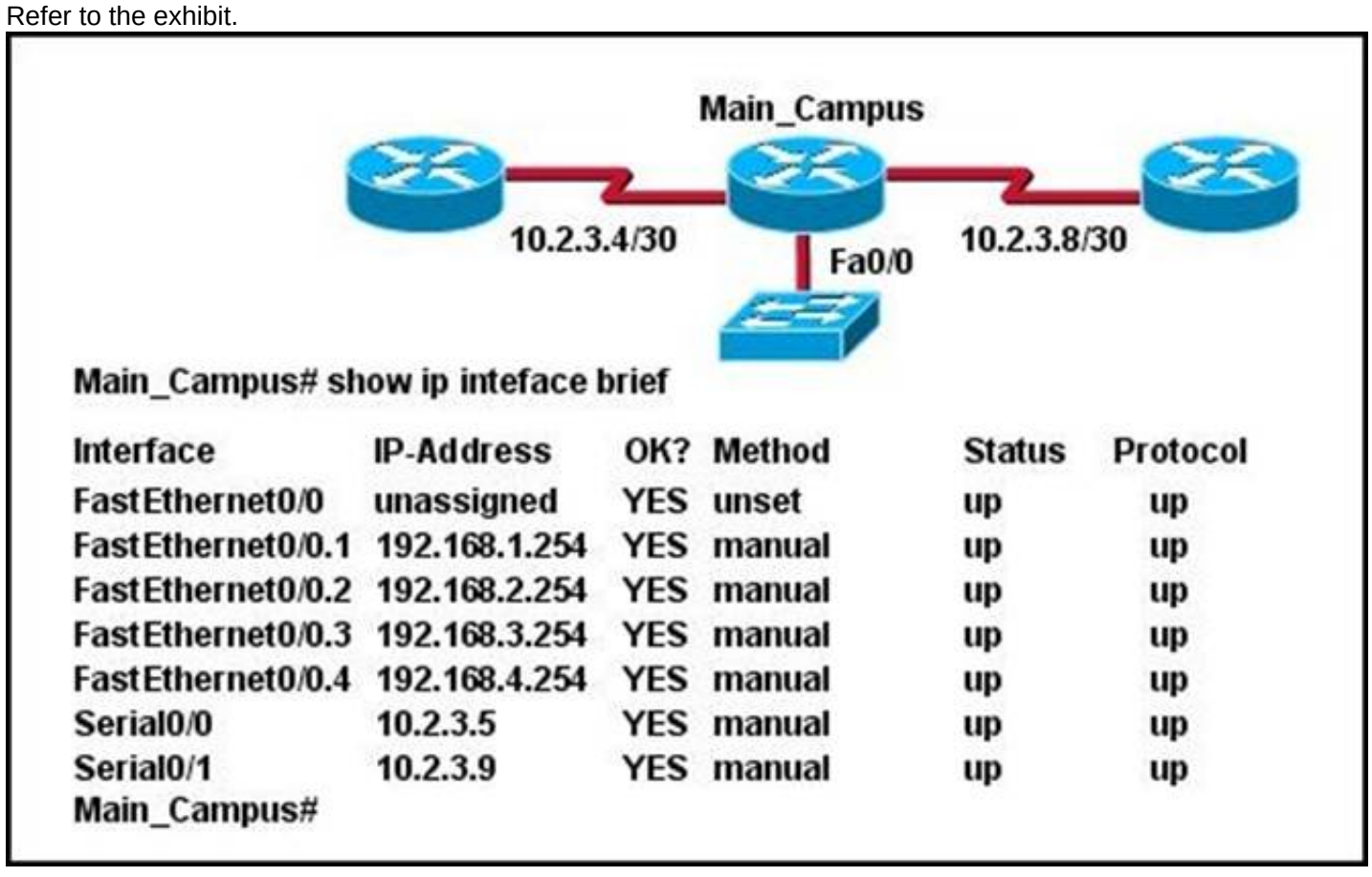
RTA is configured with a basic configuration. The link between the two routers is operational and no routing protocols are configured on either router. The line shown in the exhibit is then added to router RTA. Should interface Fa0/0 on router RTB shut down, what effect will the shutdown have on router 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: http://www.cisco.com/en/US/tech/tk365/technologies_tech_note09186a00800ef7b2.shtml

NEW QUESTION 46
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: Interface fa0/0 breaks into sub-interfaces and Main_Campus router is connected with switch via fa0/0 .Subinterfaces configured with different subnet mask so the seem switch has multiple vlans and allows communication between these VLAN's. For routing and inter- vlan we need to configure a trunk port. So B will be the correct answer.

NEW QUESTION 47
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: ABC

Explanation: Switchport Security Concepts and Configuration
http://www.ciscopress.com/articles/article.asp?p=1722561
Switchport Security Violations
The second piece of switchport port-security that must be understood is a security violation including what it is what causes it and what the different violation modes that exist. A switchport violation occurs in one of two situations:
When the maximum number of secure MAC addresses has been reached (by default, the maximum number of secure MAC addresses per switchport is limited to 1)
An address learned or configured on one secure interface is seen on another secure interface in the same VLAN
The action that the device takes when one of these violations occurs can be configured: Protect—This mode permits traffic from known MAC addresses to continue to be forwarded while dropping traffic from unknown MAC addresses when over the allowed MAC address limit. When configured with this mode, no notification action is taken when traffic is dropped.
Restrict—This mode permits traffic from known MAC addresses to continue to be forwarded while dropping traffic from unknown MAC addresses when over the allowed MAC address limit. When configured with this mode, a syslog message is logged, a Simple Network Management Protocol (SNMP) trap is sent, and a violation counter is incremented when traffic is dropped.
Shutdown—This mode is the default violation mode; when in this mode, the switch will automatically force the switchport into an error disabled (err-disable) state when a violation occurs. While in this state, the switchport forwards no traffic. The switchport can be brought out of this error disabled state by issuing the errdisable recovery cause CLI command or by disabling and re-enabling the switchport.
Shutdown VLAN—This mode mimics the behavior of the shutdown mode but limits the error disabled state the specific violating VLAN.

NEW QUESTION 49
Which command enables IPv6 forwarding on a Cisco router?

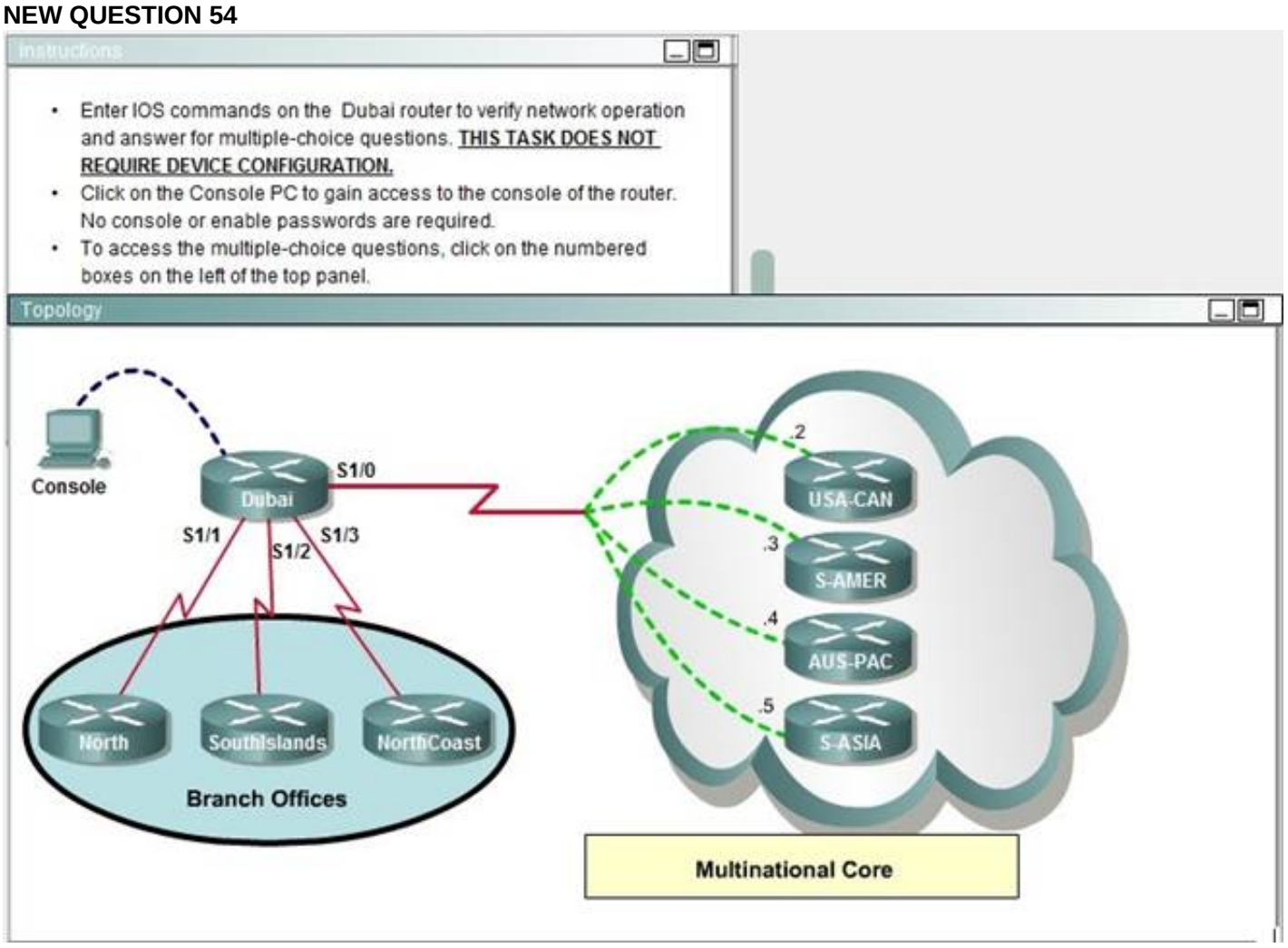
A. ipv6 local
B. ipv6 host
C. ipv6 unicast-routing
D. ipv6 neighbor

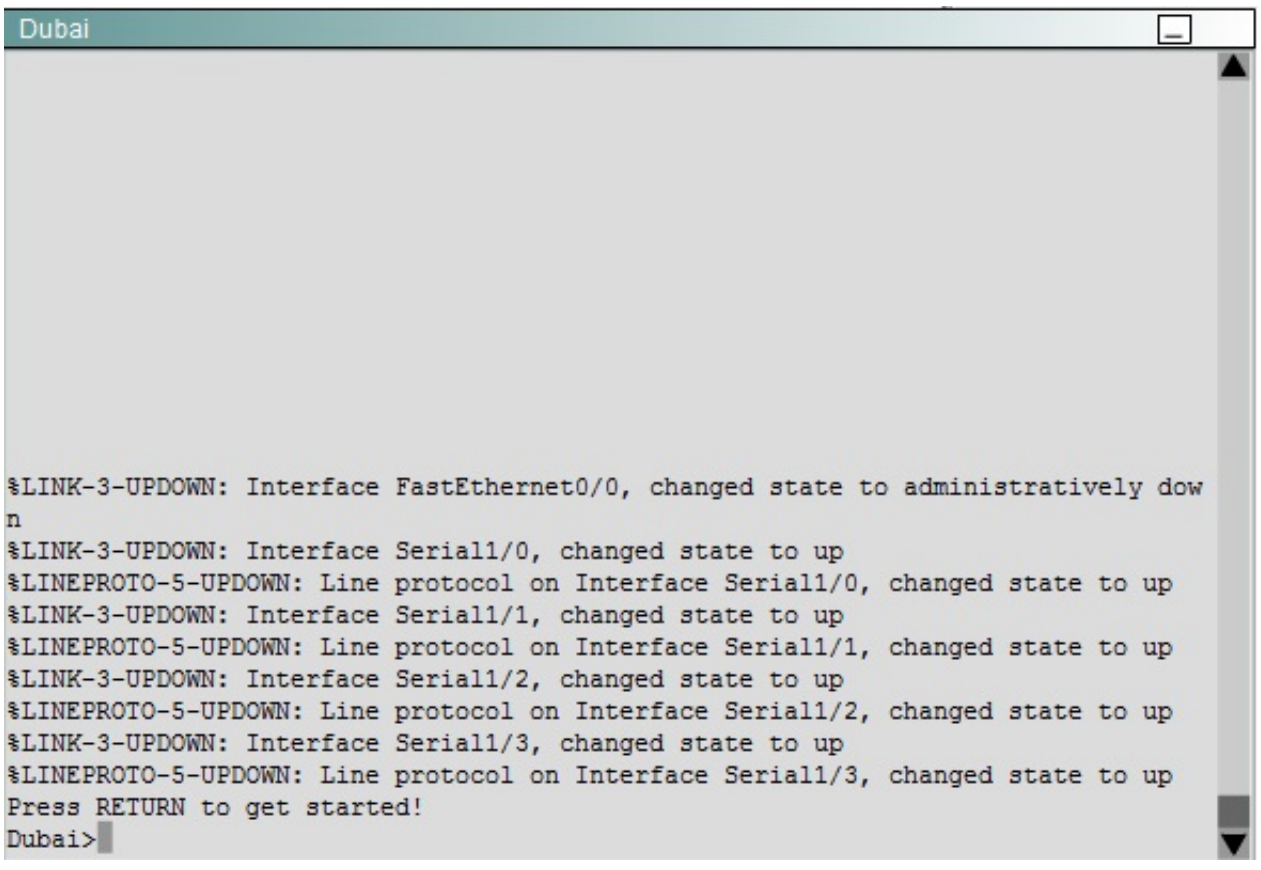
Answer: C

Explanation: http://www.ciscopress.com/articles/article.asp?p=31948&seqNum=4
The first step of enabling IPv6 on a Cisco router is the activation of IPv6 traffic forwarding to forward unicast IPv6 packets between network interfaces. By default, IPv6 traffic forwarding is disabled on Cisco routers.
The ipv6 unicast-routing command is used to enable the forwarding of IPv6 packets between interfaces on the router. The syntax for this command is as follows:
Router(config)#ipv6 unicast-routing
The ipv6 unicast-routing command is enabled on a global basis.

Topic 4, Troubleshooting

NEW QUESTION 54





```
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
```

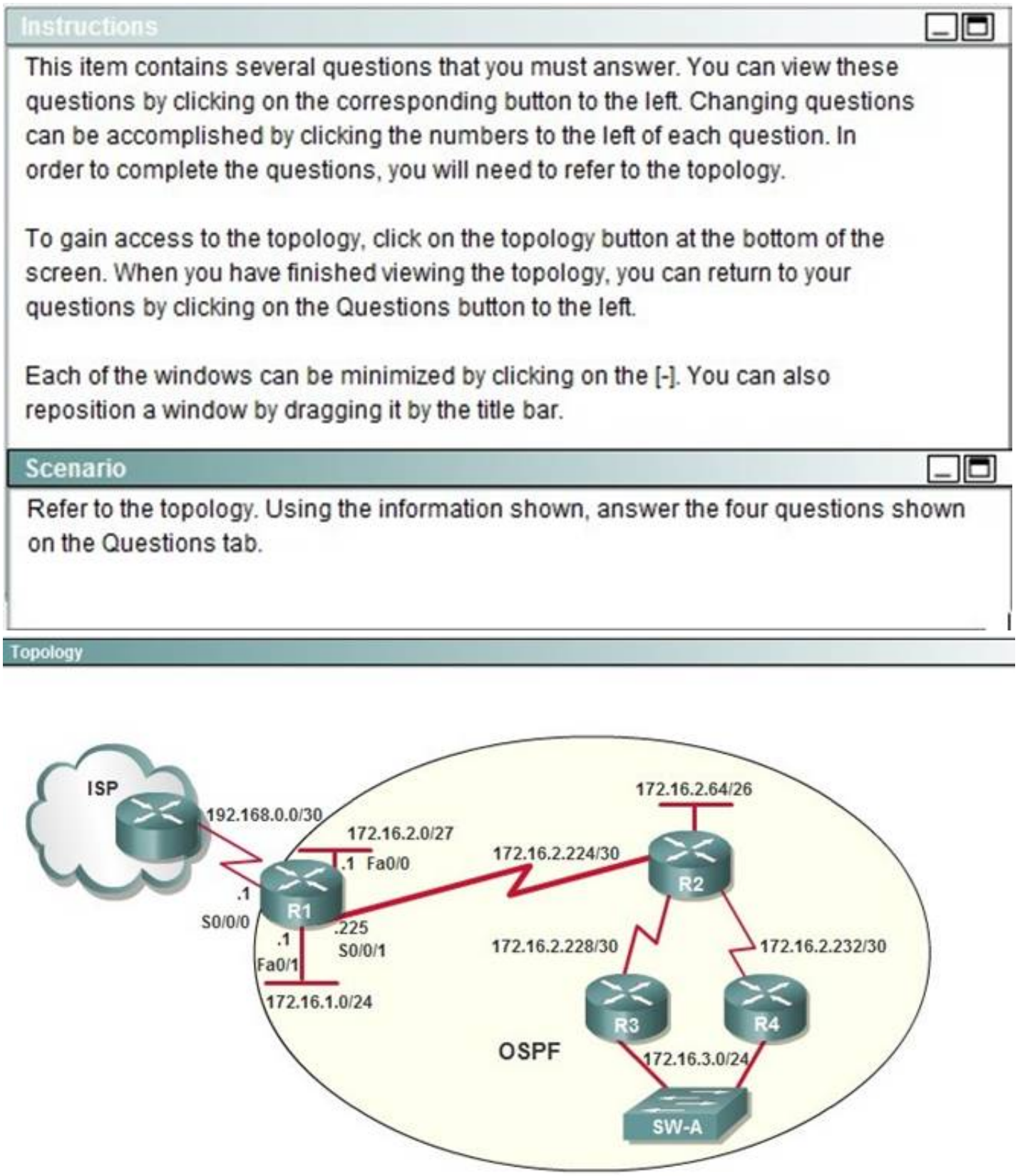
Which connection uses the default encapsulation for serial interfaces on Cisco routers?

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: Cisco default encapsulation is HDLC which is by default enabled on all cisco router. If we want to enable other encapsulation protocol(PPP,X.25 etc) we need to define in interface setting. But here except s1/1 all interface defined by other encapsulation protocol so we will assume default encapsulation running on s1/1 interface and s1/1 interface connected with North

NEW QUESTION 59



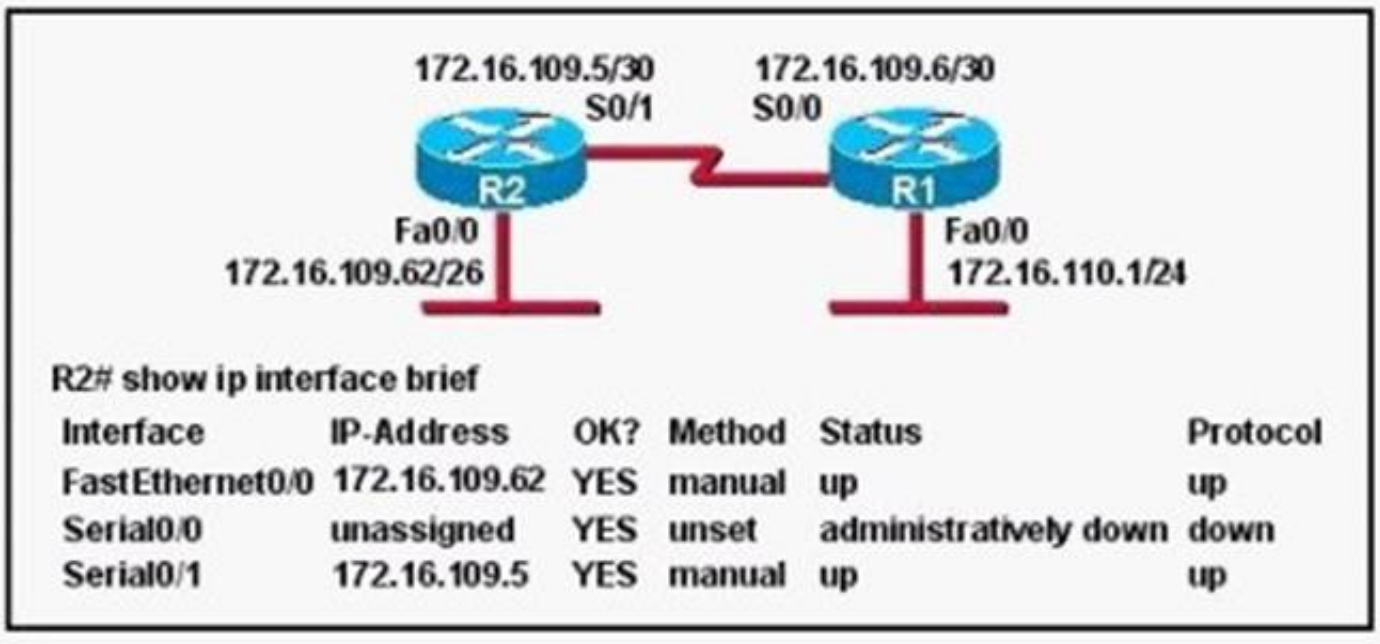
To allow or prevent load balancing to network 172.16.3.0/24, which of the following commands could be used in R2? (Choose two.)

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: BC

Explanation: OSPF Cost
http://www.cisco.com/en/US/tech/tk365/technologies_white_paper09186a0080094e9e.sht ml#t6
The cost (also called metric) of an interface in OSPF is an indication of the overhead required to send packets across a certain interface. The cost of an interface is inversely proportional to the bandwidth of that interface. A higher bandwidth indicates a lower cost. There is more overhead (higher cost) and time delays involved in crossing a 56k serial line than crossing a 10M ethernet line. The formula used to calculate the cost is:
cost= 10000 0000/bandwith in bps
For example, it will cost 10 EXP8/10 EXP7 = 10 to cross a 10M Ethernet line and will cost 10 EXP8/1544000 =64 to cross a T1 line.
By default, the cost of an interface is calculated based on the bandwidth; you can force the cost of an interface with the ip ospf cost <value> interface subconfiguration mode command.

NEW QUESTION 63
Refer to the exhibit.



R2# show ip interface brief

Interface	IP-Address	OK?	Method	Status	Protocol
FastEthernet0/0	172.16.109.62	YES	manual	up	up
Serial0/0	unassigned	YES	unset	administratively down	down
Serial0/1	172.16.109.5	YES	manual	up	up

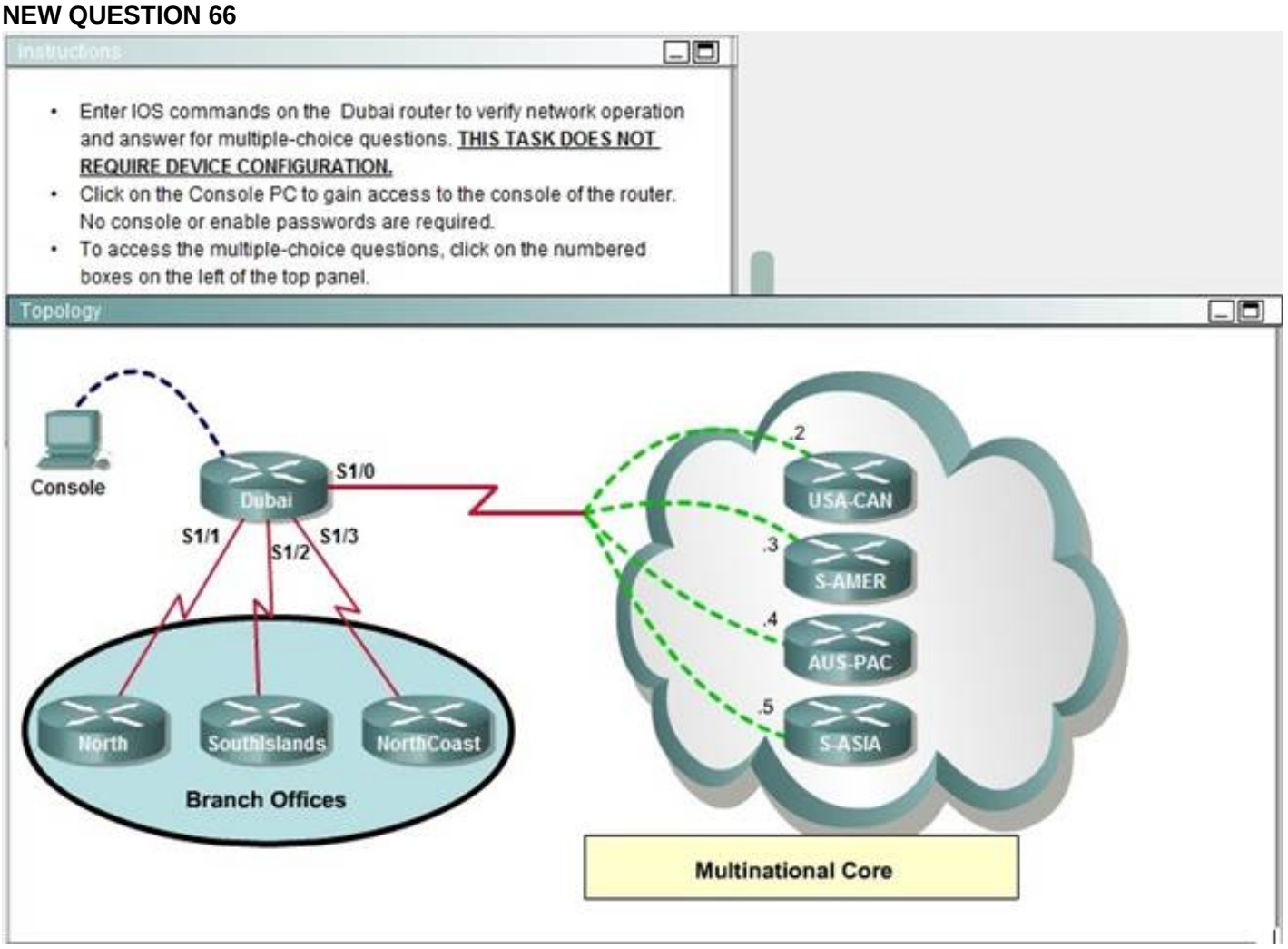
Assuming that the entire network topology is shown, what is the operational status of the interfaces of R2 as indicated by the command output shown?

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: R2 has setup with two interface s0/1 and fa0/0 and both are interfaces configured with IP address and up. "show ip interface brief" showing the status of R2 interfaces.

NEW QUESTION 66



Dubai

```
%LINK-3-UPDOWN: Interface FastEthernet0/0, changed state to administratively dow
n
%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#
```

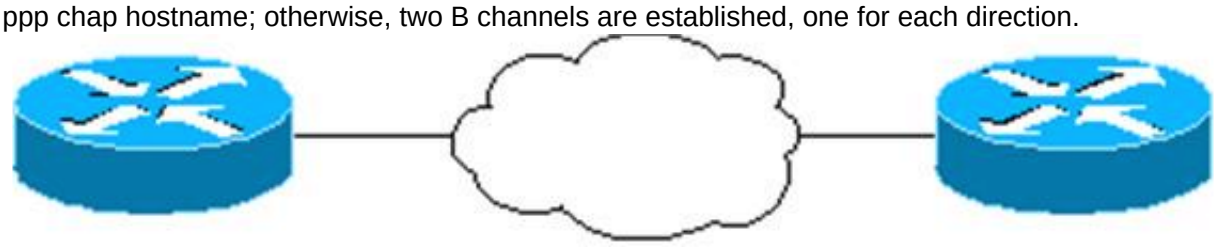
```
interface FastEthernet0/0
 no ip address
 shutdown
!
interface Serial1/0
 ip address 172.30.0.1 255.255.255.240
 encapsulation frame-relay
 no fair-queue
!
interface Serial1/1
 ip address 192.168.0.1 255.255.255.252
!
interface Serial1/2
 ip address 192.168.0.5 255.255.255.252
 encapsulation ppp
!
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: In the diagram, DeepSouth is connected to Dubai's S1/2 interface and is configured as follows:
Interface Serial1/2
IP address 192.168.0.5 255.255.255.252
Encapsulalation PPP ; Encapsulation for this interface is PPP Check out the following Cisco Link:
http://www.cisco.com/en/US/tech/tk713/tk507/technologies_configuration_example09186a 0080094333.shtml#configuringausernamedifferentfromtheroutersname
Here is a snipit of an example:
Network Diagram
If Router 1 initiates a call to Router 2, Router 2 would challenge Router 1, but Router 1 would not challenge Router 2. This occurs because theppp authentication chap callin command is configured on Router 1. This is an example of a unidirectional authentication. In this setup, theppp chap hostname alias-r1command is configured on Router 1. Router 1 uses "alias-r1" as its hostname for CHAP authentication instead of "r1." The Router 2 dialer map name should match Router 1's ppp chap hostname; otherwise, two B channels are established, one for each direction.



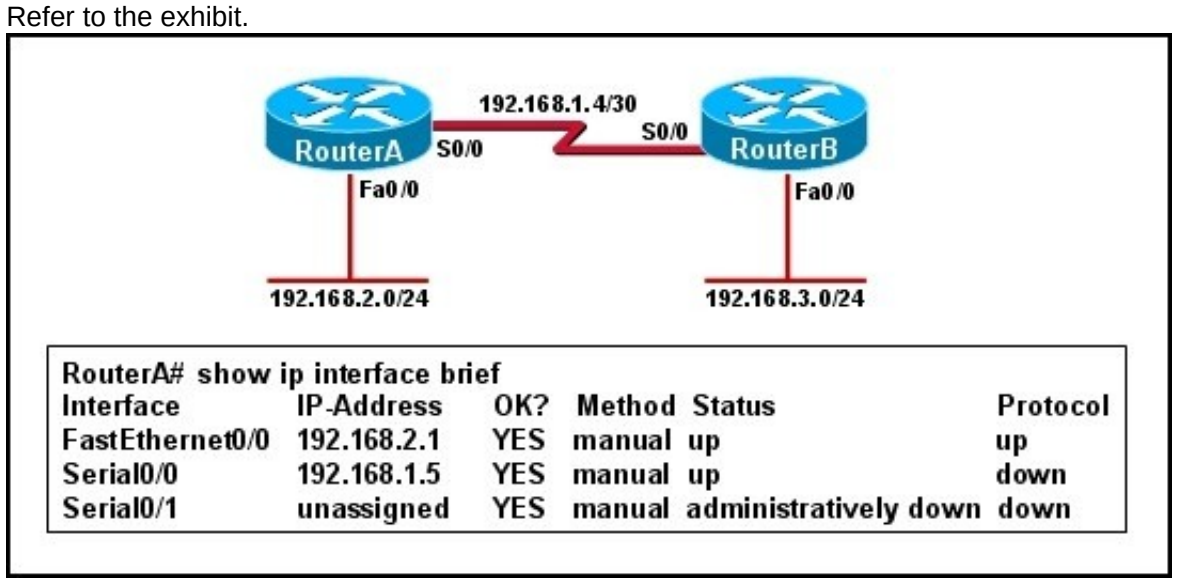
Router 1 ISDN/PPP Router 2

Configurations

Router 1

```
!
 isdn switch-type basic-5ess
 !
 hostname r1
 !
 username r2 password 0 cisco

! -- Hostname of other router and shared secret

!
 interface BRI0/0
  ip address 20.1.1.1 255.255.255.0
  no ip directed-broadcast
  encapsulation ppp
  dialer map ip 20.1.1.2 name r2 broadcast 5772222
  dialer-group 1
  isdn switch-type basic-5ess
  ppp authentication chap callin

! -- Authentication on incoming calls only

 ppp chap hostname alias-r1

! -- Alternate CHAP hostname
```

NEW QUESTION 70
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

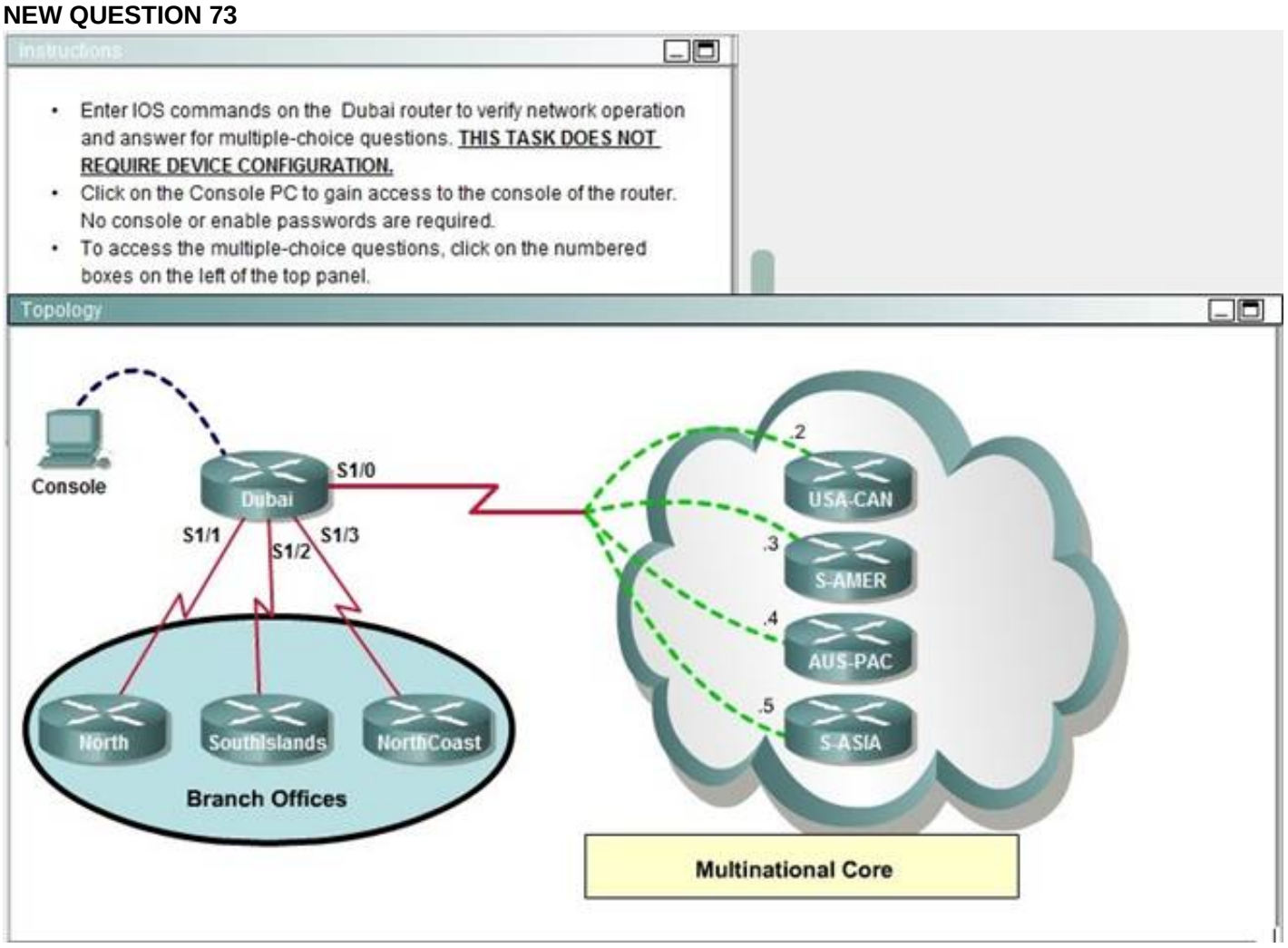
Hosts in network 192.168.2.0 are unable to reach hosts in network 192.168.3.0. Based on the output from RouterA, what are two possible reasons for the failure? (Choose two.)

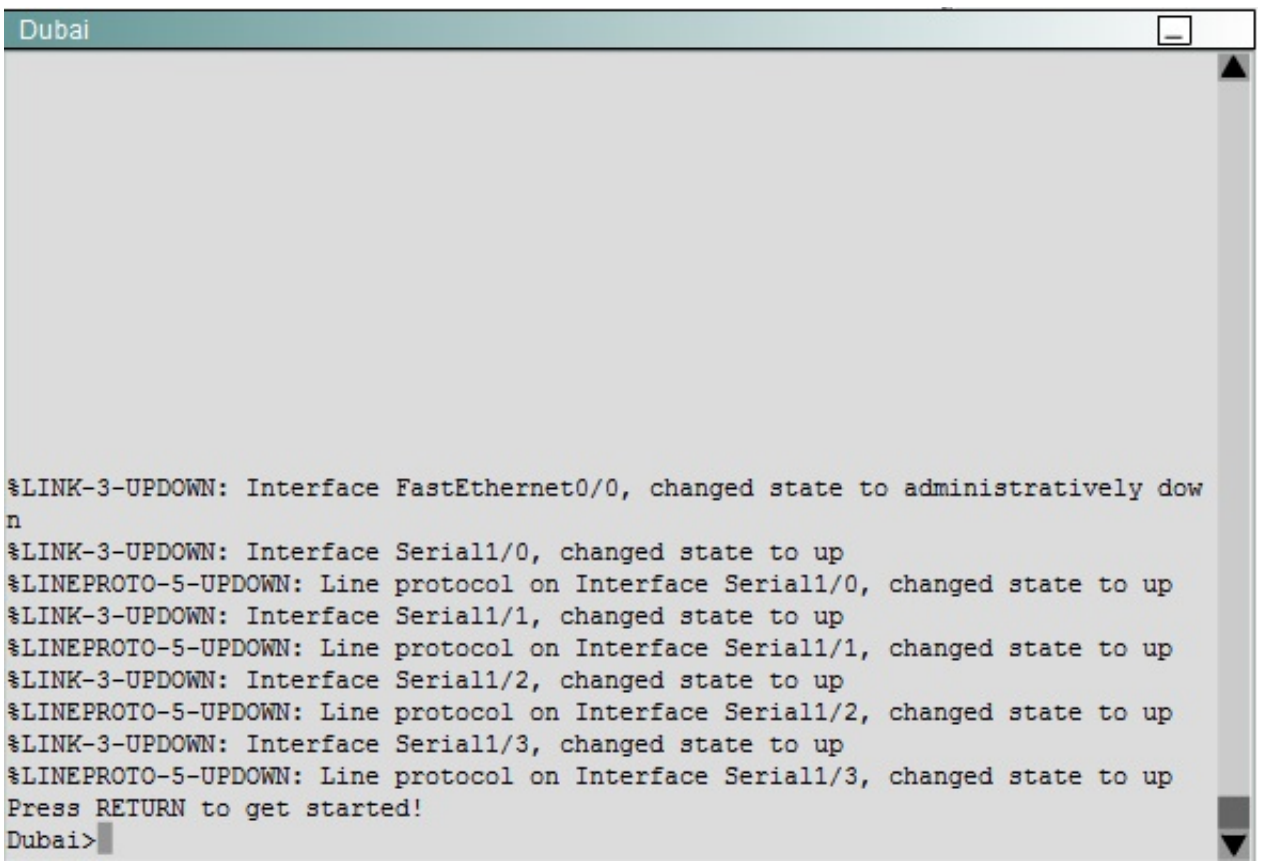
A. The cable that is connected to S0/0 on RouterA is faulty.
B. Interface S0/0 on RouterB is administratively down.
C. Interface S0/0 on RouterA is configured with an incorrect subnet mask.
D. The IP address that is configured on S0/0 of RouterB is not in the correct subnet.
E. Interface S0/0 on RouterA 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: EF

Explanation: http://www.cisco.com/en/US/docs/routers/access/800/819/software/configuration/Guide/6se r_conf.html

NEW QUESTION 73





```
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
```

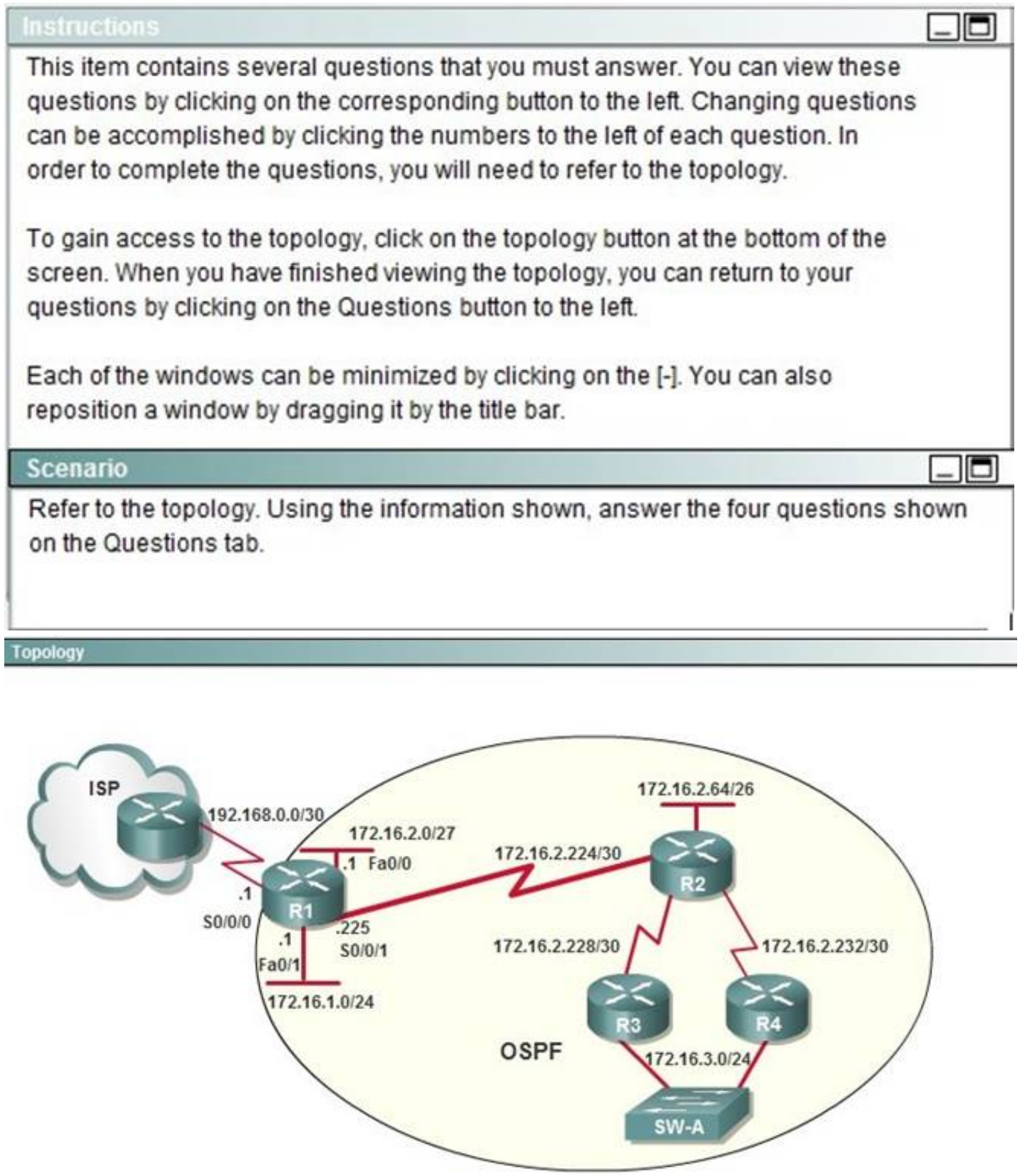
A static map to the S-AMER location is required. Which command should be used to create this map?

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: Frame-relay map ip 172.30.0.3 230 broadcast
172.30.0.3 is S-AMER router ip address and its configure on 230 dlci value. Check "show frame-relay map " output in the diagram.

NEW QUESTION 74



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: It already knows about its directly connected ones, only those not directly connected are “Learned by OSPF”.
OSPF as a link state routing protocol (deals with LSAs rather than routes) does not auto summarize (doesn't support "auto-summary").So learned route by OSPF are followed 172.16.2.64/26
172.16.2.228/30
172.16.2.232/30
172.16.3.0/24

Topic 5, WAN Technologies

NEW QUESTION 78
Which command allows you to verify the encapsulation type (CISCO or IETF) for a Frame Relay link?

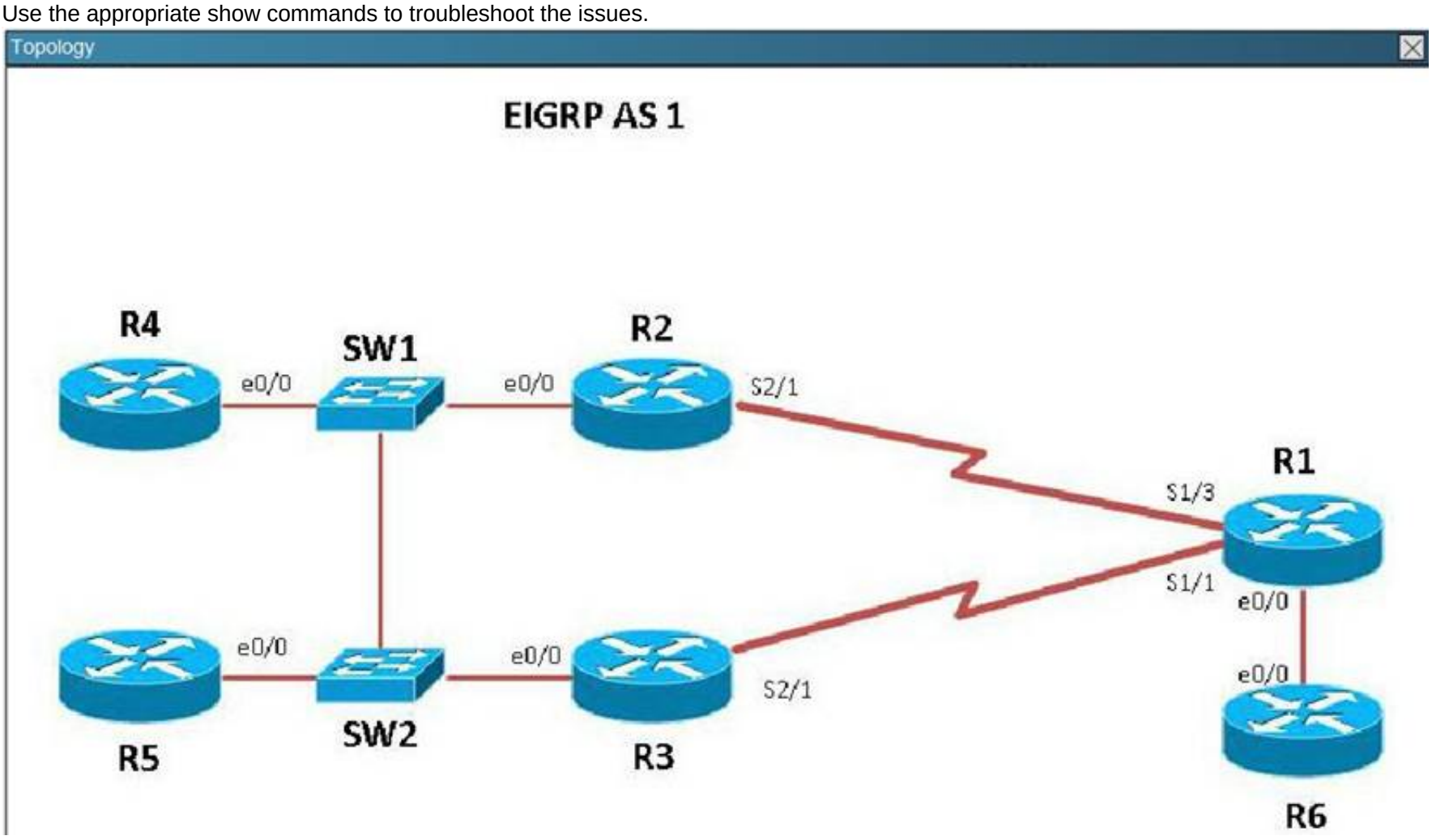
A. show frame-relay lmi
B. show frame-relay map
C. show frame-relay pvc
D. show interfaces serial

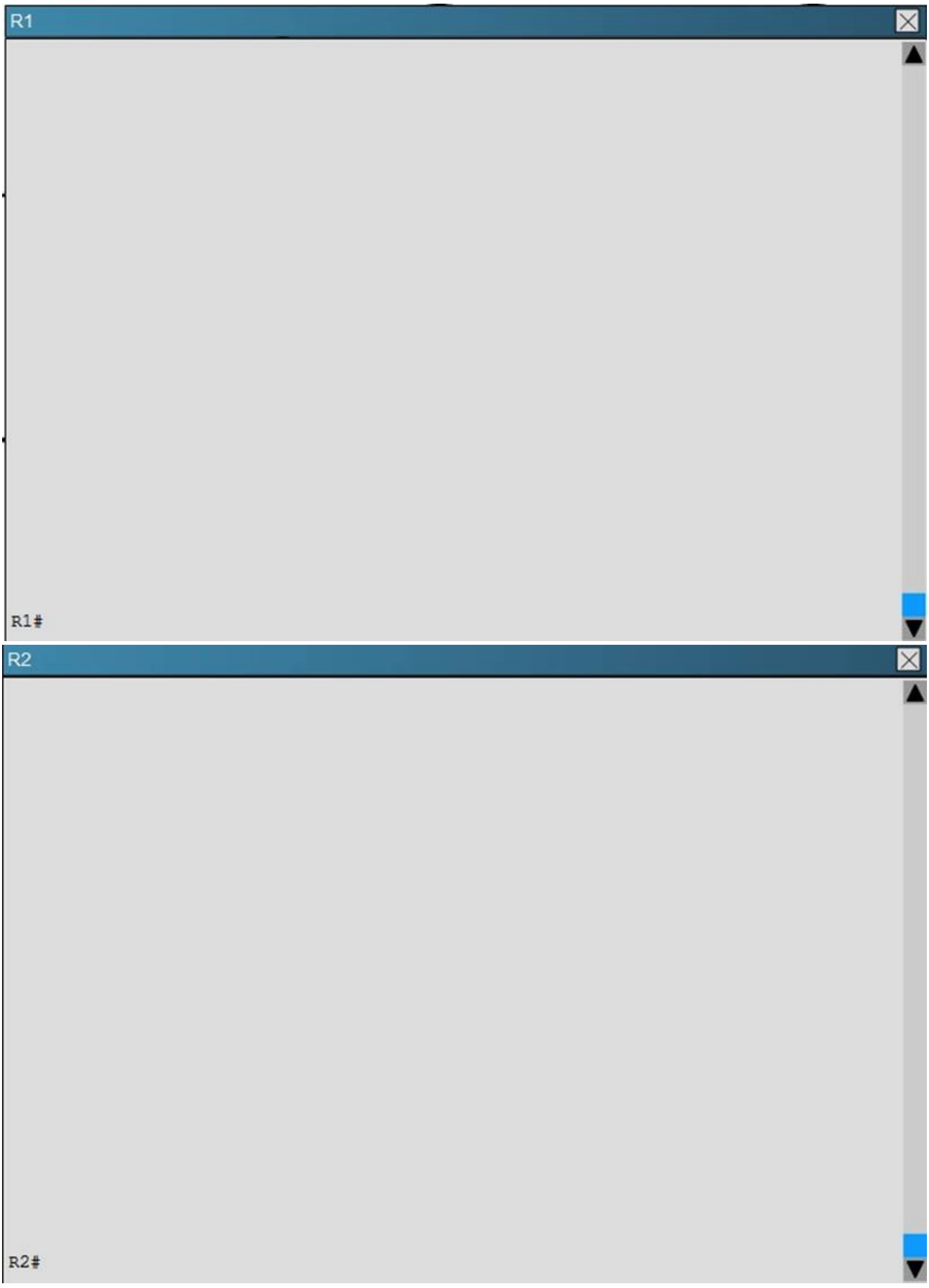
Answer: B

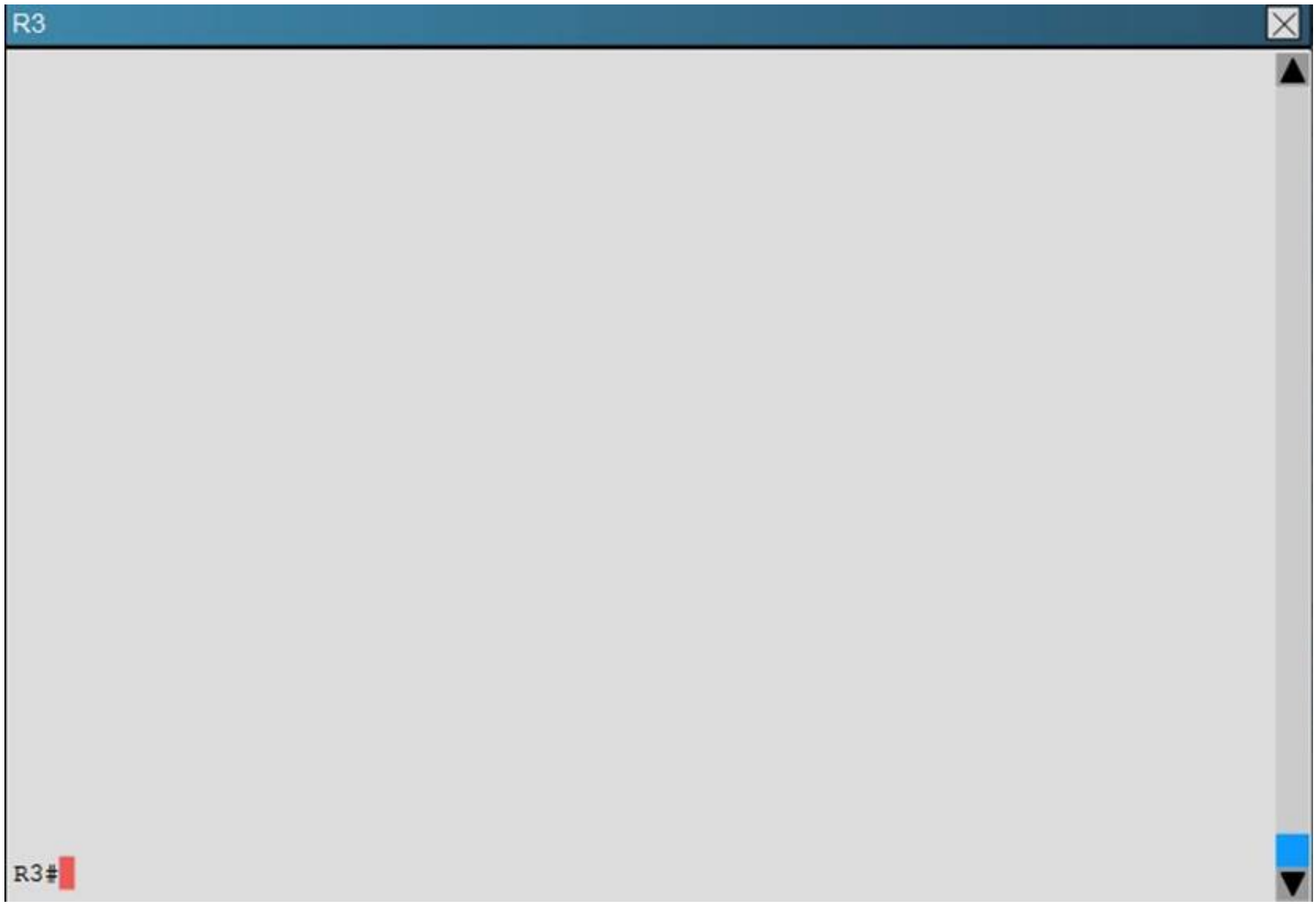
Explanation: map will show frame relay encapsulation (cisco or ietf) http://www.cisco.com/en/US/docs/ios/12_2/wan/command/reference/wrffr4.html#wp102934 3 "show frame-relay map" will show frame relay encapsulation type (CISCO or IETF)

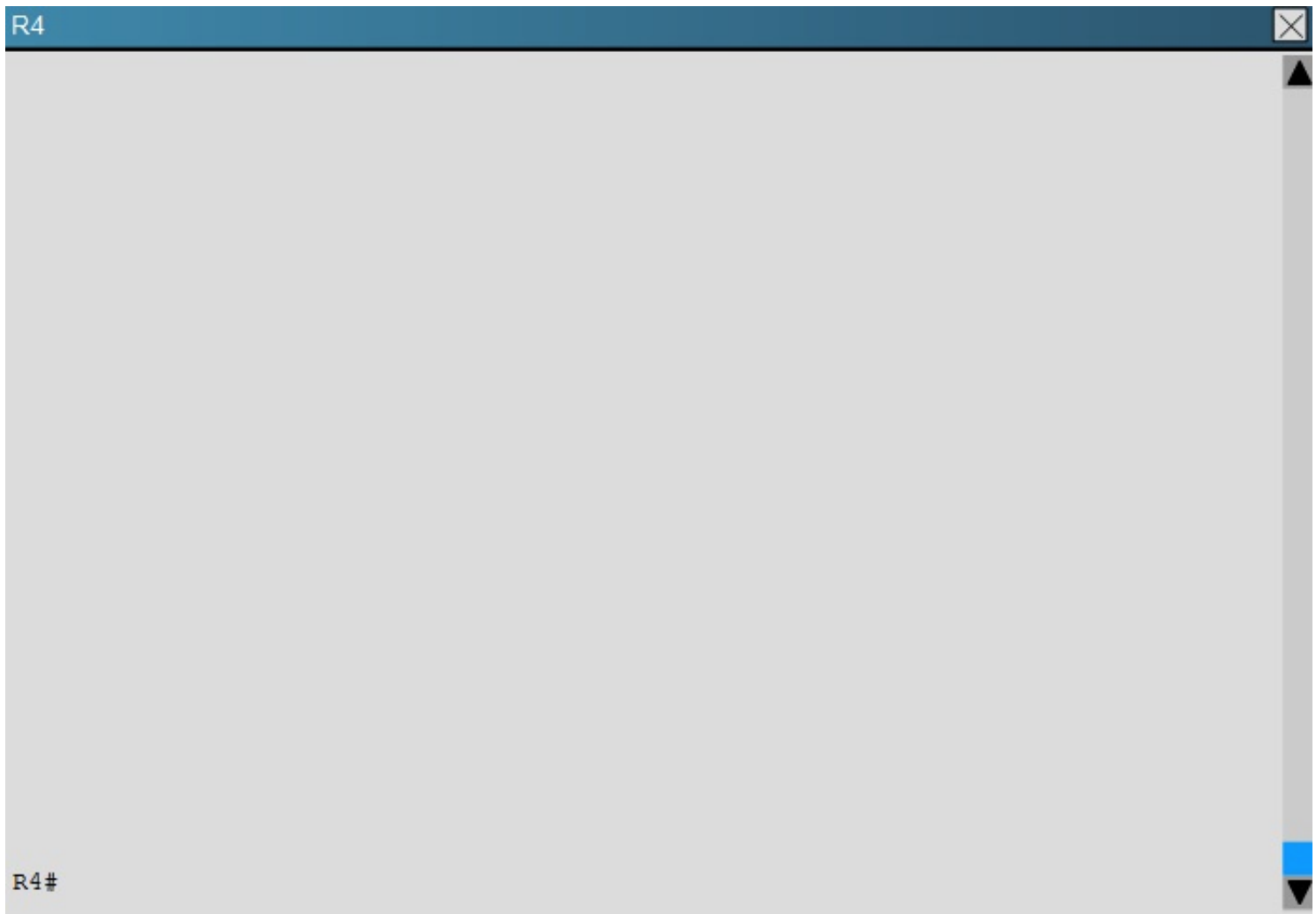
Field	Description
Serial 1 (administratively down)	Identifies a Frame Relay interface and its status (up or down).
ip 131.108.177.177	Destination IP address.
dlci 177 (0xB1,0x2C10)	DLCI that identifies the logical connection being used to reach this interface. This value is displayed in three ways: its decimal value (177), its hexadecimal value (0xB1), and its value as it would appear on the wire (0x2C10).
static	Indicates whether this is a static or dynamic entry.
CISCO	Indicates the encapsulation type for this map; either CISCO or IETF.
TCP/IP Header Compression (inherited), passive (inherited)	Indicates whether the TCP/IP header compression characteristics were inherited from the interface or were explicitly configured for the IP map.

NEW QUESTION 80
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.

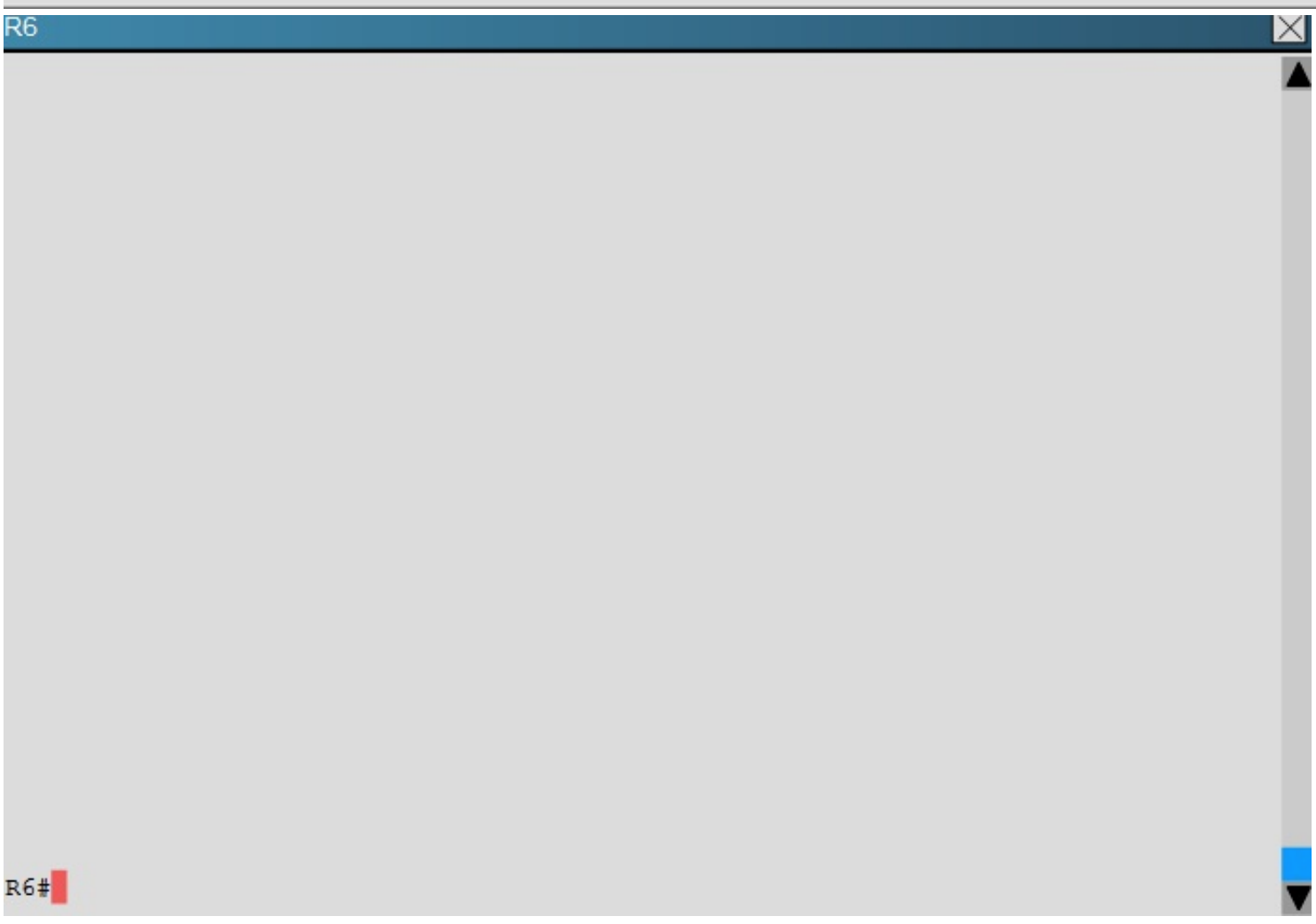


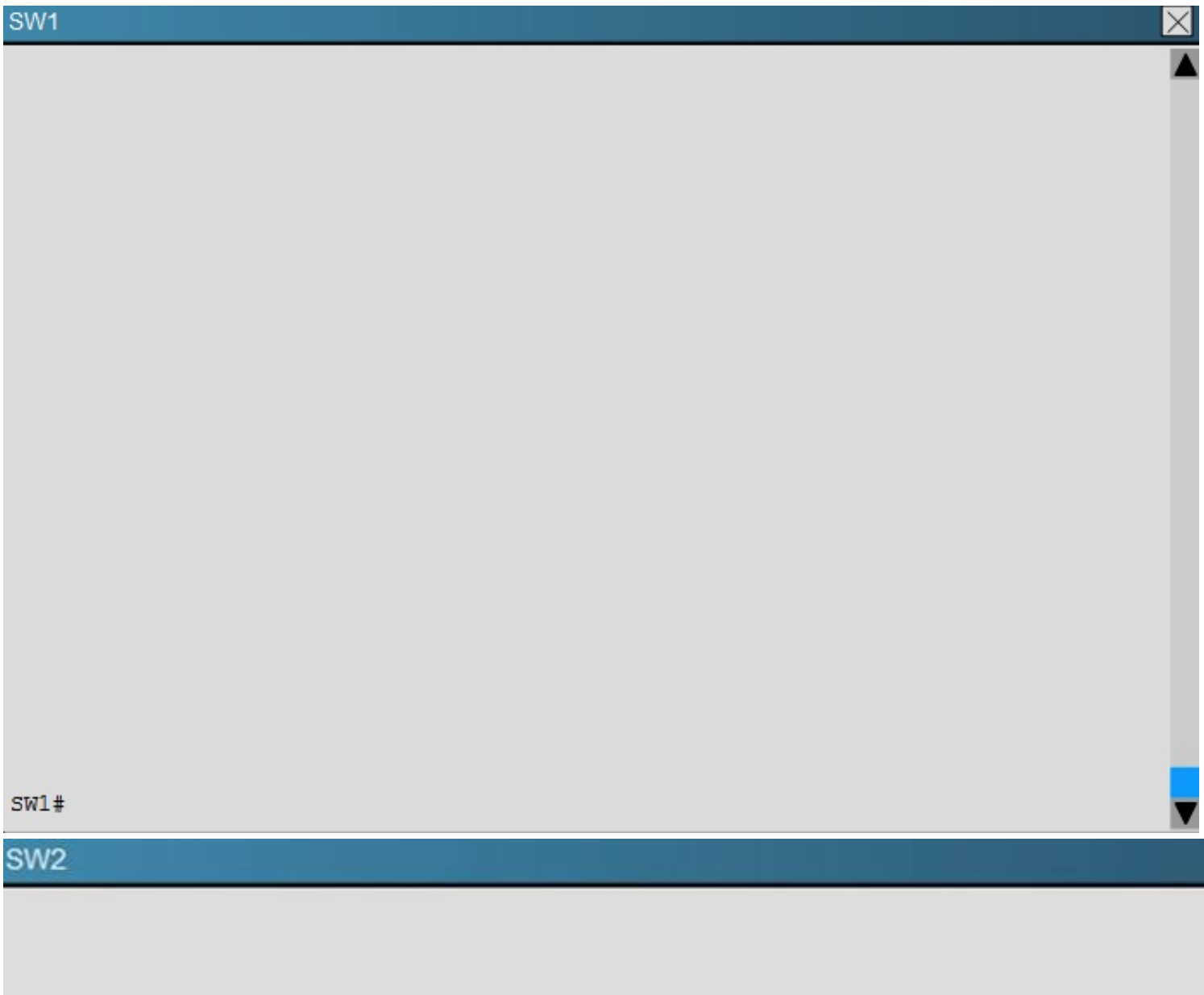

R1
R1#
R2
R2#


R3
R3#


R4
R4#

R5
R5#


R6
R6#



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: R5 does not have a route to the 10.1.1.1 network, which is the loopback0 IP address of R1. When looking at the EIGRP configuration on R1, we see that the 10.1.1.1 network statement is missing on R1.

R1

```
 no ip address
 serial restart-delay 0
!
interface Serial2/2
 no ip address
 shutdown
 serial restart-delay 0
!
interface Serial2/3
 no ip address
 shutdown
 serial restart-delay 0
!
!
router eigrp 1
 network 192.168.12.0
 network 192.168.13.0
 network 192.168.16.0
!
ip forward-protocol nd
!
!
no ip http server
no ip http secure-server

R1#
```

NEW QUESTION 81
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?

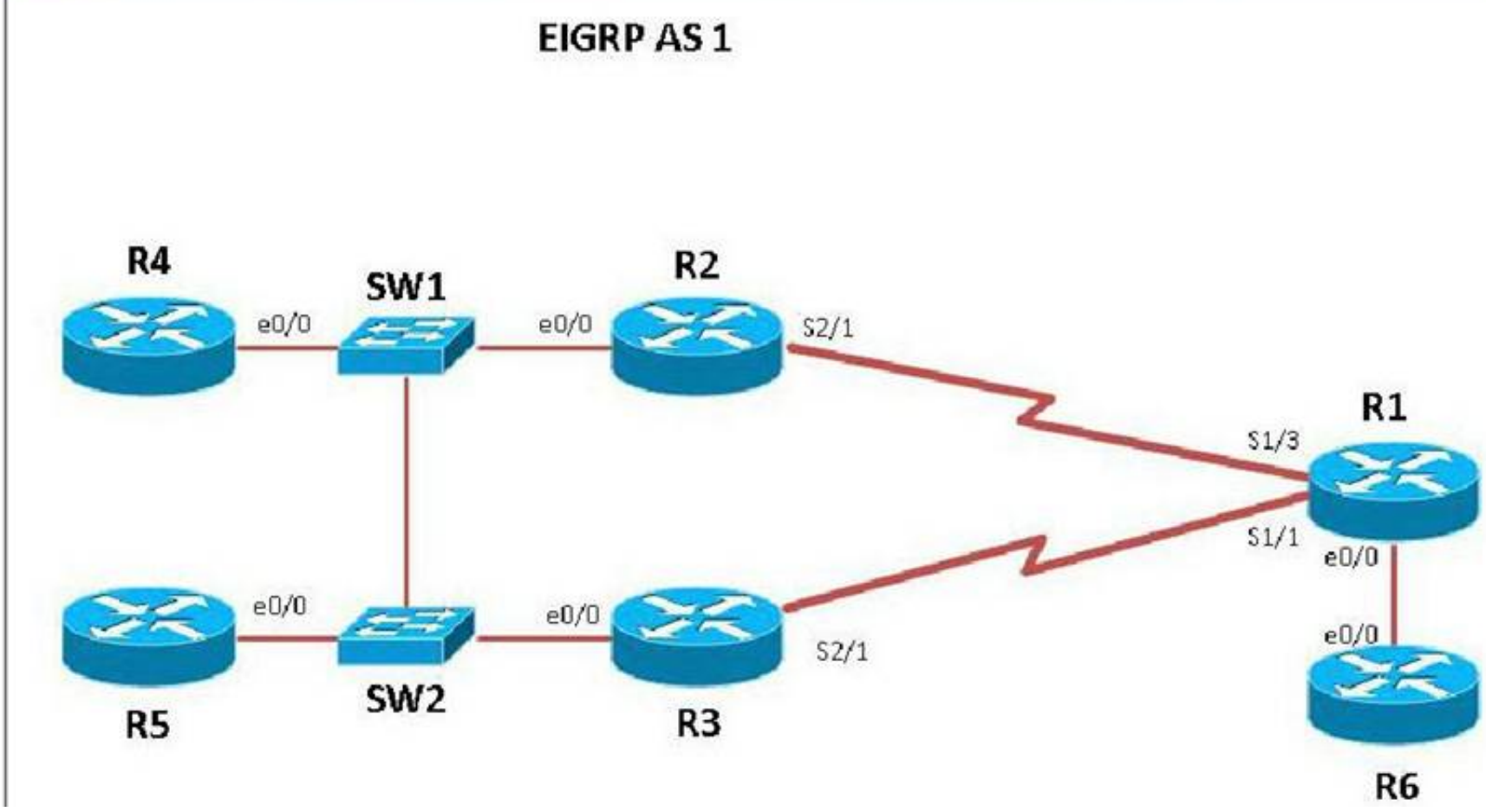
A. Main(config)# interface serial 0/0Main(config-if)# ip address 172.16.1.1 255.255.255.252 Main(config-if)# no shut
B. Main(config)# interface serial 0/0Main(config-if)# ip address 172.16.1.1 255.255.255.252Main(config-if)# encapsulation ppp Main(config-if)# no shut
C. Main(config)# interface serial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

Answer: B

Explanation: Cisco High-Level Data Link Controller (HDLC) is the Cisco proprietary protocol for sending data over synchronous serial links using HDLC. So HDLC runs only in Cisco router. PPP is not proprietary protocol it's a open source every cisco router and non-cisco router understand the PPP protocol.So we need to configure the PPP protocol if connection is between cisco and non-cisco router.

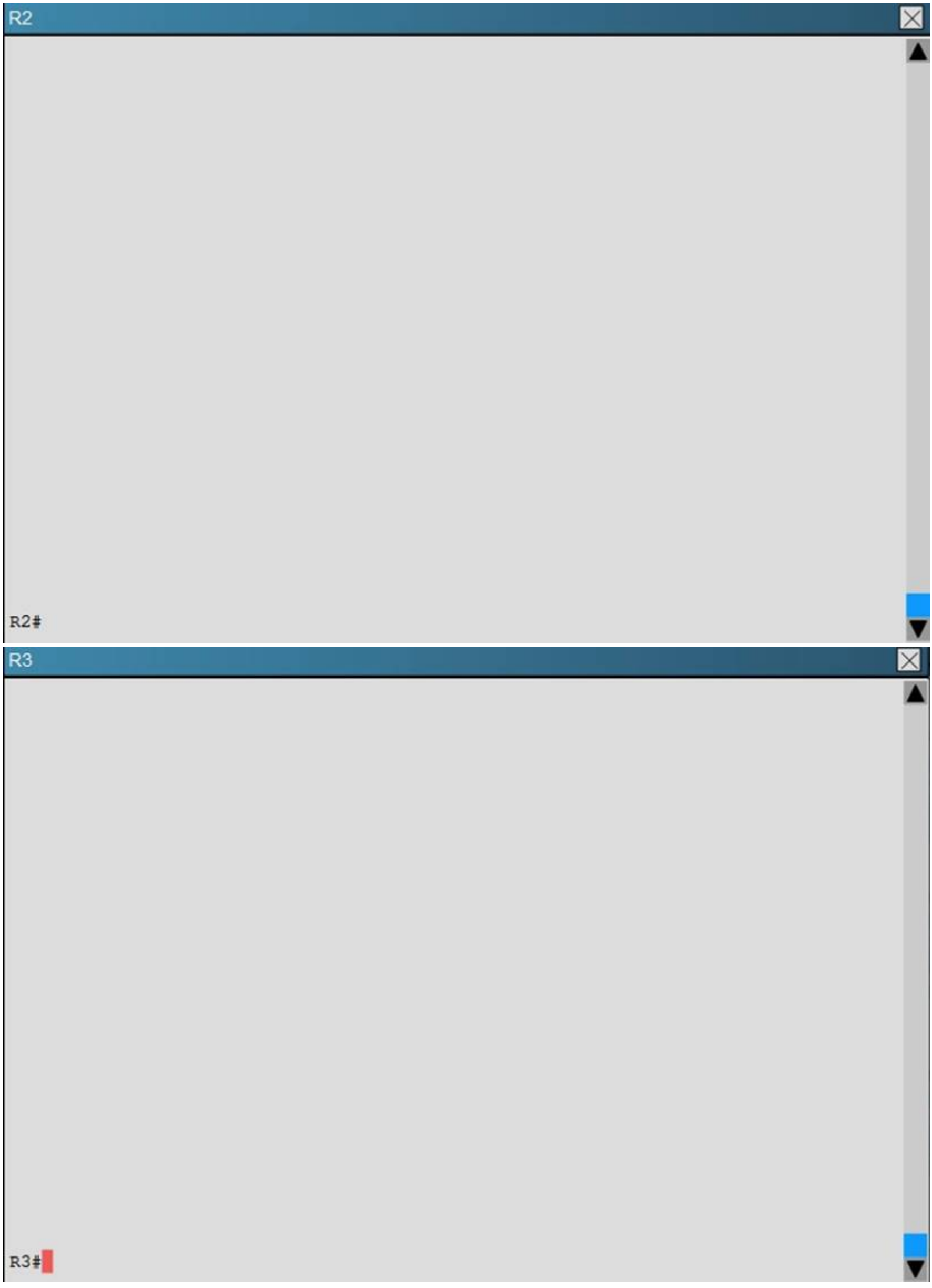
NEW QUESTION 84
Scenario
Refer to the topology. Your company has connected the routers R1. R2. and R3 with serial links. R2 and R3 are connected to the switches SW1 and SW2, respectively. SW1 and SW2 are also connected to the routers R4 and R5.
The EIGRP routing protocol is configured.
You are required to troubleshoot and resolve the EIGRP issues between the various routers.
Use the appropriate show commands to troubleshoot the issues.

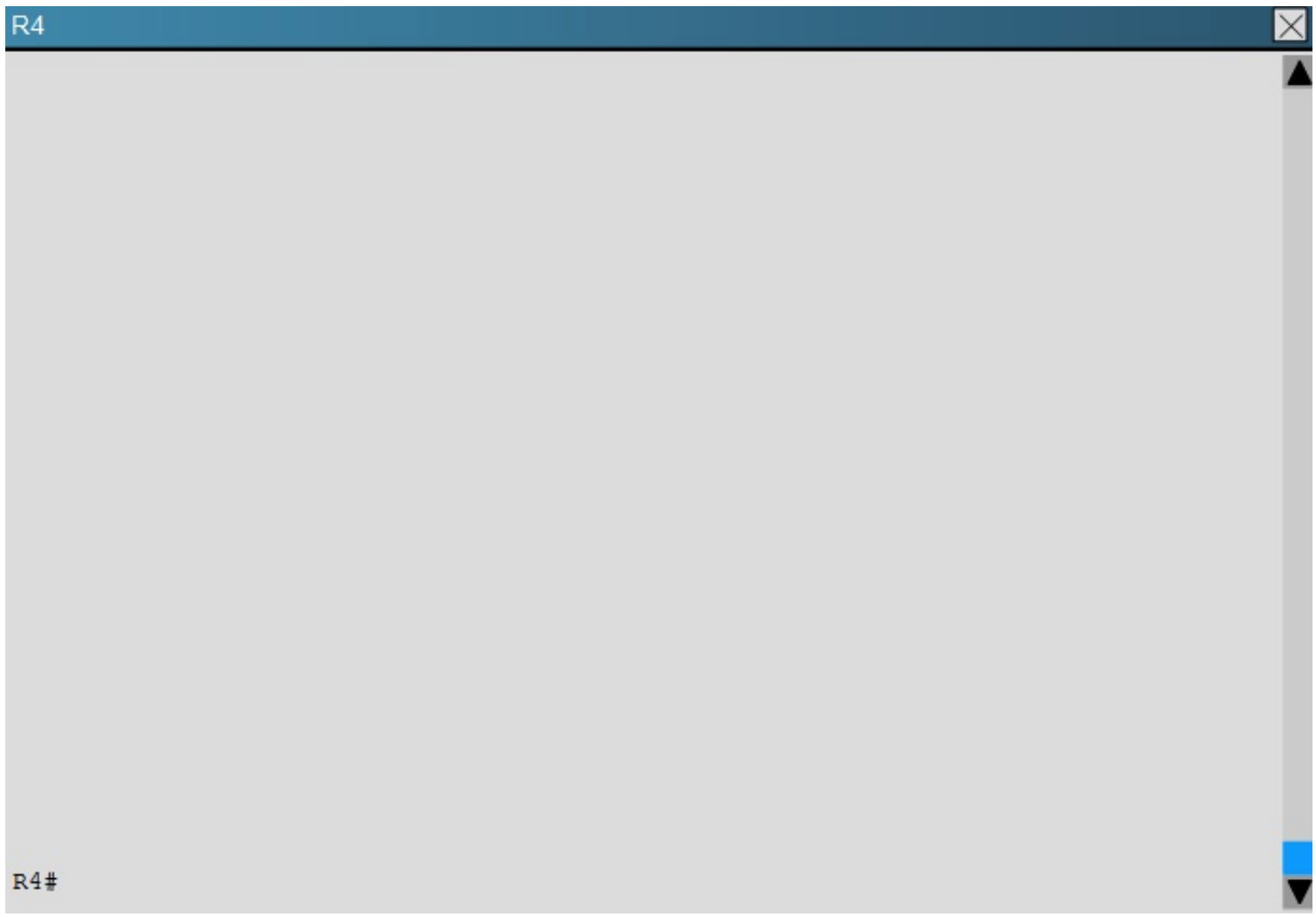
Topology

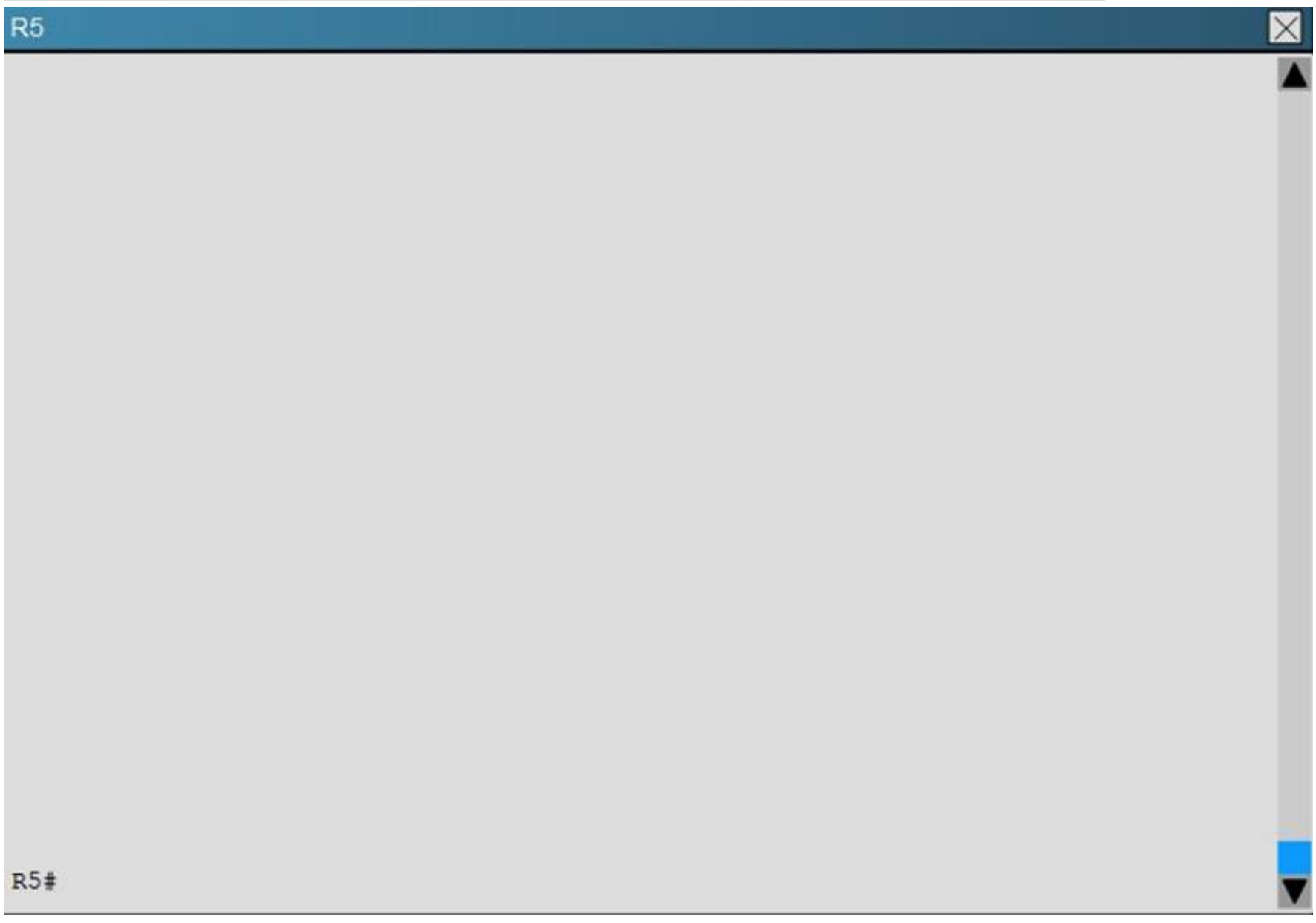


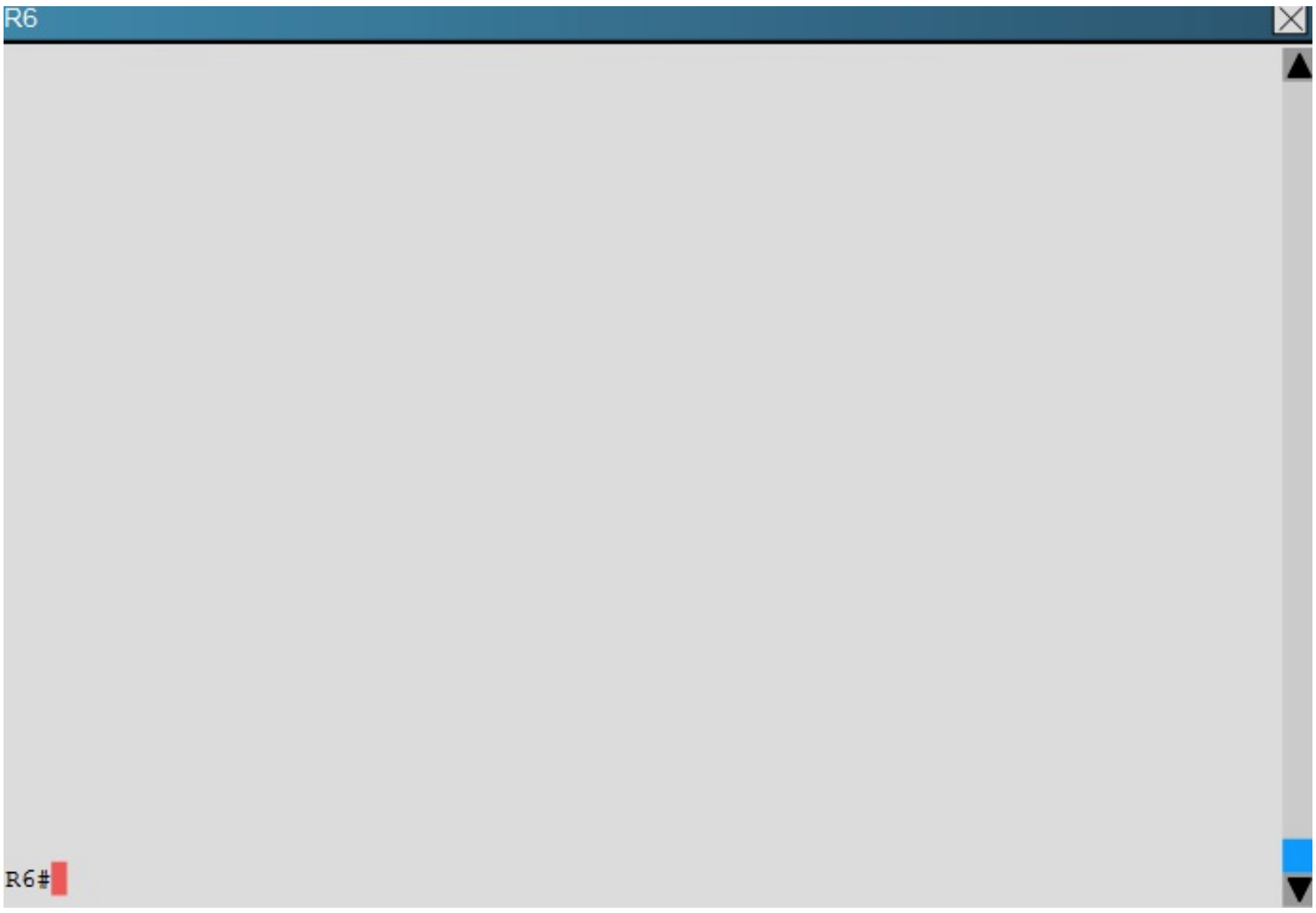
R1

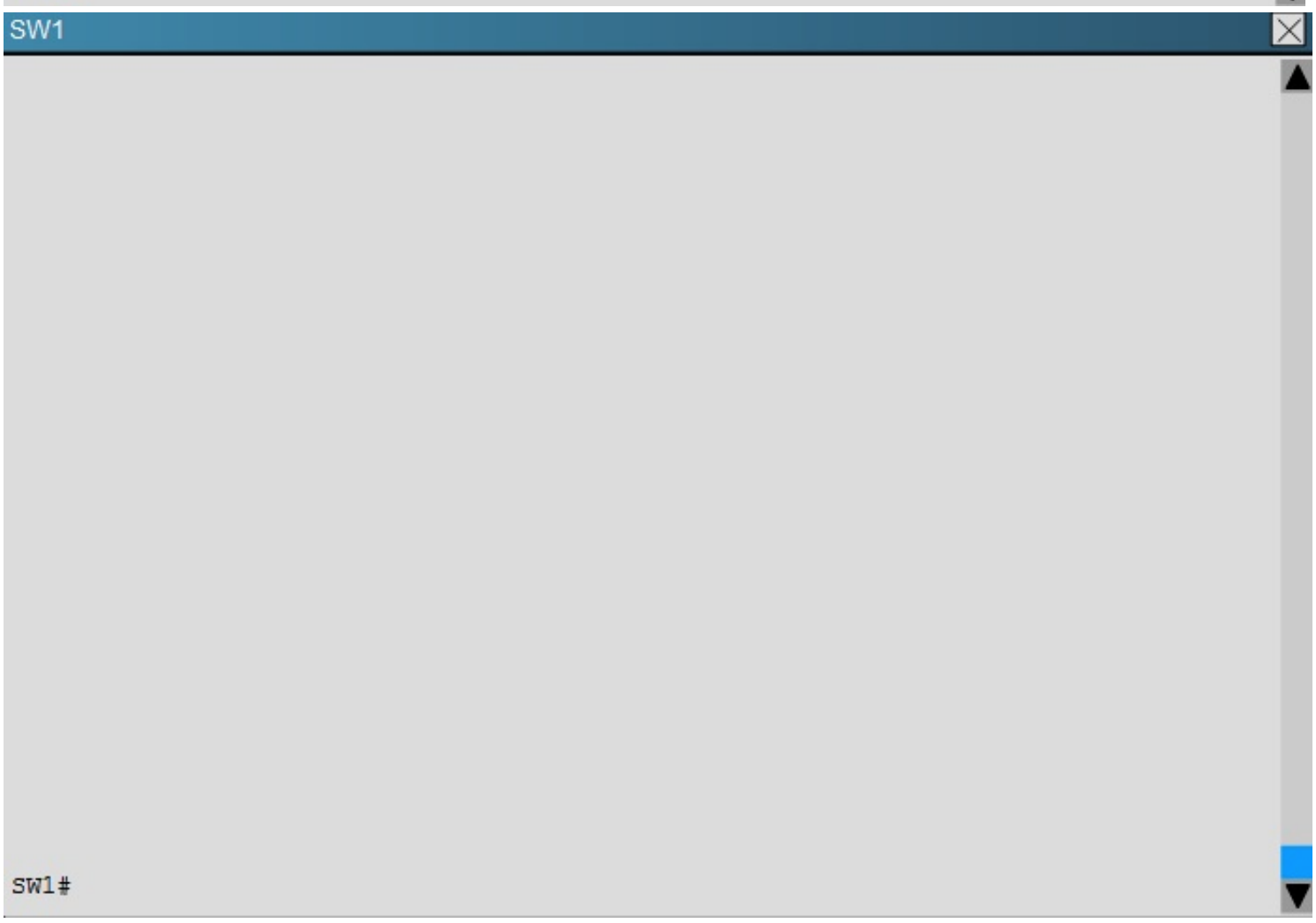
R1#

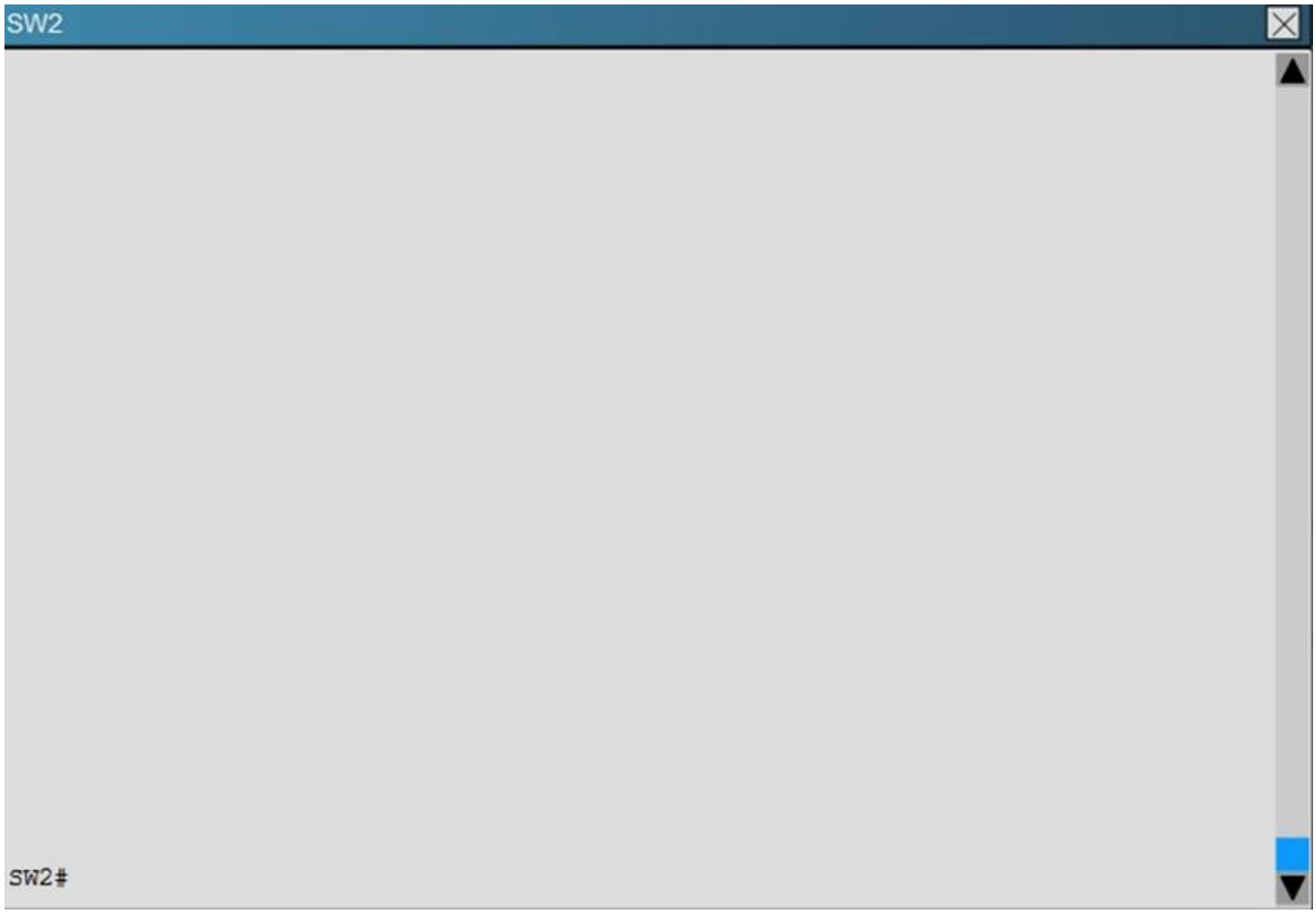

R2
R2#
R3
R3#


R4
R4#


R5
R5#


R6
R6#


SW1
SW1#

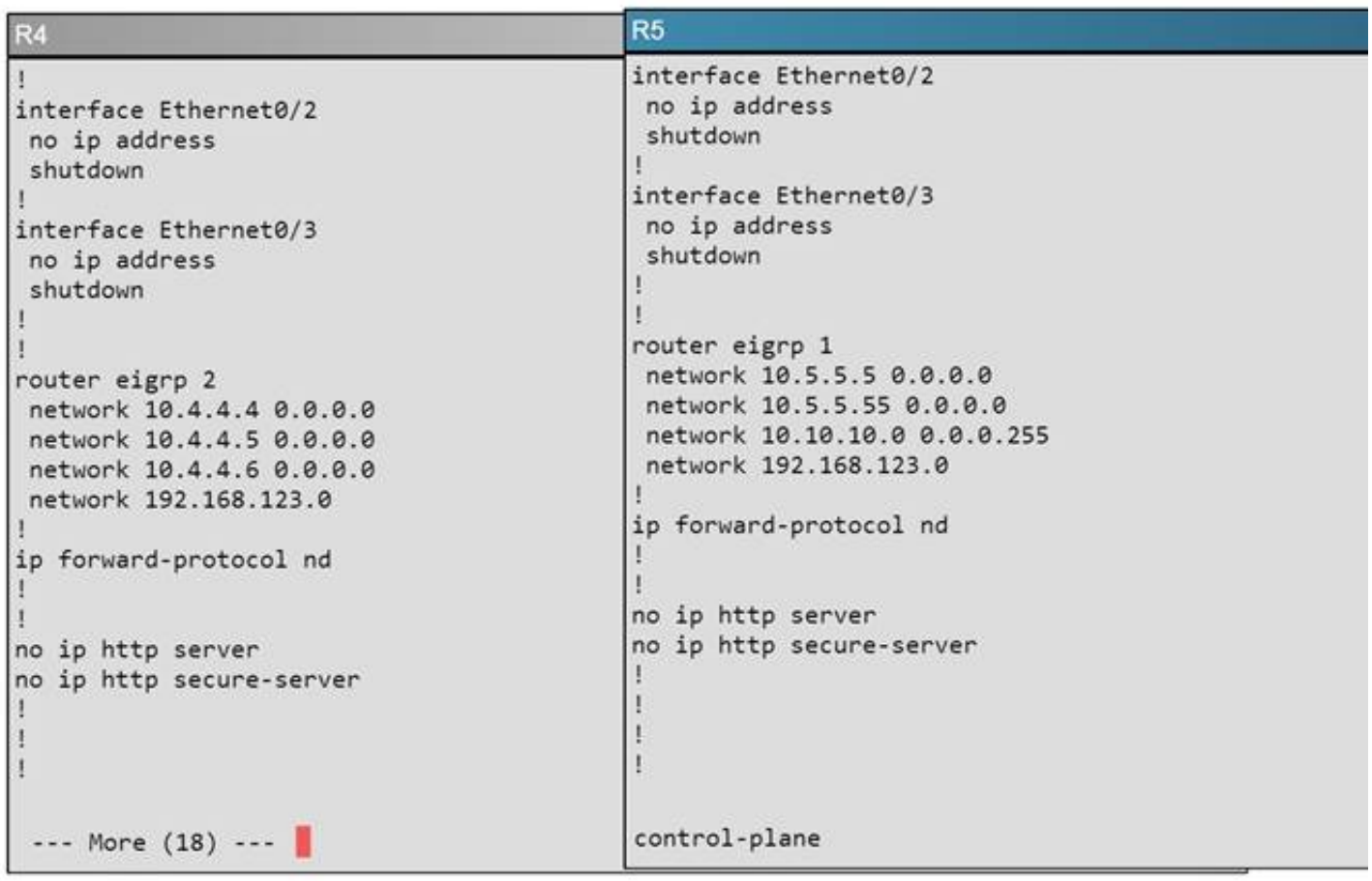


The loopback interfaces on R4 with the IP addresses of 10.4.4.4 /32, 10.4.4.5/32. and 10.4.4.6/32 are not appearing in the routing table of R5 Why are the interfaces missing?

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: For an EIGRP neighbor to form, the following must match:
- Neighbors must be in the same subnet- K values- AS numbers- Authentication method and key strings
Here, we see that R4 is configured for EIGRP AS 2, when it should be AS 1.



NEW QUESTION 89
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: ADE

Explanation: http://www.cisco.com/en/US/docs/ios/12_2/wan/command/reference/wrffr4.html#wp102934 3

Field	Description
Serial 1 (administratively down)	Identifies a Frame Relay interface and its status (up or down).
ip 131.108.177.177	Destination IP address.
dlci 177 (0xB1,0x2C10)	DLCI that identifies the logical connection being used to reach this interface. This value is displayed in three ways: its decimal value (177), its hexadecimal value (0xB1), and its value as it would appear on the wire (0x2C10).
static	Indicates whether this is a static or dynamic entry.
CISCO	Indicates the encapsulation type for this map; either CISCO or IETF.
TCP/IP Header Compression (inherited), passive (inherited)	Indicates whether the TCP/IP header compression characteristics were inherited from the interface or were explicitly configured for the IP map.

NEW QUESTION 94
Which PPP subprotocol negotiates authentication options?

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

Answer: D

Explanation: A protocol that establishes, configures, and tests data link connections used by the PPP Link Control Protocol offers PPP encapsulation different options, including the following: Authentication - options includes PAP and CHAP Compression - Data compression
increases the throughput on a network link, by reducing the amount of data that must be transmitted. Error Detection -Quality and Magic numbers are used by PPP to ensure a reliable, loop-free data link.
Multilink - Supported in IOS 11.1 and later, multilink is supported on PPP links between Cisco routers. This splits the load for PPP over two or more parallel circuits and is called a bundle.

NEW QUESTION 96
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: Frame-relay map ip 192.168.1.2 202 command statically defines a mapping between a network layer address and a DLCI. The broadcast option allows multicast and broadcast packets to flow across the link.
The command frame-relay map ip 192.168.1.2 202 broadcast means to mapping the distal IP 192.168.1.2 202 to the local DLCI . When the “broadcast” keyword is included, it turns Frame Relay network as a broadcast network, which can forward broadcasts.
http://www.cisco.com/en/US/docs/ios/wan/command/reference/wan_f2.html#wp1012264

Field	Description
Serial 1 (administratively down)	Identifies a Frame Relay interface and its status (up or down).
ip 131.108.177.177	Destination IP address.
dlci 177 (0xB1,0x2C10)	DLCI that identifies the logical connection being used to reach this interface. This value is displayed in three ways: its decimal value (177), its hexadecimal value (0xB1), and its value as it would appear on the wire (0x2C10).
static	Indicates whether this is a static or dynamic entry.
CISCO	Indicates the encapsulation type for this map; either CISCO or IETF.
TCP/IP Header Compression (inherited), passive (inherited)	Indicates whether the TCP/IP header compression characteristics were inherited from the interface or were explicitly configured for the IP map.

NEW QUESTION 98
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

NEW QUESTION 103
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: http://www.ciscopress.com/articles/article.asp?p=170741&seqNum=4
Frame-Relay (a Layer 2 protocol) uses Inverse-Arp to map a know Layer 2 Address (DLCI) to a unknow Layer 3 Address.
Dynamic Mapping
Dynamic address mapping relies on the Frame Relay Inverse Address Resolution Protocol (Inverse ARP), defined by RFC 1293, to resolve a next hop network protocol address to a local DLCI value. The Frame Relay router sends out Inverse ARP requests on its Frame Relay PVC to discover the protocol address of the remote device connected to the Frame
Relay network. The responses to the Inverse ARP requests are used to populate an address-to-DLCI mapping table on the Frame Relay router or access server. The router builds and maintains this address-to-DLCImapping table, which contains all resolved Inverse ARP requests, including both dynamic and static mapping entries.
When data needs to be transmitted to a remote destination address, the router performs a lookup on its routing table to determine whether a route to that destination address exists and the next hop address or directly connected interface to use in order to reach that destination. Subsequently, the router consults its address-to-DLCI mapping table for the local DLCI that corresponds to the next hop address. Finally, the router places the frames targeted to the remote destination on its identified outgoing local DLCI.
On Cisco routers, dynamic Inverse ARP is enabled by default for all network layer protocols enabled on the physical interface. Packets are not sent out for network layer protocols that are not enabled on the physical interface. For example, no dynamic Inverse ARP resolution is performed for IPX if ipx routing is not enabled globally and there is no active IPX address assigned to the interface. Because dynamic Inverse ARP is enabled by default, no additional Cisco IOS command is required to enable it on an interface.
Example 4-16 shows the output of the show frame-relay map privileged EXEC mode command. The addressto-DLCI mapping table displays useful information. The output of the command shows that the next hop address 172.16.1.2 is dynamically mapped to the local DLCI 102, broadcast is enabled on the interface, and the interface's status is currently active.
NOTE
After enabling Frame Relay on the interface, the Cisco router does not perform Inverse ARP until IP routing is enabled on the router. By default, IP routing is enabled on a Cisco router. If IP routing has been turned off, enable IP routing with the ip routing command in the global configuration mode. After IP routing is enabled, the router performs Inverse ARP and begins populating the address-to-DLCI mapping table with resolved entries.

NEW QUESTION 105
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

NEW QUESTION 107
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: BCD

Explanation: The “network 192.168.12.64 0.0.0.63 equals to network 192.168.12.64/26. This network has:Increment: 64 (/26= 1111 1111.1111 1111.1111 1111.1100 0000)Network address:
192.168.12.64
Broadcast address: 192.168.12.127Therefore all interface in the range of this network will join OSPF - B C D are correct.

NEW QUESTION 110
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

NEW QUESTION 113
Refer to the exhibit.

```
R1# show ip interface brief
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

NEW QUESTION 115
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: ADE

Explanation: Enhance Productivity and Cut Costs
Cisco VPN solutions provide exceptional security through encryption and authentication technologies that protect data in transit from unauthorized access and attacks. A Cisco VPN helps you:
Use highly secure communications, with access rights tailored to individual users
Quickly add new sites or users, without significantly expanding your existing infrastructure Improve productivity by extending corporate networks, applications, and collaboration tools Reduce communications costs while increasing flexibility

NEW QUESTION 117
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: Cisco Frame Relay Configurations
http://www.ciscopress.com/articles/article.asp?p=170741&seqNum=9 show frame-relay map
The show frame-relay map privileged EXEC mode command shows the contents of the next hop protocol address to DLCI mapping table on the router. The table contains both dynamic mapped and static mapped entries. The below example shows a sample output of the show frame-relay map command.
Router#show frame-relay map
Serial1/2 (up): ip 172.16.1.4 dlci 401(0x191,0x6410), dynamic, broadcast,, status defined, active
Serial1/2 (up): ip 172.16.1.5 dlci 501(0x1F5,0x7C50), dynamic, broadcast,, status defined, active
Serial1/2 (up): ip 172.16.1.2 dlci 301(0x12D,0x48D0), dynamic, broadcast,, status defined, active

NEW QUESTION 121
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

NEW QUESTION 125
Which three statements about HSRP operation are true? (Choose three.)

A. The virtual IP address and virtual MA+K44C 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: ABF

NEW QUESTION 129
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.

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

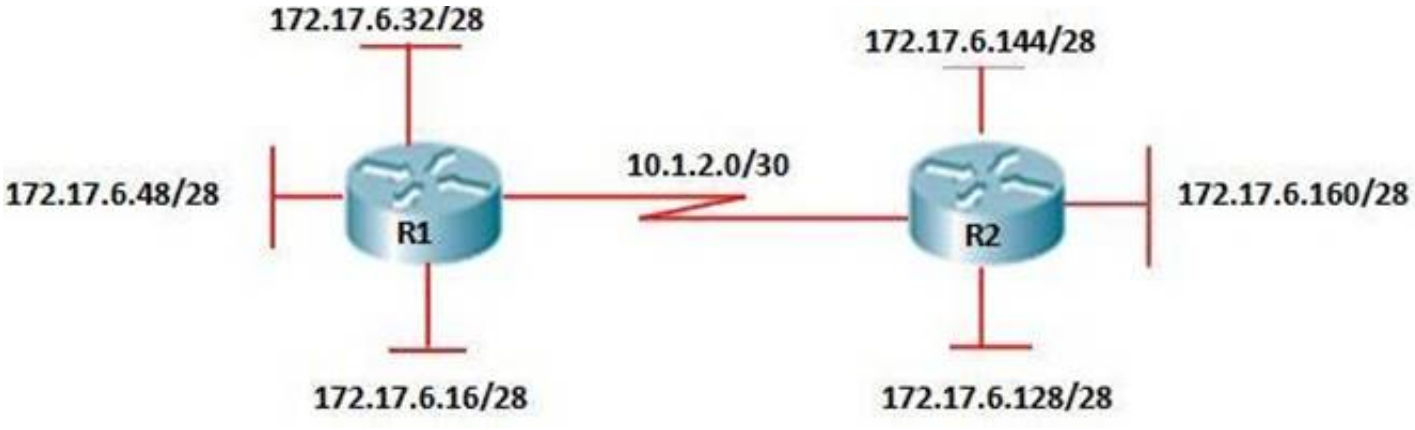
Inside local addresses – 192.168.100.17 – 192.168.100.30/28

Number of inside hosts 14

Answer:

Explanation: In this case, you have to consider using NAT Overload (or PAT)
Doubleclick on the Weaver router to access the CLI
Router> enable
Router# configure terminal
First you should change the router's name to Weaver:
Router(config)#hostname Weaver
Create a NAT pool of global addresses to be allocated with their netmask:
Weaver(config)# ip nat pool mypool 198.18.184.105 198.18.184.110 netmask 255.255.255.248
Create a standard access control list that permits the addresses that are to be translated: Weaver(config)#access-list 1 permit 192.168.100.16 0.0.0.15
Establish dynamic source translation, specifying the access list that was defined in the prior step:
Weaver(config)#ip nat inside source list 1 pool mypool overload
Finally, we should save all your work with the following command:
Weaver#copy running-config startup-config (Don't forget this)
Check your configuration by going to "Host for testing" and type:
C : \ >ping 192.0.2.114
The ping should work well and you will be replied from 192.0.2.114
This command translates all source addresses that pass access list 1, which means a source address from 192.168.100.17 to 192.168.100.30, into an address from the pool named mypool (the pool contains addresses from 198.18.184.105 to 198.18.184.110) Overload keyword allowsto map multiple IP addresses to a single registered IP address (many-to- one) by using different ports.
The question said that appropriate interfaces have been configured for NAT inside and NAT outside statements.
This is how to configure the NAT inside and NAT outside, just for your understanding: Weaver(config)#interface fa0/0
Weaver(config-if)#ip nat inside
Weaver(config-if)#exit
Weaver(config)#interface s0/0
Weaver(config-if)#ip nat outside
Weaver(config-if)#end

NEW QUESTION 133
Refer to the exhibit.



```
R1#show ip protocols
Routing Protocols is "eigrp 501"
<output omitted>
Routing for Networks:
10.0.0.0
172.17.00
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#
```

```
R2#show ip protocols
Routing Protocols is "eigrp 501"
<output omitted>
Routing for Networks:
10.0.0.0
172.17.00
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#
```

```
R2#show ip route
<output omitted>
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#
```

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: If you look carefully at the R2 ip route, you will discover that the R2 does not learn any network from R1; this is because the routing protocol used here (EIGRP) performs auto summary when advertising routes to peers across a network. So in this case the address 172.17.0.0/26 is a summarized address. If the router was configured with no auto summary command, R2 LAN addresses would have been advertised and reached.

NEW QUESTION 135
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: AE

Explanation: Six Benefits Of IPv6
http://www.networkcomputing.com/ipv6/six-benefits-of-ipv6/230500009
With IPv6, everything from appliances to automobiles can be interconnected. But an increased number of IT addresses isn't the only advantage of IPv6 over IPv4. In honor of World IPv6 Day, here are six more good reasons to make sure your hardware, software, and services support IPv6.
More Efficient Routing IPv6 reduces the size of routing tables and makes routing more efficient and hierarchical. IPv6 allows ISPs to aggregate the prefixes of their customers' networks into a single prefix and announce this one prefix to the IPv6 Internet. In addition, in IPv6 networks, fragmentation is handled by the source device, rather than the router, using a protocol for discovery of the path's maximum transmission unit (MTU).
More Efficient Packet Processing
IPv6's simplified packet header makes packet processing more efficient. Compared with IPv4, IPv6 contains no IP-level checksum, so the checksum does not need to be recalculated at every router hop. Getting rid of the IPlevel checksum was possible because most link-layer technologies already contain checksum and error-control capabilities. In addition, most transport layers, which handle end-to-end connectivity, have a checksum that enables error detection.
Directed Data Flows IPv6 supports multicast rather than broadcast. Multicast allows bandwidth-intensive packet flows (like multimedia streams) to be sent to multiple destinations simultaneously, saving network bandwidth.
Disinterested hosts no longer must process broadcast packets. In addition, the IPv6 header has a new field, named Flow Label, that can identify packets belonging to the same flow. Simplified Network Configuration Address auto-configuration (address assignment) is built in to IPv6. A router will send the prefix of the local link in its router advertisements. A host can generate its own IP address by appending its link-layer (MAC) address, converted into Extended Universal Identifier (EUI)

64-bit format, to the 64 bits of the local link prefix.
Support For New Services
By eliminating Network Address Translation (NAT), true end-to-end connectivity at the IP layer is restored, enabling new and valuable services. Peer-to-peer networks are easier to create and maintain, and services such as VoIP and Quality of Service (QoS) become more robust.
Security IPSec, which provides confidentiality, authentication and data integrity, is baked into in IPv6. Because of their potential to carry malware, IPv4 ICMP packets are often blocked bycorporate firewalls, but ICMPv6, the implementation of the Internet Control Message Protocol for IPv6, may be permitted because IPSec can be applied to the ICMPv6 packets.

NEW QUESTION 139
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: BCD

Explanation: How To Configure Frame Relay Subinterfaces
http://www.orbit-computer-solutions.com/How-To-Configure-Frame-Relay- Subinterfaces.php
Step to configure Frame Relay subinterfaces on a physical interface:
1. Remove any network layer address (IP) assigned to the physical interface. If the physical interface has an address, frames are not received by the local subinterfaces.
2. Configure Frame Relay encapsulation on the physical interface using the encapsulation frame-relay command.
3. For each of the defined PVCs, create a logical subinterface. Specify the port number, followed by a period (.) and the subinterface number. To make troubleshooting easier, it is suggested that the subinterface number matches the DLCI number.
4. Configure an IP address for the interface and set the bandwidth.
5. Configure the local DLCI on the subinterface using the frame-relay interface-dlci command.
Configuration Example: R1>enable R1#configure terminal
R1(config)#interface serial 0/0/0 R1(config-if)#no ip address
R1(config-if)#encapsulation frame-relay R1(config-if)#no shutdown
R1(config-if)#exit
R1(config-subif)#interface serial 0/0/0.102 point-to-point
R1(config-subif)#ip address 192.168.1.245 255.255.255.252
R1(config-subif)#frame-relay interface-dlci 102 R1(config-subif)#end
R1#copy running-config startup-config

NEW QUESTION 142
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: Understanding VLAN Trunk Protocol (VTP) http://www.cisco.com/en/US/tech/tk389/tk689/technologies_tech_note09186a0080094c52. shtml
Introduction
VLAN Trunk Protocol (VTP) reduces administration in a switched network. When you configure a new VLAN on one VTP server, the VLAN is distributed through all switches in the domain. This reduces the need to configure the same VLAN everywhere. VTP is a Cisco-proprietary protocol that is available on most of the Cisco Catalyst series products.

NEW QUESTION 146
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

NEW QUESTION 150
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

Explanation: Link Control Protocol
http://www.ietf.org/rfc/rfc1661.txt
In order to be sufficiently versatile to be portable to a wide variety of environments, PPP provides a Link
Control Protocol (LCP). The LCP is used to automatically agree upon the encapsulation format options, handle varying limits on sizes of packets, detect a looped-back link and other common misconfiguration errors, and terminate the link. Other optional facilities provided are authentication of the identity of its peer on the link, and determination when a link is functioning properly and when it is failing.

NEW QUESTION 153
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: Hot Standby Router Protocol Features and Functionality http://www.cisco.com/en/US/tech/tk648/tk362/technologies_tech_note09186a0080094a91.shtml
HSRP Addressing
In most cases when you configure routers to be part of an HSRP group, they listen for the HSRP MAC address for that group as well as their own burned-in MAC address. The exception is routers whose Ethernet controllers only recognize a single MAC address (for example, the Lance controller on the Cisco 2500 and Cisco 4500 routers). These routers use the HSRP MAC address when they are the Active router, and their burned-in address when they are not.
HSRP uses the following MAC address on all media except Token Ring: 0000.0c07.ac** (where ** is the HSRP group number)

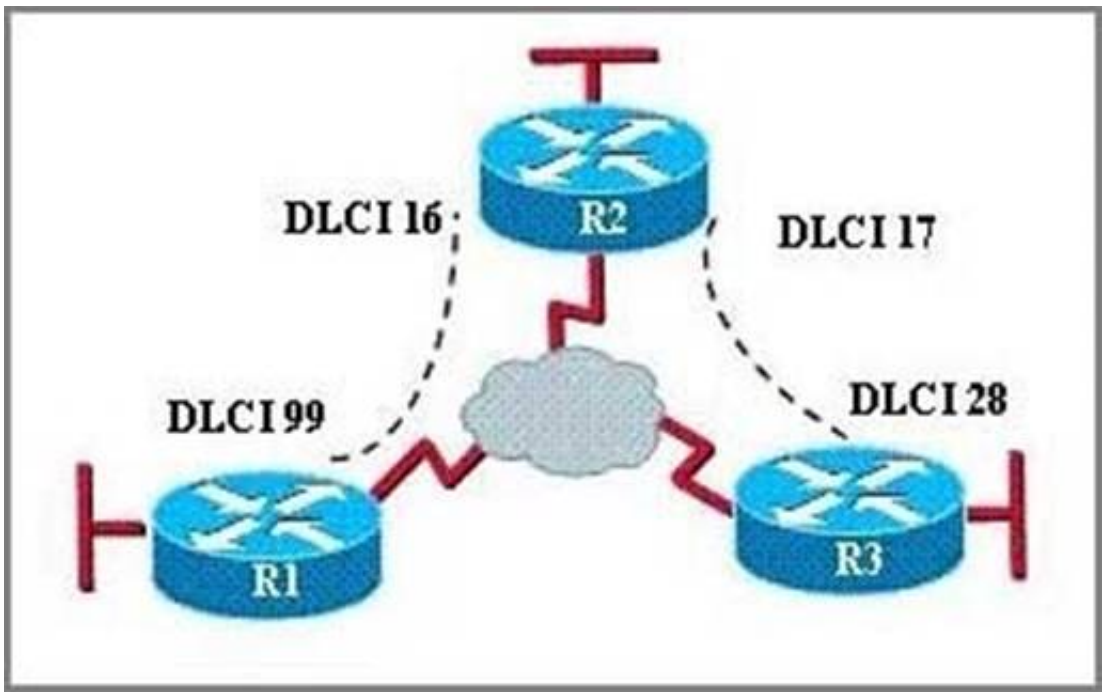
NEW QUESTION 157
What are three benefits of GLBP? (Choose three.)

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: BDE

Explanation: http://www.cisco.com/en/US/docs/ios/12_2s/feature/guide/fs_glbp2.html
Load Sharing
You can configure GLBP in such a way that traffic from LAN clients can be shared by
multiple routers, thereby sharing the traffic load more equitably among available routers. Multiple Virtual Routers GLBP supports up to 1024 virtual routers (GLBP groups) on each physical interface of a router, and up to four virtual forwarders per group.
Preemption
The redundancy scheme of GLBP enables you to preempt an active virtual gateway with a higher priority backup virtual gateway that has become available. Forwarder preemption works in a similar way, except that forwarder preemption uses weighting instead of priority and is enabled by default.
Authentication
You can use a simple text password authentication scheme between GLBP group members to detect configuration errors. A router within a GLBP group with a different authentication string than other routers will be ignored by other group members.
http://www.cisco.com/en/US/docs/switches/datacenter/sw/5_x/nx- s/unicast/configuration/guide/l3_glbp.html
GLBP Authentication
GLBP has three authentication types: MD5 authentication
Plain text authentication No authentication
MD5 authentication provides greater security than plain text authentication. MD5 authentication allows each GLBP group member to use a secret key to generate a keyed MD5 hash that is part of the outgoing packet. At the receiving end, a keyed hash of an incoming packet is generated. If the hash within the incoming packet does not match the generated hash, the packet is ignored. The key for the MD5 hash can either be given directly in the configuration using a key string or supplied indirectly through a key chain. You can also choose to use a simple password in plain text to authenticate GLBP packets, or choose no authentication for GLBP.

NEW QUESTION 158
Refer to the exhibit.



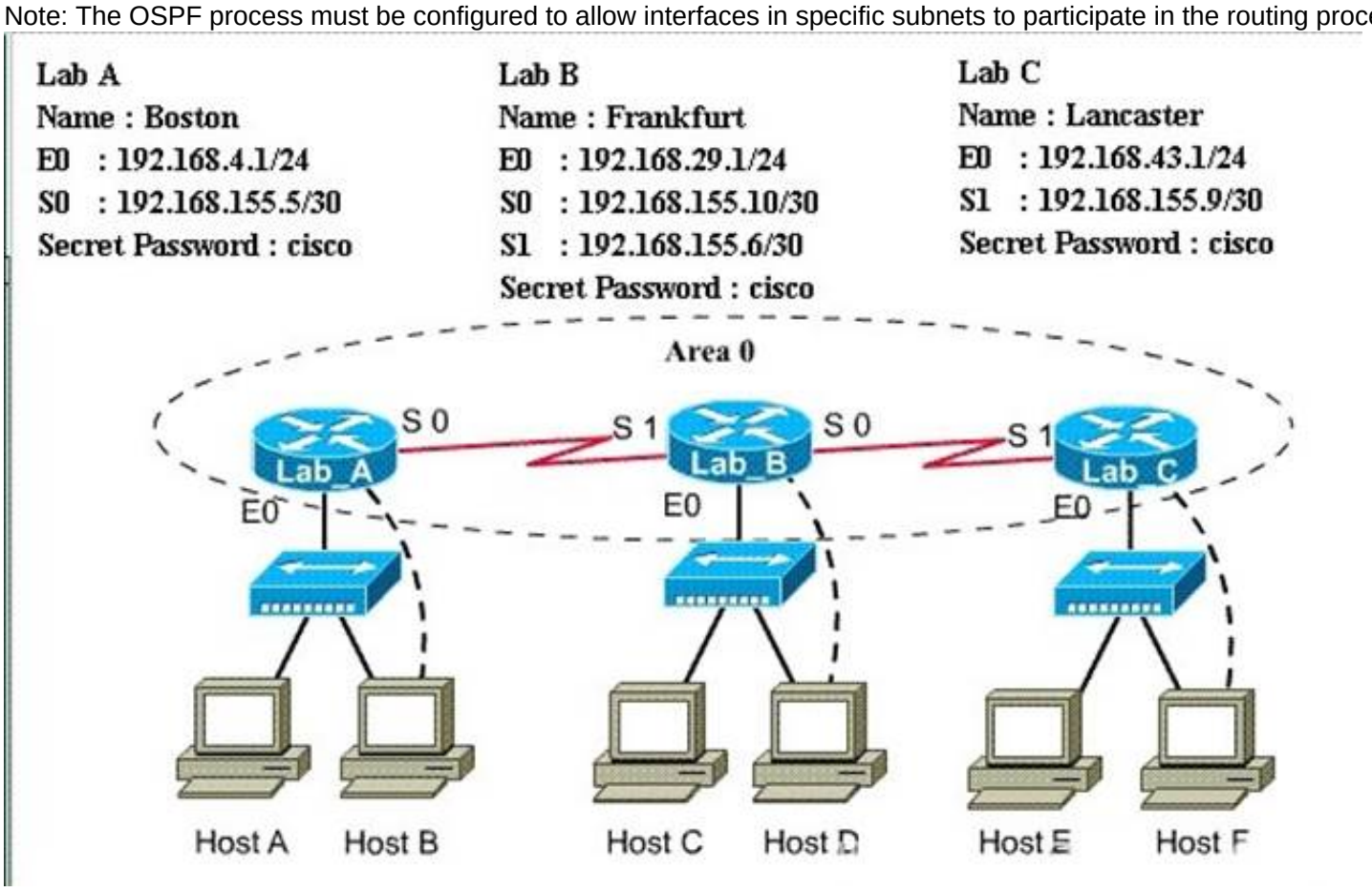
Which statement describes DLCI 17?

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

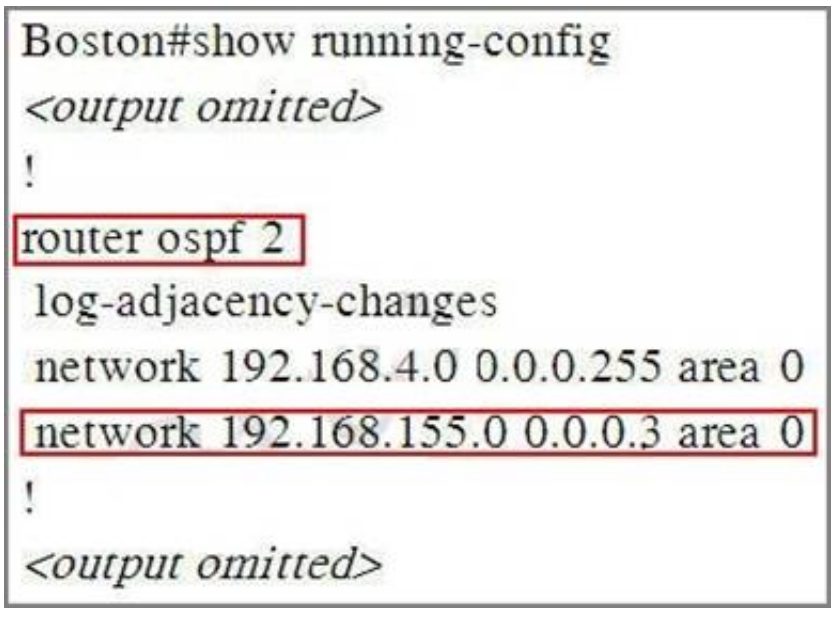
Explanation: DLCI stands for Data Link Connection Identifier. DLCI values are used on Frame Relay interfaces to distinguish between different virtual circuits. DLCIs have local significance because, the identifier references the point between the local router and the local Frame Relay switch to which the DLCI is connected.

NEW QUESTION 159
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.



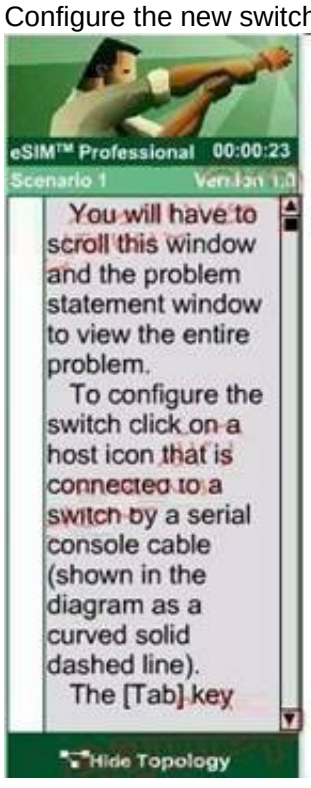
Answer:

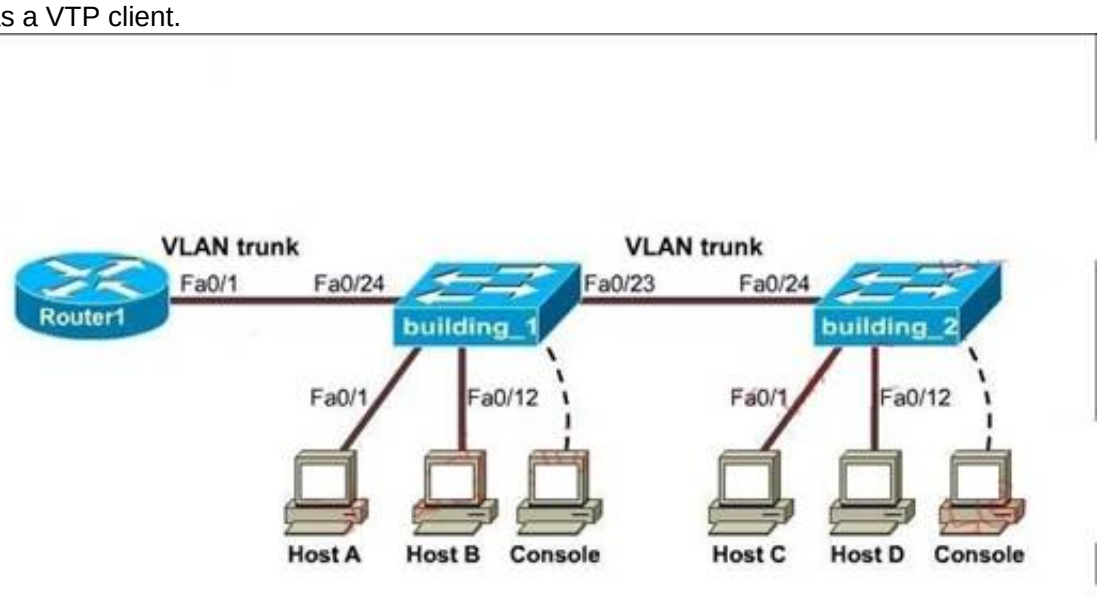
Explanation: Boston>enable (type cisco as its password here)
Boston#show running-config



First, remember that the current OSPF Process ID is 2 because we will need it for later configuration. Next notice that in the second “network” command the network and wildcard mask are 192.168.155.0 and 0.0.0.3 which is equivalent to 192.168.155.0 255.255.255.252 in term of subnet mask. Therefore this subnetwork’s range is from 192.168.155.0 to 192.168.155.3 but the ip address of s0/0 interface of Boston router is 192.168.155.5 which don’t belong to this range -> this is the reason why OSPF did not recognize s0 interface of Boston router as a part of area 0. So we need to find a subnetwork that s0 interface belongs to.
IP address of S0 interface: 192.168.155.5/30
Subnet mask: /30 = 1111 1111.1111 1111.1111 1111.1111 1100
Increment: 4
Network address (which IP address of s0 interface belongs to): 192.168.155.4 (because 4 * 1 = 4 < 5)
Therefore we must use this network instead of 192.168.155.0 network
Boston#configure terminal Boston(config)#router ospf 2
Boston(config-router)#no network 192.168.155.0 0.0.0.3 area 0
Boston(config-router)#network 192.168.155.4 0.0.0.3 area 0
Boston(config-router)#end
Boston#copy running-config startup-config
Finally, you should issue a ping command from Boston router to Lancaster router to make sure it works well.
Boston#ping 192.168.43.1

NEW QUESTION 160
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.





Answer:

Explanation: The question states we can't access the router so we can only get required information from switch building_1. Click on the PC connected with switch building_1 (through a console line) to access switch building_1s CLI. On this switch use the show running-config command:
building_1#show running-config
Next use the show vtp status command to learn about the vtp domain on this switch building_1#show vtp status
(Notice: the IP address, IP default-gateway and VTP domain name might be different!!!) You should write down these 3 parameters carefully.
Configuring the new switch
+ Determine and configure the IP host address of the new switch The question requires "for the switch host address, you should use the last available IP address on the management subnet". The building_1 switch's IP address, which is 192.168.22.50 255.255.255.224, belongs to the management subnet.
Increment: 32 (because 224 = 1110 0000)
Network address: 192.168.22.32
Broadcast address: 192.168.22.63

->The last available IP address on the management subnet is 192.168.22.62 and it hasn't been used (notice that the IP address of Fa0/1 interface of the router is also the default gateway address 192.168.22.35).
Also notice that the management IP address of a switch should be configured in Vlan1 interface. After it is configured, we can connect to it via telnet or SSH to manage it. Switch2#configure terminal
Switch2(config)#interface Vlan1
Switch2(config-if)#ip address 192.168.22.62 255.255.255.224
Switch2(config-if)#no shutdown (not really necessary since VLAN interfaces are not physical and are not shut
down but, no harm in doing so and is good practice for physical ports)
+ Determine and configure the default gateway of the new switch The default gateway of this new switch is same as that of building_1 switch, which is 192.168.22.35 Switch2(config-if)#exit
Switch2(config)#ip default-gateway 192.168.22.35
+ Determine and configure the correct VTP domain name for the new switch The VTP domain name shown on building_1 switch is Cisco so we have to use it in the new switch (notice: the VTP domain name will be different in the exam and it is case sensitive so be careful)
Switch2(config)#vtp domain Cisco
+ Configure the new switch as a VTP client Switch2(config)#vtp mode client
We should check the new configuration with the "show running-config" & "show vtp status"; also try pinging from the new switch to the the default gateway to make sure it works well. Finally save the configuration:
Switch2(config)#exit
Switch2#copy running-config startup-config

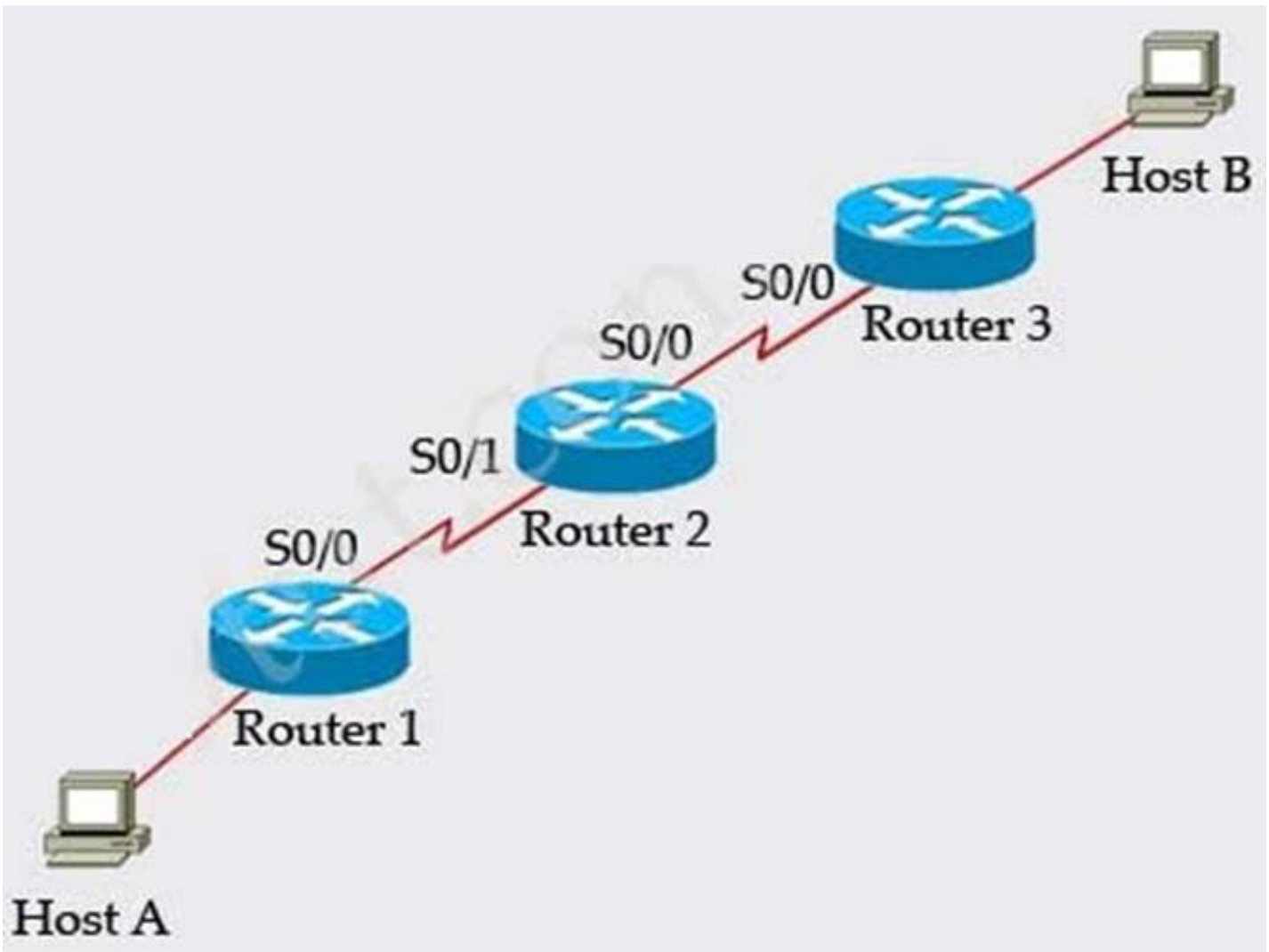
NEW QUESTION 164
Which of these represents an IPv6 link-local address?

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: Understanding IPv6 Link Local Address Reference:
http://www.cisco.com/en/US/tech/tk872/technologies_configuration_example09186a0080b a1d07.shtml
The purpose of this document is to provide an understanding of IPv6 Link-local address in a network. A linklocal address is an IPv6 unicast address that can be automatically configured on any interface using the linklocal prefix FE80::/10 (1111 1110 10) and the interface identifier in the modified EUI-64 format. Link-local addresses are not necessarily bound to the MAC address (configured in a EUI-64 format). Link-local addresses can also be manually configured in the FE80::/10 format using the ipv6 address link-local command.

NEW QUESTION 166
Refer to the exhibit.

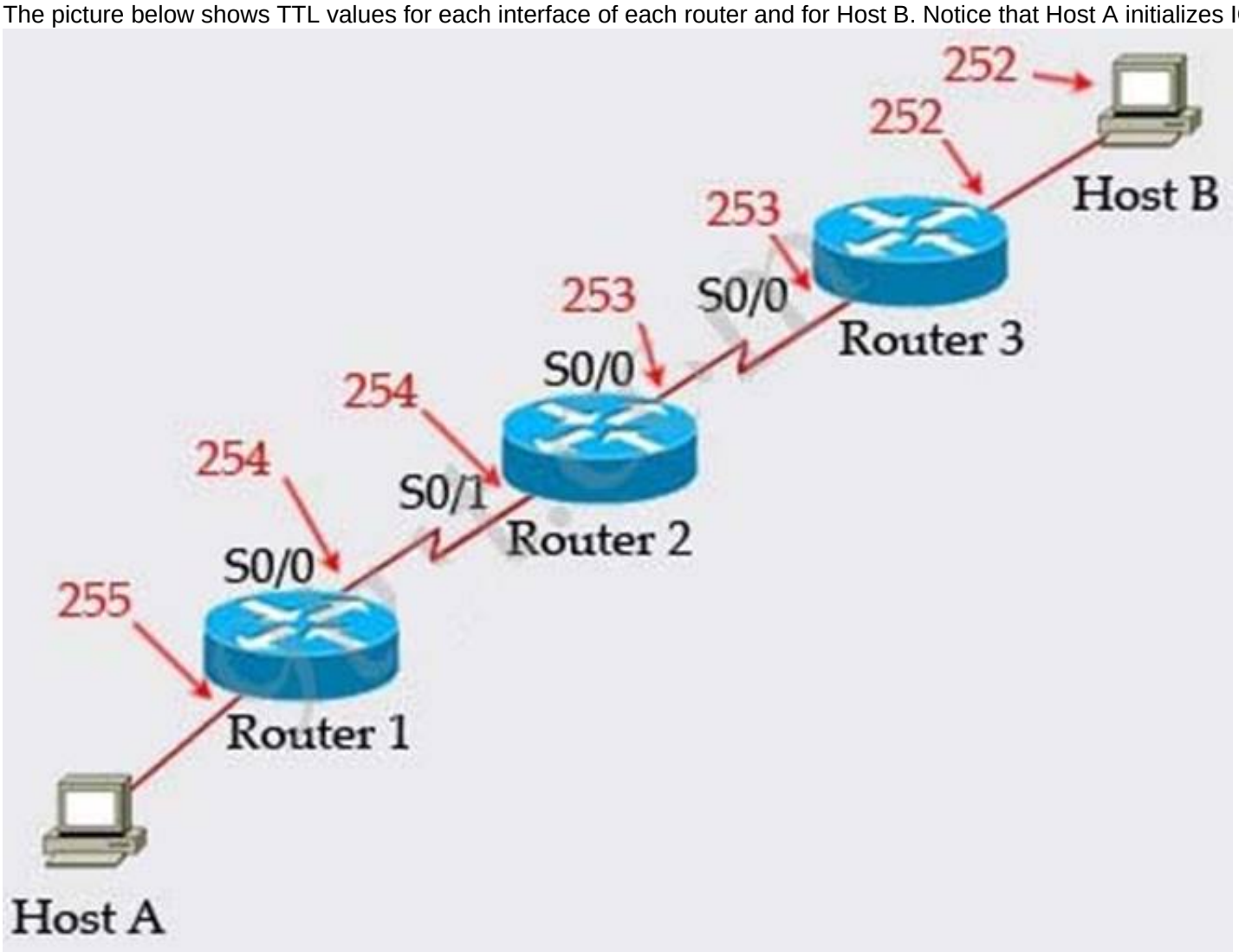


Host A pings interface S0/0 on router 3, what is the TTL value for that ping?

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

Answer: A

Explanation: From the CCNA ICND2 Exam book: “Routers decrement the TTL by 1 every time they forward a packet; if a router decrements the TTL to 0, it throws away the packet. This prevents packets from rotating forever.” I want to make it clear that before the router forwards a packet, the TTL is still remain the same. For example in the topology above, pings to S0/1 and S0/0 of Router 2 have the same TTL.
The picture below shows TTL values for each interface of each router and for Host B. Notice that Host A initializes ICMP packet with a TTL of 255:



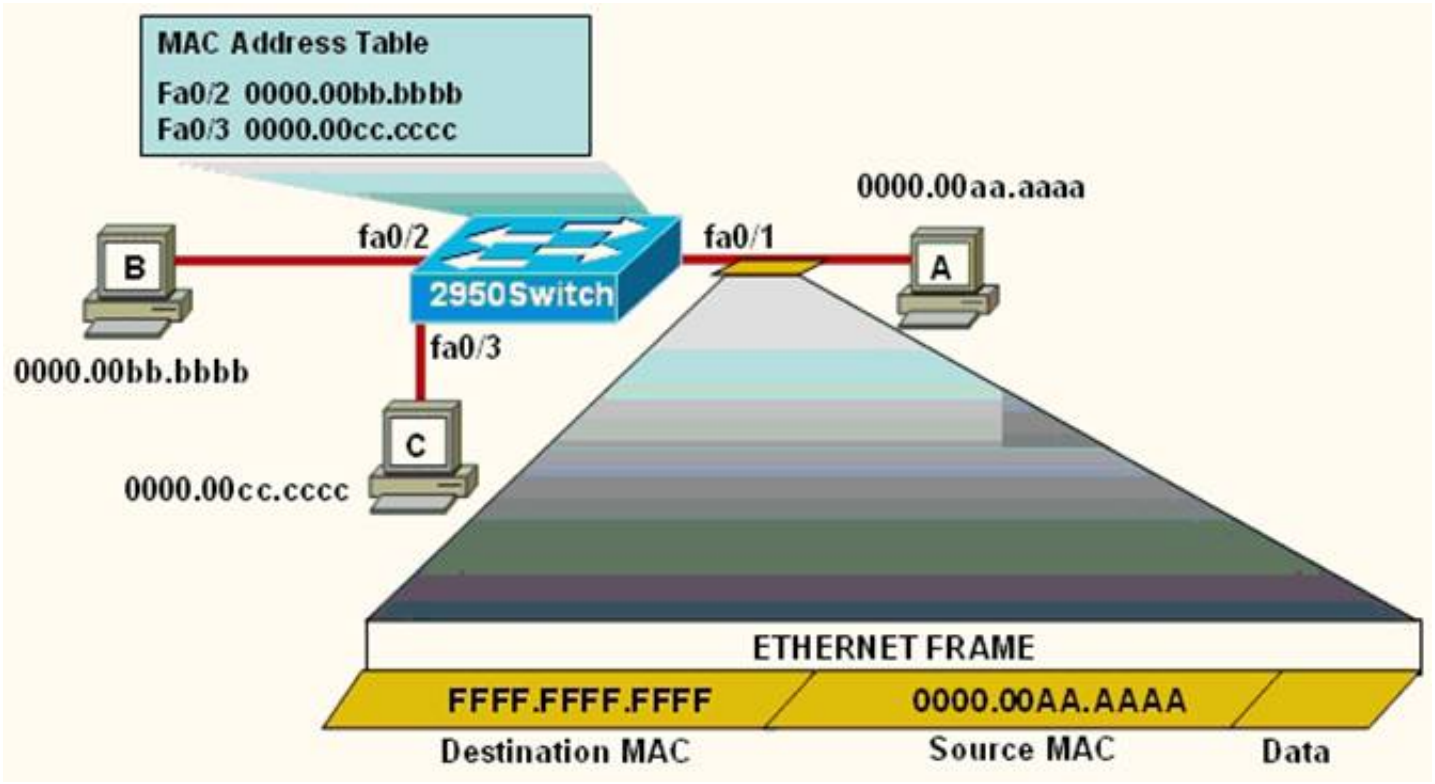
NEW QUESTION 170
What are two characteristics of a switch that is configured as a VTP client? (Choose two.)

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: CF

Explanation: VLAN Trunking Protocol (VTP)
http://archive.networknewz.com/2004/0317.html
VTP Modes
Server Mode Once VTP is configured on a Cisco switch, the default mode used is Server Mode. In any given VTP management domain, at least one switch must be in Server Mode. When in Server Mode, a switch can be used to add, delete, and modify VLANs, and this information will be passed to all other switches in the VTP management domain.
Client Mode When a switch is configured to use VTP Client Mode, it is simply the recipient of any VLANs added, deleted, or modified by a switch in Server Mode within the same management domain. A switch in VTP client mode cannot make any changes to VLAN information.
Transparent Mode A switch in VTP Transparent Mode will pass VTP updates received by switches in Server Mode to other switches in the VTP management domain, but will not actually process the contents of these messages. When individual VLANs are added, deleted, or modified on a switch running in transparent mode, the changes are local to that particular switch only, and are not passed to other switches in the VTP management domain.

NEW QUESTION 172
Refer to the exhibit.

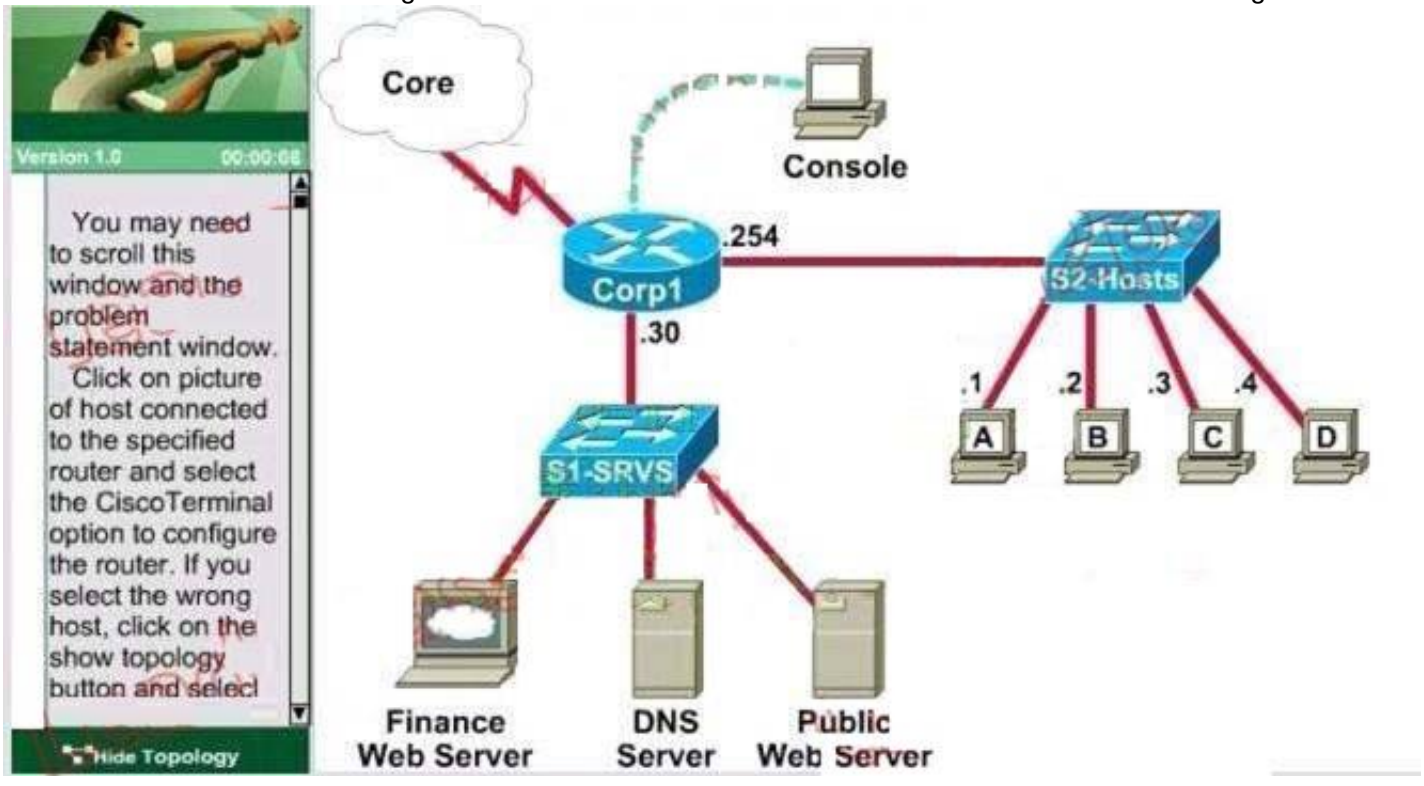


The following commands are executed on interface fa0/1 of 2950Switch.
2950Switch(config-if)# switchport port-security
2950Switch(config-if)# switchport port-security mac-address sticky
2950Switch(config-if)# switchport port-security maximum 1
The Ethernet frame that is shown arrives on interface fa0/1. 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: BD

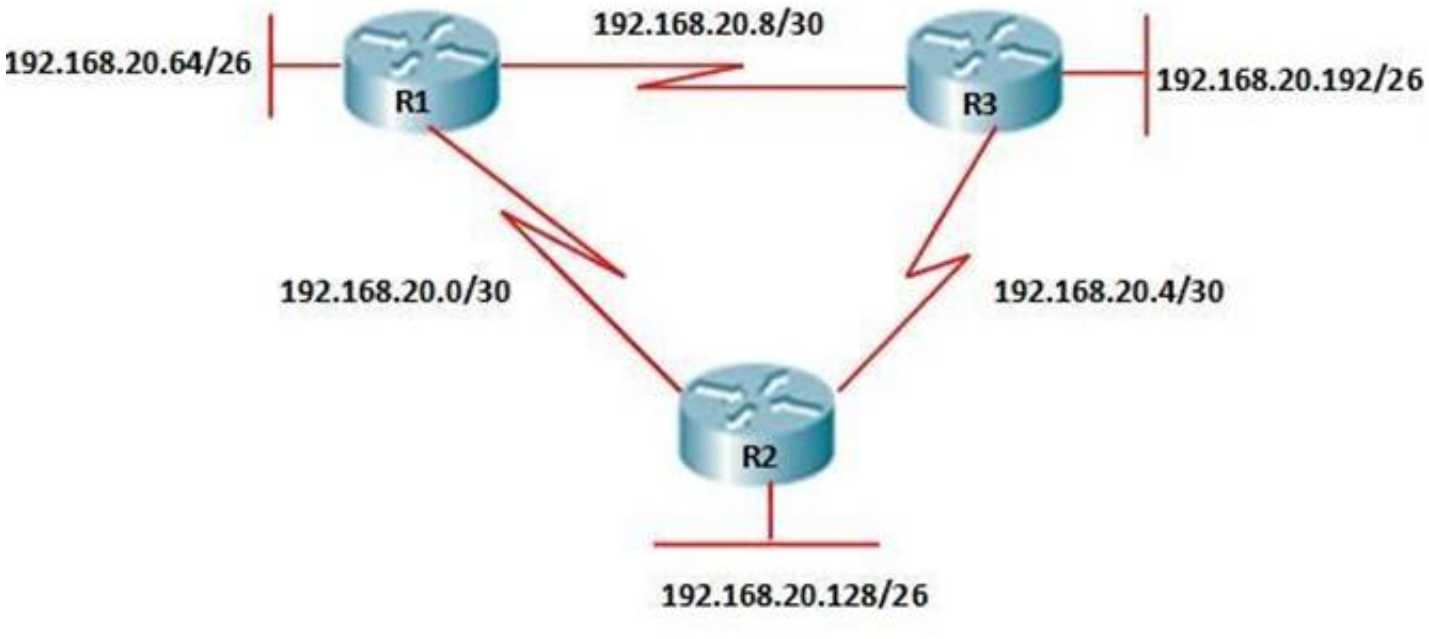
NEW QUESTION 175
CORRECT TEXT
Lab - Access List Simulation
A network associate is adding security to the configuration of the Corp1 router. The user on host C should be able to use a web browser to access financial information from the Finance Web Server. No other hosts from the LAN nor the Core should 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:

Explanation: Our access-list needs to allow host C – 192.168.33.3 to the Finance Web Server 172.22.242.23 via web (port80)
Corp1(config)#access-list 100 permit tcp host 192.168.33.3 host 172.22.242.23 eq 80
Deny other hosts access to the Finance Web Server via web
Corp1(config)#access-list 100 deny tcp any host 172.22.242.23 eq 80
All other traffic is permitted
Corp1(config)#access-list 100 permit ip any any
Apply this access-list to Fa0/1 interface (outbound direction)
Corp1(config)#interface fa0/1
Corp1(config-if)#ip access-group 100 out Explanation :
Select the console on Corp1 router Configuring ACL
Corp1>enable Corp1#configure terminal
Comment: To permit only Host C (192. 168. 33. 3){source addr} to access finance server address (172.
22.242. 23){destination addr} on port number 80 (web) Corp1(config)# access-list 100 permit tcp host 192.168.33.3 host 172.22.242.23 eq 80
Comment: To deny any source to access finance server address (172. 22. 242. 23)
{destination addr} on port number 80 (web)
Corp1(config)# access-list 100 deny tcp any host 172.22.242.23 eq 80
Comment: To permit ip protocol from any source to access any destination because of the implicit deny any any statement at the end of ACL.
Corp1(config)# access-list 100 permit ip any any Applying the ACL on the Interface
Comment: Check show ip interface brief command to identify the interface type and number by checking the IP address configured.
Corp1(config)#interface fa 0/1
If the ip address configured already is incorrect as well as the subnet mask. this should be corrected in order ACL to work type this commands at interface mode :
no ip address 192. x. x. x 255. x. x. x (removes incorrect configured ip address and subnet mask) Configure
Correct IP Address and subnet mask :
ip address 172. 22. 242. 30 255. 255. 255. 240 (range of address specified going to server is given as 172.
22. 242. 17 172. 22. 242. 30)
Comment: Place the ACL to check for packets going outside the interface towards the finance web server.
Corp1(config-if)#ip access-group 100 out Corp1(config-if)#end
Important: To save your running config to startup before exit. Corp1#copy running-config startup-config
Verifying the Configuration :
Step1: Show ip interface brief command identifies the interface on which to apply access list . Step2: Click on each host A, B, C & D . Host opens a web browser page , Select address box of the web browser and type the ip address of finance web server(172. 22. 242. 23) to test whether it permits /deny access to the finance web Server.

NEW QUESTION 178
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: EIGRP Questions http://www.9tut.net/icnd2/eigrp-questions
http://www.orbitco-ccna-pastquestions.com/CCNA---EIGRP-Common-Question.php
Looking at the output display above, the LAN attached to router R1 belongs to 192.168.20.64/26 subnet and learned this network via 192.168.20.9 which will be an IP address in 192.168.20.8/30 sub-network. This means that packets destined for 192.168.20.64 will be routed from R3 to R1.

NEW QUESTION 182

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