

**TestKing.400-101 (493Q)**

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The logo for TestKing, featuring the word "TestKing" in a stylized, gothic-like font with a blue and black gradient and a subtle shadow effect.

**400-101**

**CCIE Routing and Switching (v5.0)**

Number: 400-101  
Passing Score: 800  
Time Limit: 120 min  
File Version: 9.0

- Today is big day for me as I passed exam with 85%. Questions were 100% identical to what I got on the exam.
- It really looks fresh and updated. Questions cover all the new areas of new exam pattern.
- It contains all the tricky questions, which really helpful to succeed.
- It is accumulated material. I assure you if you prepare from this dump, you will not need to study from any material.
- 100% Valid in ALL over the world.

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

Refer to the exhibit.

```
Switch# show ip igmp snooping mrouter
Vlan      ports
-----
 10       Gi2/0/1(dynamic), Router
 20       Gi2/0/1(dynamic), Router
```

Which three statements about the output are true? (Choose three.)

- A. An mrouter port can be learned by receiving a PIM hello packet from a multicast router.
- B. This switch is configured as a multicast router.
- C. Gi2/0/1 is a trunk link that connects to a multicast router.
- D. An mrouter port is learned when a multicast data stream is received on that port from a multicast router.
- E. This switch is not configured as a multicast router. It is configured only for IGMP snooping.
- F. IGMP reports are received only on Gi2/0/1 and are never transmitted out Gi2/0/1 for VLANs 10 and 20.

**Correct Answer:** ABC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

answer is straight.

**QUESTION 2**

Refer to the exhibit.

```
Switch#show int fastEthernet0/1 switchport
Name: Fa0/1
Switchport: Enabled
Administrative Mode: dynamic auto
Operational Mode: static access
Administrative Trunking Encapsulation: dot1q
Operational Trunking Encapsulation: native
Negotiation of Trunking: On
Access Mode VLAN: 2 (VLAN0002)
Trunking Native Mode VLAN: 3 (VLAN0003)
Administrative Native VLAN tagging: enabled
Voice VLAN: none
Administrative private-vlan host-association: none
Administrative private-vlan mapping: none
Administrative private-vlan trunk native VLAN: none
Administrative private-vlan trunk Native VLAN tagging: enabled
Administrative private-vlan trunk encapsulation: dot1q
Administrative private-vlan trunk normal VLANs: none
Administrative private-vlan trunk private VLANs: none
Operational private-vlan: none
Trunking VLANs Enabled: ALL
Pruning VLANs Enabled: 2-1001
Capture Mode Disabled
Capture VLANs Allowed: ALL

Protected: false
Unknown unicast blocked: disabled
Unknown multicast blocked: disabled
Appliance trust: none
```

If a port is configured as shown and receives an untagged frame, of which VLAN will the untagged frame be a member?

- A. VLAN 1
- B. VLAN 2
- C. VLAN 3
- D. VLAN 4

**Correct Answer: B**

**Section: (none)**

**Explanation**

## Explanation/Reference:

### QUESTION 3

Refer to the exhibit.

```
Switch#show interfaces switchport backup detail

Switch Backup Interface Pairs:

Active Interface      Backup Interface      State
-----
FastEthernet0/1      FastEthernet0/2      Active Up/Backup Standby

Interface Pair   : Fa0/1, Fa0/2
Preemption Mode  : off
Bandwidth       : 100000 Kbit (Fa0/1), 10000 Kbit (Fa0/2)
Mac Address Move Update Vlan : auto
```

Which statement describes the effect on the network if FastEthernet0/1 goes down temporarily?

- A. FastEthernet0/2 forwards traffic only until FastEthernet0/1 comes back up.
- B. FastEthernet0/2 stops forwarding traffic until FastEthernet0/1 comes back up.
- C. FastEthernet0/2 forwards traffic indefinitely.
- D. FastEthernet0/1 goes into standby.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

sophisticated answer.

### QUESTION 4

Refer to the exhibit.



```
R1#show ipv6 route

C   2001:DB8::/64 [0/0]
    via Ethernet0/0, directly connected
L   2001:DB8::1/128 [0/0]
    via Ethernet0/0, receive
```

Which statement is true?

- A. 2001:DB8::1/128 is a local host route, and it can be redistributed into a dynamic routing protocol.
- B. 2001:DB8::1/128 is a local host route, and it cannot be redistributed into a dynamic routing protocol.
- C. 2001:DB8::1/128 is a local host route that was created because ipv6 unicast-routing is not enabled on this router.
- D. 2001:DB8::1/128 is a route that was put in the IPv6 routing table because one of this router's loopback interfaces has the IPv6 address 2001:DB8::1/128.

**Correct Answer:** B

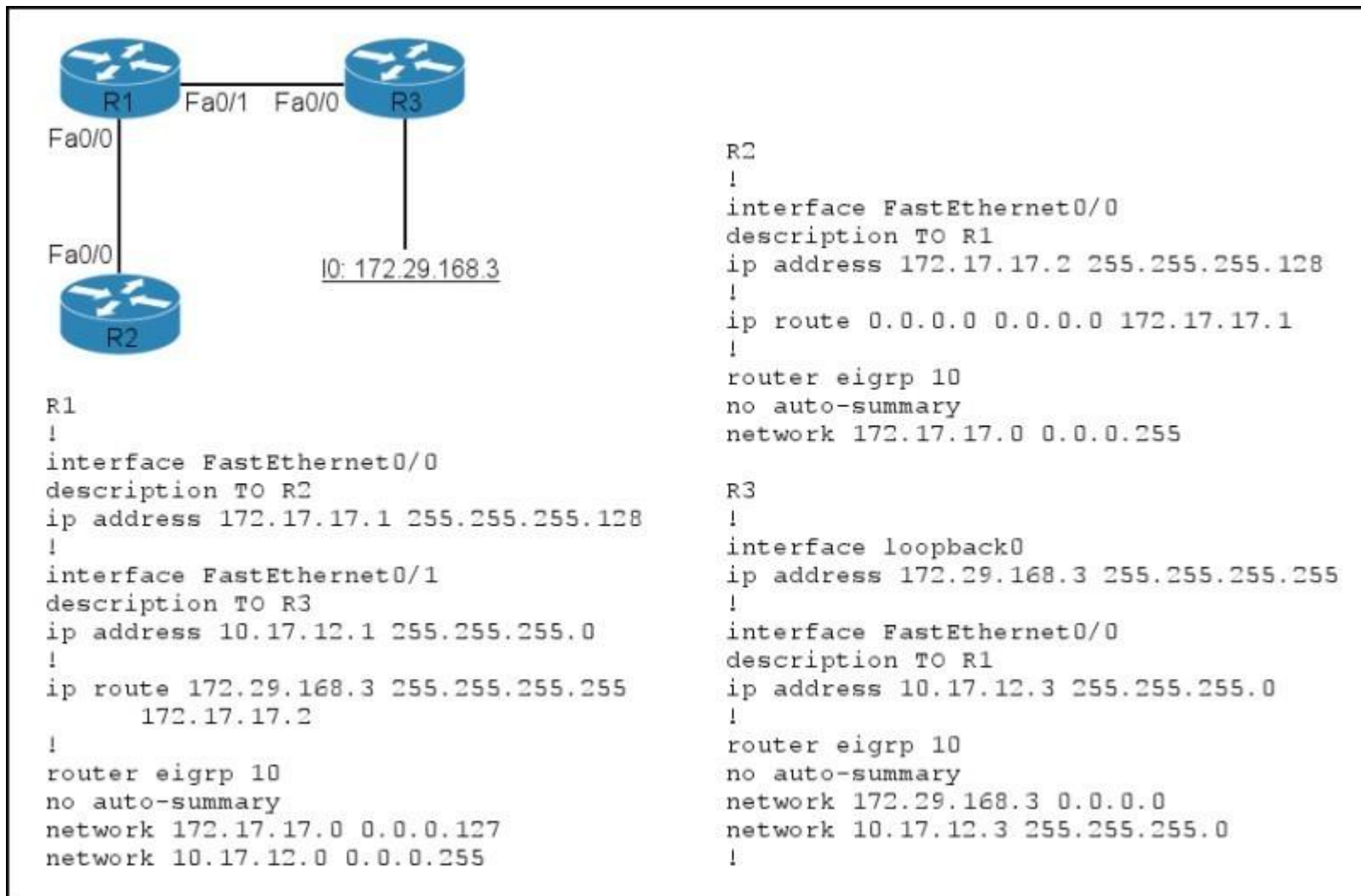
**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 5

Refer to the exhibit.



Routers R1, R2, and R3 are configured as shown, and traffic from R2 fails to reach 172.29.168.3. Which action can you take to correct the problem?

- A. Correct the static route on R1.
- B. Correct the default route on R2.
- C. Edit the EIGRP configuration of R3 to enable auto-summary.

D. Correct the network statement for 172.29.168.3 on R3.

**Correct Answer:** A

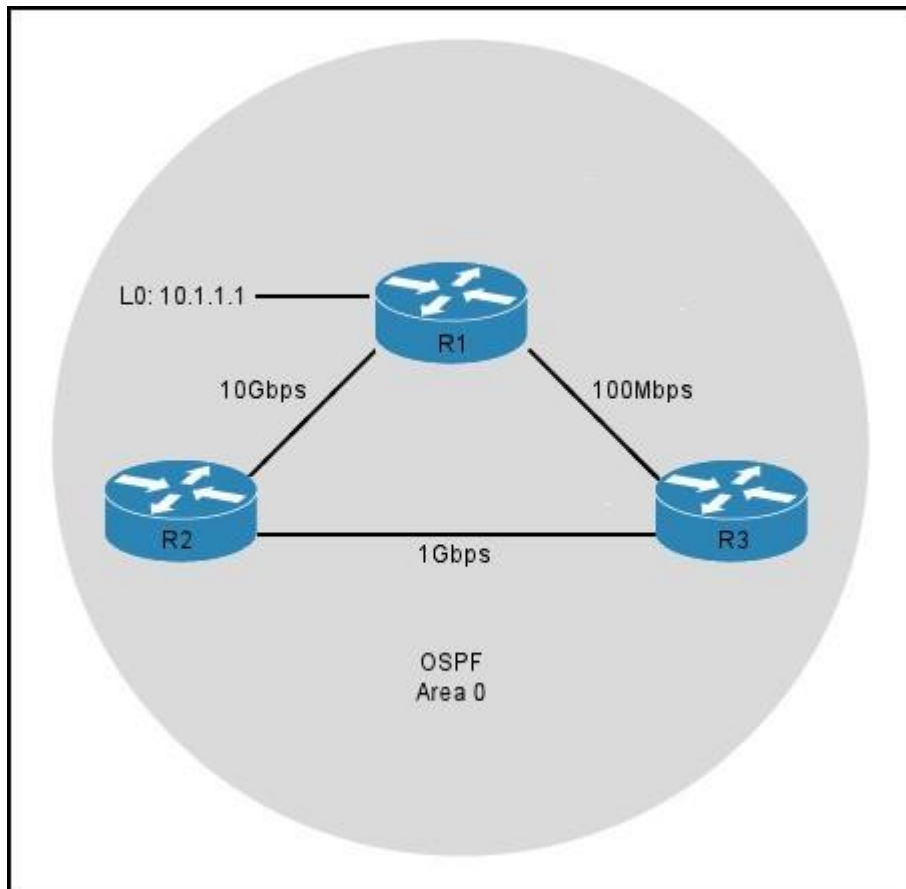
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**Explanation**

**Explanation/Reference:**

#### QUESTION 6

Refer to the exhibit.



R3 prefers the path through R1 to reach host 10.1.1.1.

Which option describes the reason for this behavior?

- A. The OSPF reference bandwidth is too small to account for the higher speed links through R2.
- B. The default OSPF cost through R1 is less than the cost through R2.
- C. The default OSPF cost through R1 is more than the cost through R2.
- D. The link between R2 and R1 is congested.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

## QUESTION 7

Refer to the exhibit.

```
*>172.21.95.0/22 172.17.192.1 0 120 0 65534 65535 65100 65235 ?
```

For which reason could a BGP-speaking device in autonomous system 65534 be prevented from installing the given route in its BGP table?

- A. The AS number of the BGP is specified in the given AS\_PATH.
- B. The origin of the given route is unknown.
- C. BGP is designed only for publicly routed addresses.
- D. The AS\_PATH for the specified prefix exceeds the maximum number of ASs allowed.
- E. BGP does not allow the AS number 65535.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

## QUESTION 8

Which statement about the feasibility condition in EIGRP is true?

- A. The prefix is reachable via an EIGRP peer that is in the routing domain of the router.
- B. The EIGRP peer that advertises the prefix to the router has multiple paths to the destination.
- C. The EIGRP peer that advertises the prefix to the router is closer to the destination than the router.
- D. The EIGRP peer that advertises the prefix cannot be used as a next hop to reach the destination.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

answer is straight.

#### **QUESTION 9**

Which two statements about the function of the stub feature in EIGRP are true? (Choose two.)

- A. It stops the stub router from sending queries to peers.
- B. It stops the hub router from sending queries to the stub router.
- C. It stops the stub router from propagating dynamically learned EIGRP prefixes to the hub routers.
- D. It stops the hub router from propagating dynamically learned EIGRP prefixes to the stub routers.

**Correct Answer:** BC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 10**

In which type of EIGRP configuration is EIGRP IPv6 VRF-Lite available?

- A. stub
- B. named mode
- C. classic mode
- D. passive

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

answer is straight.

**QUESTION 11**

Two routers are trying to establish an OSPFv3 adjacency over an Ethernet link, but the adjacency is not forming. Which two options are possible reasons that prevent OSPFv3 to form between these two routers? (Choose two.)

- A. mismatch of subnet masks
- B. mismatch of network types
- C. mismatch of authentication types
- D. mismatch of instance IDs
- E. mismatch of area types

**Correct Answer:** DE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 12**

Like OSPFv2, OSPFv3 supports virtual links. Which two statements are true about the IPv6 address of a virtual neighbor? (Choose two.)

- A. It is the link-local address, and it is discovered by examining the hello packets received from the virtual neighbor.
- B. It is the link-local address, and it is discovered by examining link LSA received by the virtual neighbor.
- C. It is the global scope address, and it is discovered by examining the router LSAs received by the virtual neighbor.
- D. Only prefixes with the LA-bit not set can be used as a virtual neighbor address.
- E. It is the global scope address, and it is discovered by examining the intra-area-prefix-LSAs received by the virtual neighbor.
- F. Only prefixes with the LA-bit set can be used as a virtual neighbor address.

**Correct Answer:** EF

**Section:** (none)

**Explanation**

**Explanation/Reference:**

answer is straight.

**QUESTION 13**

Which field is specific to the OSPFv3 packet header, as opposed to the OSPFv2 packet header?

- A. checksum
- B. router ID
- C. AuType
- D. instance ID

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

actual answer.

#### **QUESTION 14**

Which two functions are performed by the DR in OSPF? (Choose two.)

- A. The DR originates the network LSA on behalf of the network.
- B. The DR is responsible for the flooding throughout one OSPF area.
- C. The DR forms adjacencies with all other OSPF routers on the network, in order to synchronize the LSDB across the adjacencies.
- D. The DR is responsible for originating the type 4 LSAs into one area.

**Correct Answer:** AC

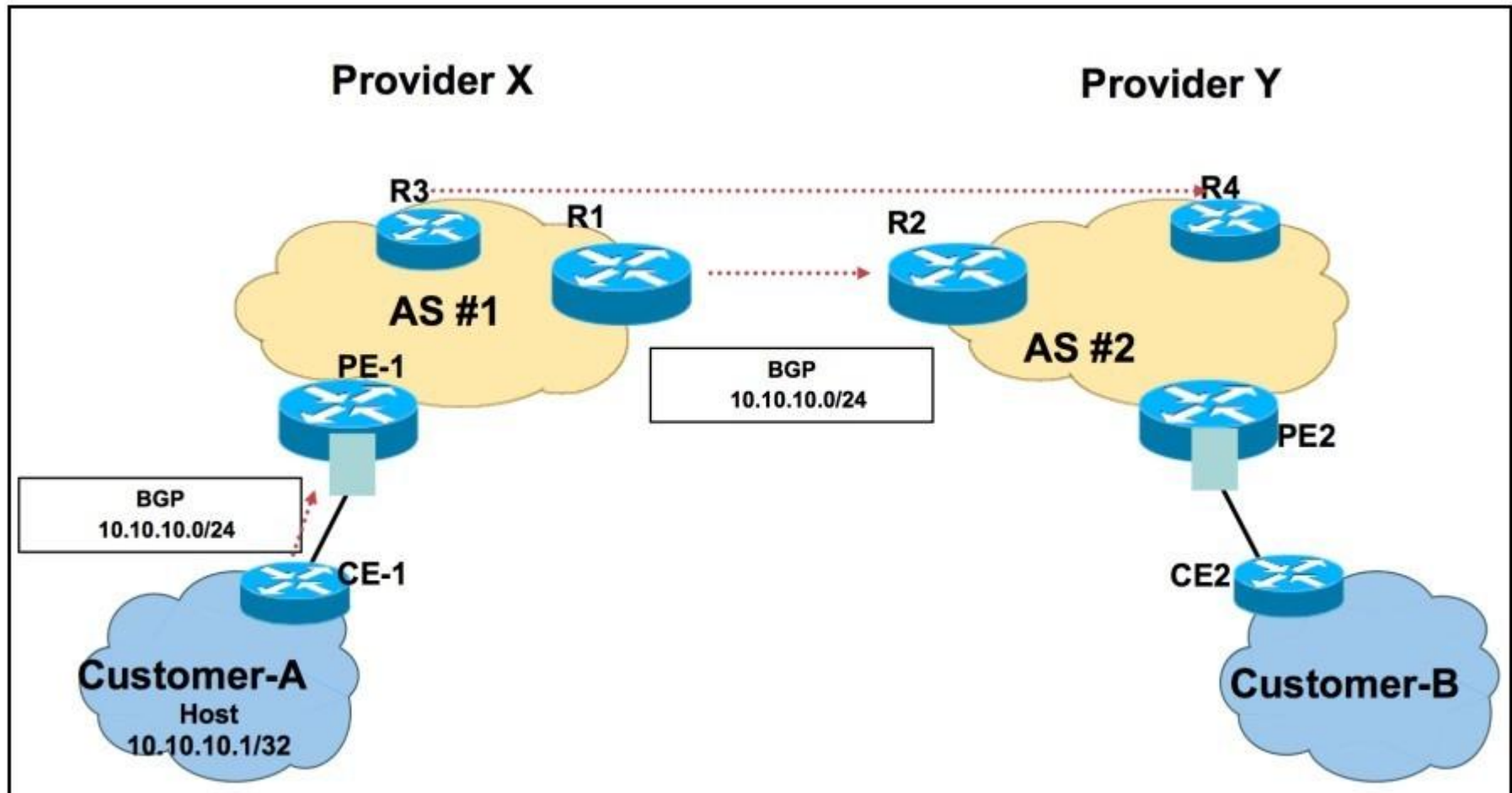
**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 15**

Refer to the exhibit.



AS #1 and AS #2 have multiple EBGP connections with each other. AS #1 wants all return traffic that is destined to the prefix 10.10.10.1/32 to enter through the router R1 from AS #2. In order to achieve this routing policy, the AS #1 advertises a lower MED from R1, compared to a higher MED from R3, to their respective BGP neighbor for the prefix 10.10.10.0/24. Will this measure guarantee that the routing policy is always in effect?

- A. Yes, because MED plays a deterministic role in return traffic engineering in BGP.
- B. Yes, because a lower MED forces BGP best-path route selection in AS #2 to choose R1 as the best path for 10.10.10.0/24.
- C. Yes, because a lower MED in AS #2 is the highest BGP attribute in BGP best-path route selection.
- D. No, AS #2 can choose to alter the weight attribute in R2 for BGP neighbor R1, and this weight value is cascaded across AS #2 for BGP best-path route selection.



- E. No, AS #2 can choose to alter the local preference attribute to overwrite the best-path route selection over the lower MED advertisement from AS #1. This local preference attribute is cascaded across AS #2 for the BGP best-path route selection.

**Correct Answer:** E

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 16

Refer to the exhibit.

```
R1>sh ip bgp 10.1.1.1
BGP routing table entry for 10.1.0.0/16, version 182
Paths: (2 available, best #1, table default, not advertised to EBGp peer)
  Advertised to update-groups:
    2
  Refresh Epoch 1
  50811 65112
    172.28.1.5 from 172.28.1.5 (192.168.236.222)
      Origin incomplete, localpref 800, valid, external, best
      Community: no-export
      rx pathid: 0, tx pathid: 0x0
  Refresh Epoch 1
  50811 65112, (received-only)
    172.28.1.5 from 172.28.1.5 (192.168.236.222)
      Origin incomplete, localpref 100, valid, external
      Community: 65112:21147 50811:11145
      rx pathid: 0, tx pathid: 0
R1>
```

What does "(received-only)" mean?

- A. The prefix 10.1.1.1 can not be advertised to any eBGP neighbor.
- B. The prefix 10.1.1.1 can not be advertised to any iBGP neighbor.
- C. BGP soft reconfiguration outbound is applied.
- D. BGP soft reconfiguration inbound is applied.

**Correct Answer:** D

**Section: (none)**

**Explanation**

**Explanation/Reference:**

authenticate answer.

**QUESTION 17**

Which regular expression will only allow prefixes that originated from AS 65000 and that are learned through AS 65001?

- A. ^65000\_65001\$
- B. 65000\_65001\$
- C. ^65000\_65001
- D. ^65001\_65000\$

**Correct Answer: D**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 18**

Which statement describes the BGP add-path feature?

- A. It allows for installing multiple IBGP and EBGP routes in the routing table.
- B. It allows a network engineer to override the selected BGP path with an additional path created in the config.
- C. It allows BGP to provide backup paths to the routing table for quicker convergence.
- D. It allows multiple paths for the same prefix to be advertised.

**Correct Answer: D**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

valid.

**QUESTION 19**

Refer to the exhibit.

```
R1#show bgp ipv4 unicast 10.100.1.1/32
BGP routing table entry for 10.100.1.1/32, version 8
Paths: (2 available, best #1, table default, RIB-failure(17))
  Advertised to update-groups:
    2
  Refresh Epoch 2
  4
    10.1.3.4 from 10.1.3.4 (10.100.1.1)
      Origin IGP, metric 0, localpref 100, valid, external, best
      rx pathid: 0, tx pathid: 0x0
  Refresh Epoch 2
  5 4
    10.1.5.5 from 10.1.5.5 (10.1.5.5)
      Origin IGP, localpref 100, valid, external
      rx pathid: 0, tx pathid: 0
```

What is a reason for the RIB-failure?

- A. CEF is not enabled on this router.
- B. The route 10.100.1.1/32 is in the routing table, but not as a BGP route.
- C. The routing table has yet to be updated with the BGP route.
- D. The BGP route is filtered inbound and hence is not installed in the routing table.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 20

Refer to the exhibit.

```

R1#show bgp ipv4 unicast summary
BGP router identifier 10.1.3.1, local AS number 1
BGP table version is 2, main routing table version 2
1 network entries using 144 bytes of memory
1 path entries using 80 bytes of memory
1/1 BGP path/bestpath attribute entries using 144 bytes of memory
1 BGP AS-PATH entries using 24 bytes of memory
0 BGP route-map cache entries using 0 bytes of memory
0 BGP filter-list cache entries using 0 bytes of memory
BGP using 392 total bytes of memory
BGP activity 1/0 prefixes, 1/0 paths, scan interval 60 secs

```

Neighbor	V	AS	MsgRcvd	MsgSent	TblVer	InQ	OutQ	Up/Down	State/PfxRcd
10.1.1.2	4	2	69	69	2	0	0	01:00:54	0
10.1.2.3	4	3	69	70	1	0	0	01:00:45	0
10.1.3.4	4	4	72	70	2	0	0	01:01:12	1

Which statement is true?

- A. BGP peer 10.1.2.3 is performing inbound filtering.
- B. BGP peer 10.1.2.3 is a route reflector.
- C. R1 is a route reflector, but BGP peer 10.1.2.3 is not a route reflector client.
- D. R1 still needs to send an update to the BGP peer 10.1.2.3.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

answer is correct.

#### QUESTION 21

Refer to the exhibit.

```
RouterA#
conf t
router isis
net 49.5200.1580.3500.6002.00

RouterB#
conf t
router isis 1
net 49.5200.1580.3500.6002.00
```

Router A and router B are physically connected over an Ethernet interface, and ISIS is configured as shown. Which option explains why the ISIS neighborship is not getting formed between router A and router B?

- A. same area ID
- B. same N selector
- C. same domain ID
- D. same system ID

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

accurate.

## QUESTION 22

Refer to the exhibit.

```
C#show ipv6 route ::/0
IPv6 Routing Table - 6 entries
Codes: C - Connected, L - Local, S - Static, R - RIP, B - BGP
       I1 - ISIS L1, I2 - ISIS L2, IA - ISIS interarea, IS - ISIS summary
I1  ::/0 [115/10]
     via FE80::A8BB:CCFF:FE00:401, Ethernet1/0
     via ::, Ethernet0/0
```

Which statement is true?

- A. There is no issue with forwarding IPv6 traffic from this router.
- B. IPv6 traffic can be forwarded from this router, but only on Ethernet1/0.
- C. IPv6 unicast routing is not enabled on this router.
- D. Some IPv6 traffic will be blackholed from this router.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

answer is rectified.

### QUESTION 23

Refer to the exhibit.

```
R4#show isis database R4.00-00 detail
IS-IS Level-2 LSP R4.00-00
LSPID                LSP Seq Num  LSP Checksum  LSP Holdtime  ATT/P/OL
R4.00-00             * 0x000022BE  0xD36A        1194          0/0/0
  Area Address: 49.0001
  NLPID:         0x81 0xCC 0x8E
  Hostname: R4
  IP Address:    10.1.100.4
  IPv6 Address:  2001:100::1:4
  Metric: 10     IS-Extended R3.00
  Metric: 10     IS-Extended R5.03
  Metric: 10     IP 10.1.1.0/24
  Metric: 10     IP 10.1.2.0/24
  Metric: 10     IP 10.1.3.0/24
  Metric: 10     IP 10.1.100.4/32
  Metric: 50     IP 10.200.200.200/32
  Metric: 10     IPv6 2001:1::1:0/112
  Metric: 10     IPv6 2001:1::2:0/112
  Metric: 10     IPv6 2001:100::1:4/128
```

Which statement is true?

- A. IS-IS has been enabled on R4 for IPv6, single-topology.
- B. IS-IS has been enabled on R4 for IPv6, multitopology.
- C. IS-IS has been enabled on R4 for IPv6, single-topology and multitopology.
- D. R4 advertises IPv6 prefixes, but it does not forward IPv6 traffic, because the protocol has not been enabled under router IS-IS.

**Correct Answer:** A

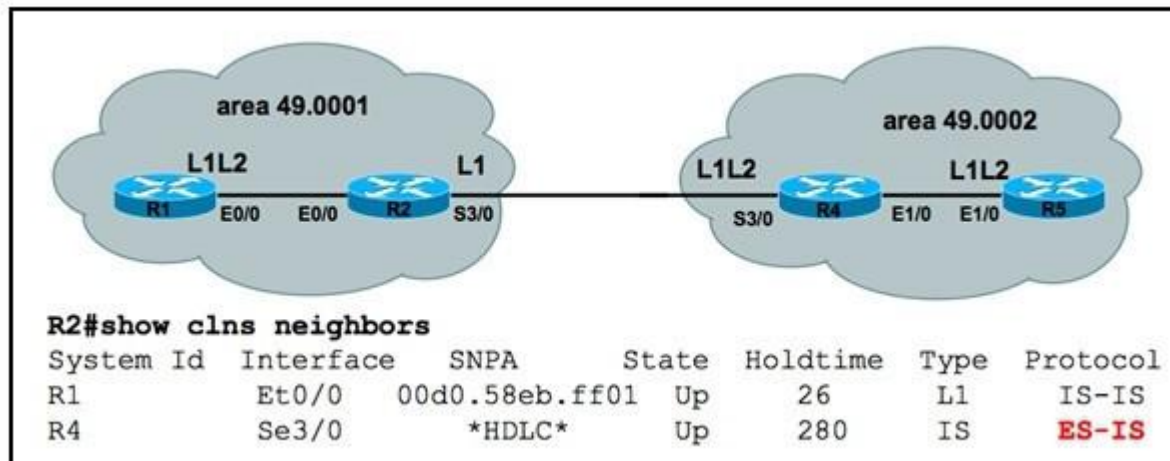
**Section:** (none)

**Explanation**

**Explanation/Reference:**

## QUESTION 24

Refer to the exhibit.



Why is the neighbor relationship between R2 and R4 shown as ES-IS?

- A. because there is an MTU mismatch between R2 and R4
- B. because interface S3/0 of R4 is configured as L1/L2
- C. because interface S3/0 of R2 is configured as L1
- D. because there is a hello interval mismatch between R2 and R4

**Correct Answer:** A

**Section: (none)**

**Explanation**

**Explanation/Reference:**

We see ES-IS when either one side is configured to send only L2 and another side is configured to send L1. In this case both sides show each other as ES-IS. However, from the diagram we see that one side is sending L1 and L2. We also can see ES-IS when we have MTU Mismatch

**QUESTION 25**

Refer to the exhibit.

```
R4
interface FastEthernet0/1
ip address 192.168.2.1 255.255.255.0
ip pim sparse-dense-mode
duplex auto
speed auto
standby 1 ip 192.168.2.4
standby 1 priority 150
standby 1 preempt

R5
interface FastEthernet0/1
ip address 192.168.2.2 255.255.255.0
ip pim sparse-dense-mode
duplex auto
speed auto
standby 1 ip 192.168.2.4
```

The interface FastEthernet0/1 of both routers R4 and R5 is connected to the same Ethernet segment with a multicast receiver. Which two statements are true? (Choose two)

- A. Multicast traffic that is destined to a receiver with IP address 192.168.2.6 will flow through router R4.
- B. Both routers R4 and R5 will send PIM join messages to the RP.
- C. Only router R5 will send a multicast join message to the RP.
- D. Multicast traffic that is destined to a receiver with IP address 192.168.2.6 will flow through router R5.

**Correct Answer: CD**

**Section: (none)**

**Explanation**



## Explanation/Reference:

### QUESTION 26

Refer to the exhibit.

```
router ospf 100
router-id 4.4.4.4
area 110 nssa
summary-address 192.168.0.0 255.255.0.0 nssa-only
redistribute static metric-type 1 subnets tag 704
network 110.110.0.0 0.0.255.255 area 110
```

This is the configuration of the ASBR of area 110. Which option explains why the remote ABR should not translate the type 7 LSA for the prefix 192.168.0.0/16 into a type 5 LSA?

- A. The remote ABR translates all type 7 LSA into type 5 LSA, regardless of any option configured in the ASBR.
- B. The ASBR sets the forwarding address to 0.0.0.0 which instructs the ABR not to translate the LSA into a type 5 LSA.
- C. The ASBR originates a type 7 LSA with age equal to MAXAGE 3600.
- D. The ABR clears the P bit in the header of the type 7 LSA for 192.168.0.0/16.

**Correct Answer:** D

**Section:** (none)

**Explanation**

## Explanation/Reference:

### QUESTION 27

What is the function of an EIGRP sequence TLV packet?

- A. to acknowledge a set of sequence numbers during the startup update process
- B. to list the peers that should listen to the next multicast packet during the reliable multicast process
- C. to list the peers that should not listen to the next multicast packet during the reliable multicast process
- D. to define the initial sequence number when bringing up a new peer

**Correct Answer:** C

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 28**

What are two reasons to define static peers in EIGRP? (Choose two.)

- A. Security requirements do not allow dynamic learning of neighbors.
- B. The link between peers requires multicast packets.
- C. Back-level peers require static definition for successful connection.
- D. The link between peers requires unicast packets.

**Correct Answer:** AD

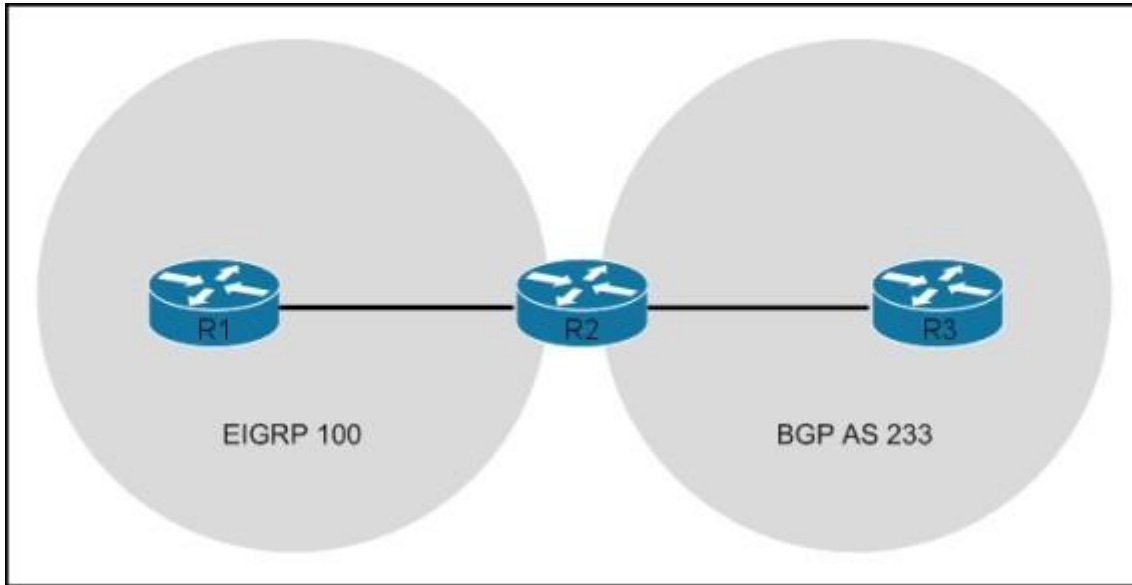
**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 29**

Refer to the exhibit.



R2 is mutually redistributing between EIGRP and BGP.

Which configuration is necessary to enable R1 to see routes from R3?

- A. The R3 configuration must include `ebgp-multihop` to the neighbor statement for R2.
- B. The R2 BGP configuration must include `bgp redistribute-internal`.
- C. R1 must be configured with `next-hop-self` for the neighbor going to R2.
- D. The AS numbers configured on R1 and R2 must match.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 30

What is the purpose of EIGRP summary leaking?

- A. to allow a summary to be advertised conditionally on specific criteria
- B. to allow a component of a summary to be advertised in addition to the summary

- C. to allow overlapping summaries to exist on a single interface
- D. to modify the metric of the summary based on which components of the summary are operational

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 31

Refer to the exhibit.

```
*May20 12:16: BGP(4):10.1.1.2 rcvd UPDATE w/ attr:nexthop 10.1.1.2,origin ?, localpref 100,metric 0,extended community RT:999:999
*May20 12:16: BGP(4):10.1.1.2 rcvd 999:999:192.168.1.99/32,label 29--DENIED due to:extended community not supported
```

You have just created a new VRF on PE3. You have enabled debug ip bgp vpnv4 unicast updates on PE1, and you can see the route in the debug, but not in the BGP VPNv4 table. Which two statements are true? (Choose two.)

- A. VPNv4 is not configured between PE1 and PE3.
- B. address-family ipv4 vrf is not configured on PE3.
- C. After you configure route-target import 999:999 for a VRF on PE3, the route will be accepted.
- D. PE1 will reject the route due to automatic route filtering.
- E. After you configure route-target import 999:999 for a VRF on PE1, the route will be accepted.

**Correct Answer:** DE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 32

Refer to the exhibit.

```
R6#debug nhrp
NHRP protocol debugging is on
*Apr 14 02:05:29.416: NHRP: Attempting to send packet through interface Tunnel0 via DEST dst 10.250.20.1
*Apr 14 02:05:29.416: NHRP: Encapsulation succeeded. Sending NHRP Control Packet NBMA Address: 192.168.1.1
*Apr 14 02:05:29.416: NHRP: Send Registration Request via Tunnel0 vrf 0, packet size: 105
*Apr 14 02:05:29.416:      src: 10.250.20.6, dst: 10.250.20.1
*Apr 14 02:05:29.416: NHRP: 133 bytes out Tunnel0
*Apr 14 02:05:29.416: NHRP: Resetting retransmit due to hold-timer for 10.250.20.1
*Apr 14 02:05:30.306: NHRP: Setting retrans delay to 2 for nhs dst 10.250.20.1

R6#sh ip nhrp brief
      Target          Via          NBMA          Mode    Intfc    Claimed
R6#
```

NHRP registration is failing; what might be the problem?

- A. invalid IP addressing
- B. fragmentation
- C. incorrect NHRP mapping
- D. incorrect NHRP authentication

**Correct Answer: D**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

### QUESTION 33

In GETVPN, which key is used to secure the control plane?

- A. Traffic Encryption Key (TEK)
- B. content encryption key (CEK)
- C. message encryption key (MEK)
- D. Key Encryption Key (KEK).

**Correct Answer: D**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 34**

Which statement is true comparing L2TPv3 to EoMPLS?

- A. L2TPv3 requires OSPF routing, whereas EoMPLS does not.
- B. EoMPLS requires BGP routing, whereas L2TPv3 does not.
- C. L2TPv3 carries L2 frames inside MPLS tagged packets, whereas EoMPLS carries L2 frames inside IPv4 packets.
- D. L2TPv3 carries L2 frames inside IPv4 packets, whereas EoMPLS carries L2 frames inside MPLS packets.

**Correct Answer: D**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 35**

Which statement is true about VPLS?

- A. MPLS is not required for VPLS to work.
- B. VPLS carries packets as Layer 3 multicast.
- C. VPLS has been introduced to address some shortcomings of OTV.
- D. VPLS requires an MPLS network.

**Correct Answer: D**

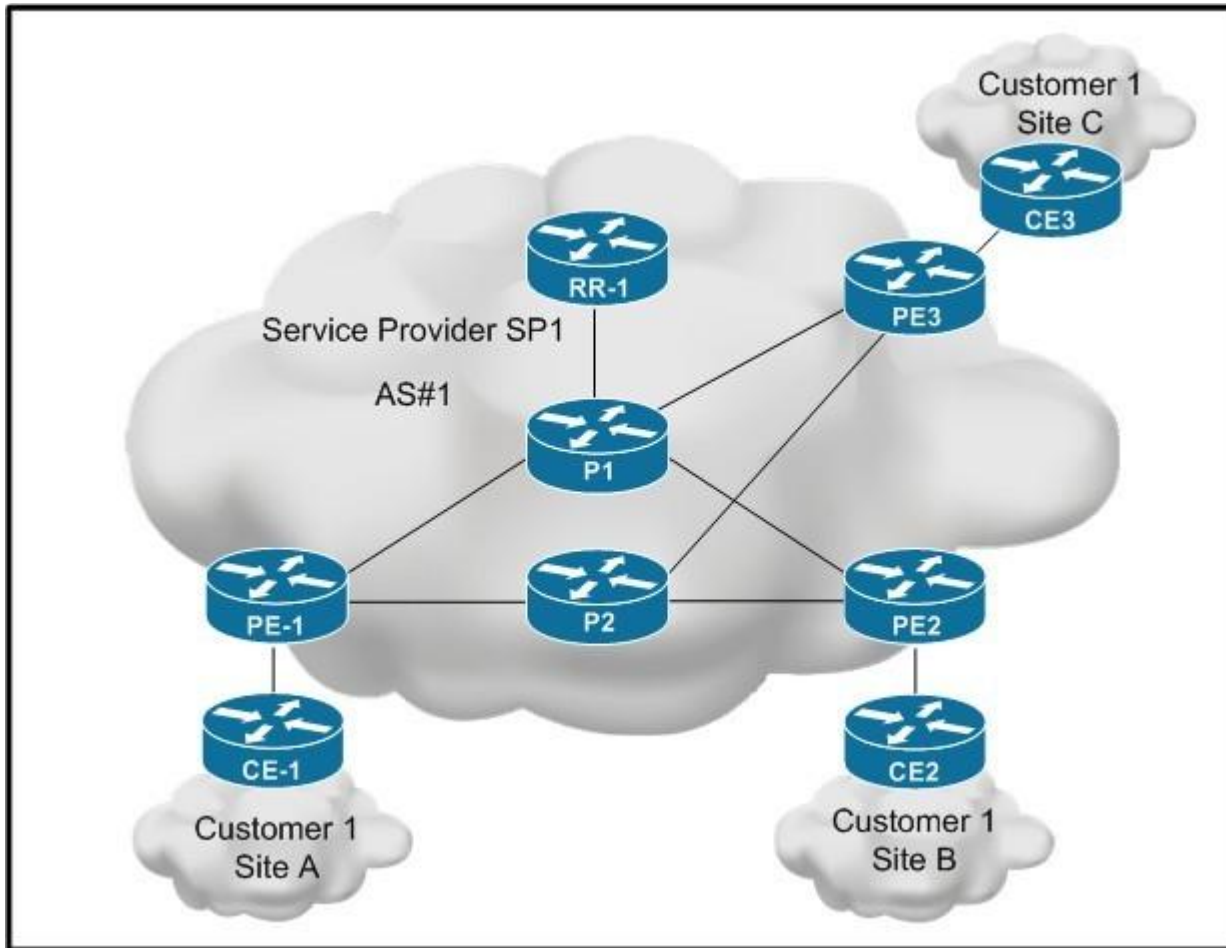
**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 36**

Refer to the exhibit.



Service provider SP 1 is running the MPLS-VPN service. The MPLS core network has MP-BGP configured with RR-1 as route reflector. What will be the effect on traffic between PE1 and PE2 if router P1 goes down?

- A. No effect, because all traffic between PE1 and PE2 will be rerouted through P2.
- B. No effect, because P1 was not the only P router in the forwarding path of traffic.
- C. No effect, because RR-1 will find an alternative path for MP-BGP sessions to PE-1 and PE-2.
- D. All traffic will be lost because RR-1 will lose the MP-BGP sessions to PE-1 and PE-2.

**Correct Answer: D**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 37**

According to RFC 4577, OSPF for BGP/MPLS IP VPNs, when must the down bit be set?

- A. when an OSPF route is distributed from the PE to the CE, for Type 3 LSAs
- B. when an OSPF route is distributed from the PE to the CE, for Type 5 LSAs
- C. when an OSPF route is distributed from the PE to the CE, for Type 3 and Type 5 LSAs
- D. when an OSPF route is distributed from the PE to the CE, for all types of LSAs

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 38**

Refer to the exhibit.

```
IPSEC(ipsec_process_proposal): proxy identities not supported
```

What is a possible reason for the IPSEC tunnel not establishing?

- A. The peer is unreachable.
- B. The transform sets do not match.
- C. The proxy IDs are invalid.
- D. The access lists do not match.

**Correct Answer: D**

**Section: (none)**

**Explanation**

**Explanation/Reference:**



**QUESTION 39**

What is a key advantage of Cisco GET VPN over DMVPN?

- A. Cisco GET VPN provides zero-touch deployment of IPSEC VPNs.
- B. Cisco GET VPN supports certificate authentication for tunnel establishment.
- C. Cisco GET VPN has a better anti-replay mechanism.
- D. Cisco GET VPN does not require a secondary overlay routing infrastructure.

**Correct Answer: D**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 40**

Refer to the exhibit.

```
interface Tunnel0
 ip address 172.16.1.2 255.255.255.0
 ip nhrp map 172.16.1.1 192.168.1.1
 ip nhrp network-id 1
 ip nhrp nhs 172.16.1.1
 tunnel source 192.168.2.2
 ip mtu 1416
```

What is wrong with the configuration of the tunnel interface of this DMVPN Phase II spoke router?

- A. The interface MTU is too high.
- B. The tunnel destination is missing.
- C. The NHRP NHS IP address is wrong.
- D. The tunnel mode is wrong.

**Correct Answer: D**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

## QUESTION 41

Which two statements are true about VPLS? (Choose two.)

- A. It can work over any transport that can forward IP packets.
- B. It provides integrated mechanisms to maintain First Hop Resiliency Protocols such as HSRP, VRRP, or GLBP.
- C. It includes automatic detection of multihoming.
- D. It relies on flooding to propagate MAC address reachability information.
- E. It can carry a single VLAN per VPLS instance.

**Correct Answer:** DE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

## QUESTION 42

Refer to the exhibit.

```
!  
ip vrf Cust123  
  rd 200:3000  
  export map Cust123mgmt  
  route-target export 200:3000  
!  
route-map Cust123mgmt permit 10  
  set extcommunity rt 200:9999  
!
```

What will be the extended community value of this route?

- A. RT:200:3000 RT:200:9999
- B. RT:200:9999 RT:200:3000
- C. RT:200:3000
- D. RT:200:9999

**Correct Answer:** D

**Section:** (none)

## Explanation

### Explanation/Reference:

actual answer.

### QUESTION 43

Refer to the exhibit.

```
CE1#trace
Protocol [ip]: ipv6
Target IPv6 address: 2001:db8:100:1::7
Source address: 2001:db8:100:1::5
Insert source routing header? [no]:
Numeric display? [no]:
Timeout in seconds [3]:
Probe count [3]:
Minimum Time to Live [1]:
Maximum Time to Live [30]:
Priority [0]:
Port Number [0]:
Type escape sequence to abort.
Tracing the route to 2001:10:100:1::7

 1 2001:db8:1:5::1 1 msec 1 msec 1 msec
 2 ::FFFF:10.1.2.4 [MPLS: Labels 17/23 Exp 0] 2 msec 2 msec 2 msec
 3 2001:db8:1:7::2 [AS 1] [MPLS: Label 23 Exp 0] 2 msec 1 msec 1 msec
 4 2001:db8:1:7::7 [AS 1] 2 msec 1 msec 2 msec
```

Which statement is true?

- A. There is an MPLS network that is running 6PE, and the ingress PE router has no mpls ip propagate-ttl.
- B. There is an MPLS network that is running 6VPE, and the ingress PE router has no mpls ip propagate-ttl.
- C. There is an MPLS network that is running 6PE or 6VPE, and the ingress PE router has mpls ip propagate-ttl.
- D. There is an MPLS network that is running 6PE, and the ingress PE router has mpls ip propagate-ttl.
- E. There is an MPLS network that is running 6VPE, and the ingress PE router has mpls ip propagate-ttl.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 44**

Refer to the exhibit.

```
vrf definition one
 rd 1:1
  route-target export 100:1
  route-target import 100:1
 !
 address-family ipv4
  route-target import 100:2
 exit-address-family
 !
 address-family ipv6
  route-target export 100:3
  route-target import 100:3
 exit-address-family
```

Which statement is true about a VPNv4 prefix that is present in the routing table of vrf one and is advertised from this router?

- A. The prefix is advertised only with route target 100:1.
- B. The prefix is advertised with route targets 100:1 and 100:2.
- C. The prefix is advertised only with route target 100:3.
- D. The prefix is not advertised.
- E. The prefix is advertised with route targets 100:1, 100:2, and 100:3.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 45**

Which is the way to enable the control word in an L2 VPN dynamic pseudowire connection on router R1?

- A. R1(config)# pseudowire-class cw-enable  
R1(config-pw-class)# encapsulation mpls  
R1(config-pw-class)# set control-word
- B. R1(config)# pseudowire-class cw-enable  
R1(config-pw-class)# encapsulation mpls  
R1(config-pw-class)# enable control-word
- C. R1(config)# pseudowire-class cw-enable  
R1(config-pw-class)# encapsulation mpls  
R1(config-pw-class)# default control-word
- D. R1(config)# pseudowire-class cw-enable  
R1(config-pw-class)# encapsulation mpls  
R1(config-pw-class)# control-word

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

actual answer.

**QUESTION 46**

What is the goal of Unicast Reverse Path Forwarding?

- A. to verify the reachability of the destination address in forwarded packets
- B. to help control network congestion
- C. to verify the reachability of the destination address in multicast packets
- D. to verify the reachability of the source address in forwarded packets

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 47**

Which three features are considered part of the IPv6 first-hop security suite? (Choose three.)

- A. DNS guard
- B. destination guard
- C. DHCP guard
- D. ICMP guard
- E. RA guard
- F. DoS guard

**Correct Answer:** BCE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

## QUESTION 48

Refer to the exhibit.

```
interface GigabitEthernet0
 ip vrf forwarding Mgmt-intf
 ip address 1.1.1.1 255.255.255.0

ip access-list extended telnet-acl
 permit tcp any 1.1.1.1 0.0.0.0 eq 23 log

line vty 0 4
 access-class telnet-acl in
 transport input telnet
```

Why is the router not accessible via Telnet on the GigabitEthernet0 management interface?

- A. The wrong port is being used in the telnet-acl access list.
- B. The subnet mask is incorrect in the telnet-acl access list.
- C. The log keyword needs to be removed from the telnet-acl access list..
- D. The access class needs to have the vrf-also keyword added.

**Correct Answer:** D

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 49**

Which three modes are valid PfR monitoring modes of operation? (Choose three.)

- A. route monitor mode (based on BGP route changes)
- B. RMON mode (based on RMONv1 and RMONv2 data)
- C. passive mode (based on NetFlow data)
- D. active mode (based on Cisco IP SLA probes)
- E. fast mode (based on Cisco IP SLA probes)
- F. passive mode (based on Cisco IP SLA probes)

**Correct Answer:** CDE

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 50**

Refer to the exhibit.

```

MC#sh pfr master border detail
Border      Status  UP/DOWN      AuthFail  Version
10.1.1.1    ACTIVE  UP           00:52:21    0    3.0
  Et0/0      INTERNAL UP
  Et0/1      EXTERNAL UP

External    Capacity  Max BW  BW Used  Load Status      Exit Id
Interface   (kbps)   (kbps)  (kbps)  (%)
-----
Et0/1       Tx       500     450     192     39 UP             2
            Rx       500     49      9
-----

Border      Status  UP/DOWN      AuthFail  Version
10.1.1.2    ACTIVE  UP           00:52:21    0    3.0
  Et0/0      INTERNAL UP
  Et0/1      EXTERNAL UP

External    Capacity  Max BW  BW Used  Load Status      Exit Id
Interface   (kbps)   (kbps)  (kbps)  (%)
-----
Et0/1       Tx       500     175     33 UP             1
            Rx       500      0      0

```

Which statement is true?

- A. The Cisco PfR state is UP; however, the external interface Et0/1 of border router 10.1.1.1 has exceeded the maximum available bandwidth threshold.
- B. The Cisco PfR state is UP; however, an issue is preventing the border router from establishing a TCP session to the master controller.
- C. The Cisco PfR state is UP and is able to monitor traffic flows; however, MD5 authentication has not been successful between the master controller and the border routers.
- D. The Cisco PfR State is UP; however, the receive capacity was not configured for inbound traffic.
- E. The Cisco PfR state is UP, and the link utilization out-of-policy threshold is set to 90 percent for traffic exiting the external links.

**Correct Answer: E**



**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 51**

In the DiffServ model, which class represents the highest priority with the highest drop probability?

- A. AF11
- B. AF13
- C. AF41
- D. AF43

**Correct Answer: D**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 52**

Refer to the exhibit.

```
Entry number: 1
Owner:
Tag:
Type of operation to perform: echo
Target address/Source address: 172.16.129.9/0.0.0.0
Type of Service parameter: 0x0
Request size (APR data portion): 28
Operation timeout (milliseconds): 5000
Verify data: No
Vrf Name:
Schedule:
    Operation frequency (seconds): 10
    Next Scheduled Start Time: Pending trigger
    Group Scheduled : FALSE
    Randomly Scheduled : FALSE
    Life (seconds): 3600
    Entry Ageout (seconds): never
    Recurring (Starting Everyday): FALSE
    Status of entry (SNMP RowStatus): notInService
Threshold (milliseconds): 5000
Distribution Statistics:
    Number of statistic hours kept: 2
    Number of statistic distribution buckets kept: 1
    Statistic distribution interval (milliseconds): 20
History Statistics:
    Number of history Lives kept: 0
    Number of history Buckets kept: 15
    History Filter Type: None
Enhanced History:
```

Which statement about this IP SLA is true?

- A. The SLA must also have a schedule configured before it will start.
- B. The TTL of the SLA packets is 10.
- C. The SLA has a timeout of 3.6 seconds.
- D. The SLA has a lifetime of 5 seconds.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 53**

Which three actions are required when configuring NAT-PT? (Choose three.)

- A. Enable NAT-PT globally.
- B. Specify an IPv4-to-IPv6 translation.
- C. Specify an IPv6-to-IPv4 translation.
- D. Specify a ::/96 prefix that will map to an IPv4 address.
- E. Specify a ::/48 prefix that will map to a MAC address.
- F. Specify a ::/32 prefix that will map to an IPv6 address.

**Correct Answer:** BCD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 54**

Refer to the exhibit.

```
#show interface FastEthernet0/0
FastEthernet0/0 is up, line protocol is up
  Hardware is PQII_PRO_UEC, address is 0024.14ac.0d3c (bia 001f.9e3c.a5c2)
  Internet address is 1.1.1.1/24
  MTU 1500 bytes, BW 100000 Kbit/sec, DLY 10 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Full Duplex, 100Mbps, media type is RJ45
  output flow-control is XON, input flow-control is XON
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input 00:00:00, output 00:00:00, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/1000/0/0 (size/max/drops/flushes); Total output drops: 10000
  Queueing strategy: Class-based queueing
  Output queue: 100/1000/10000 (size/max total/drops)
  30 second input rate 361000 bits/sec, 204 packets/sec
  30 second output rate 711000000 bits/sec, 223000 packets/sec
    1221583901 packets input, 3044421428 bytes, 0 no buffer
    Received 91124750 broadcasts (0 IP multicasts)
    0 runs, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 0 multicast, 0 pause input
    1090847722 packets output, 796667418 bytes, 0 underruns
    0 output errors, 0 collisions, 0 interface resets
    0 unknown protocol drops
    0 babbles, 0 late collision, 0 deferred
    0 lost carrier, 0 no carrier, 0 pause output
    0 output buffer failures, 0 output buffers swapped out
```

Which two are causes of output queue drops on FastEthernet0/0? (Choose two.)

- A. an oversubscribed input service policy on FastEthernet0/0
- B. a duplex mismatch on FastEthernet0/0
- C. a bad cable connected to FastEthernet0/0
- D. an oversubscribed output service policy on FastEthernet0/0
- E. The router trying to send more than 100 Mb/s out of FastEthernet0/0

**Correct Answer:** DE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 55**

Which two DHCP messages are always sent as broadcast? (Choose two.)

- A. DHCP OFFER
- B. DHCP DECLINE
- C. DHCP RELEASE
- D. DHCP REQUEST
- E. DHCP DISCOVER

**Correct Answer:** DE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 56**

Refer to the exhibit.

```
Router#show ip cache flow
[...]
```

SrcIf	SrcIPaddress	DstIf	DstIPaddress	Pr	SrcP	DstP	Pkts
Vl1	144.254.10.206	Local	10.48.77.208	06	C363	01BB	2

Which statement about the output is true?

- A. The flow is an HTTPS connection to the router, which is initiated by 144.254.10.206.
- B. The flow is an HTTP connection to the router, which is initiated by 144.254.10.206.
- C. The flow is an HTTPS connection that is initiated by the router and that goes to 144.254.10.206.
- D. The flow is an HTTP connection that is initiated by the router and that goes to 144.254.10.206.

**Correct Answer:** A

Section: (none)

Explanation

Explanation/Reference:

#### QUESTION 57

Refer to the exhibit.

Cos-dscp map:								
cos:	0	1	2	3	4	5	6	7
-----								
dscp:	0	8	16	48	36	38	42	32

Which statement about this COS-DSCP mapping is true?

- A. COS 3 is mapped to the expedited forwarding DSCP.
- B. COS 16 is mapped to DSCP 2.
- C. The default COS is mapped to DSCP 32.
- D. This mapping is the default COS-DSCP mapping on Cisco switches.

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

#### QUESTION 58

Which three statements about implementing a NAT application layer gateway in a network are true? (Choose three.)

- A. It allows client applications to use dynamic ports to communicate with a server regardless of whether NAT is being used.
- B. It maintains granular security over application-specific data.
- C. It allows synchronization between multiple streams of data between two hosts.
- D. Application layer gateway is used only in VoIP/SIP deployments.
- E. Client applications require additional configuration to use an application layer gateway.
- F. An application layer gateway inspects only the first 64 bytes of a packet before forwarding it through the network.

**Correct Answer:** ABC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 59**

Refer to the exhibit.

```
RouterA(config)#ip options drop
```

At which location will the benefit of this configuration be observed?

- A. on Router A and its upstream routers
- B. on Router A and its downstream routers
- C. on Router A only
- D. on Router A and all of its ARP neighbors

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 60**

Where is multicast traffic sent, when it is originated from a spoke site in a DMVPN phase 2 cloud?

- A. spoke-spoke
- B. nowhere, because multicast does not work over DMVPN
- C. spoke-spoke and spoke-hub
- D. spoke-hub

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 61**

Refer to the exhibit.

```
Router-A# show ip nhrp
10.0.2.1/32 via 10.0.2.1, Tunnel0 created 00:00:21, expire 00:05:38
  Type: dynamic, Flags: authoritative unique registered used
NBMA address: 144.254.21.2
(Claimed NBMA address: 172.16.2.1)

Router-B# show ip nhrp
10.0.1.1/32 via 10.0.1.1, Tunnel0 created 00:00:13, expire 00:05:48
  Type: dynamic, Flags: authoritative unique registered used
NBMA address: 72.34.1.2
```

A spoke site that is connected to Router-A cannot reach a spoke site that is connected to Router- B, but both spoke sites can reach the hub. What is the likely cause of this issue?

- A. There is a router doing PAT at site B.
- B. There is a router doing PAT at site A.
- C. NHRP is learning the IP address of the remote spoke site as a /32 address rather than a /24 address.
- D. There is a routing issue, as NHRP registration is working.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 62**

Which mechanism can be used on Layer 2 switches so that only multicast packets with downstream receivers are sent on the multicast router-connected ports?

- A. IGMP snooping
- B. Router Guard
- C. PIM snooping



D. multicast filtering

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 63**

What is the cause of ignores and overruns on an interface, when the overall traffic rate of the interface is low?

- A. a hardware failure of the interface
- B. a software bug
- C. a bad cable
- D. microbursts of traffic

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 64**

With which ISs will an ISIS Level 1 IS exchange routing information?

- A. Level 1 ISs
- B. Level 1 ISs in the same area
- C. Level 1 and Level 2 ISs
- D. Level 2 ISs

**Correct Answer:** B

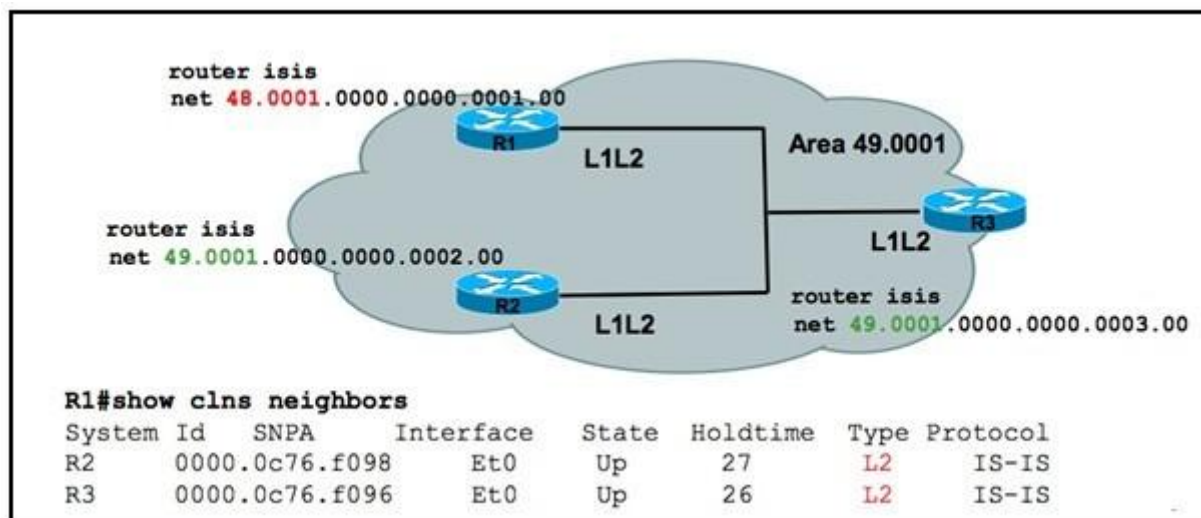
**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 65**

Refer to the exhibit.



Why is the neighbor relationship between R1 & R2 and R1 & R3 an L2-type neighborship?

- A. because the area ID on R1 is different as compared to the area ID of R2 and R3
- B. because the circuit type on those three routers is L1/L2
- C. because the network type between R1, R2, and R3 is point-to-point
- D. because the hello interval is not the same on those three routers

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 66

Which three statements about the designated router election in IS-IS are true? (Choose three.)

- A. If the IS-IS DR fails, a new DR is elected.
- B. The IS-IS DR will preempt. If a new router with better priority is added, it just becomes active in the network.
- C. If there is a tie in DR priority, the router with a higher IP address wins.
- D. If there is a tie in DR priority, the router with a higher MAC address wins.

- E. If the DR fails, the BDR is promoted as the DR.
- F. The DR is optional in a point-to-point network.

**Correct Answer:** ABD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

## QUESTION 67

Which three elements compose a network entity title? (Choose three.)

- A. area ID
- B. domain ID
- C. system ID
- D. NSAP selector
- E. MAC address
- F. IP address

**Correct Answer:** ACD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

## QUESTION 68

Which statement about shaped round robin queuing is true?

- A. Queues with higher configured weights are serviced first.
- B. The device waits a period of time, set by the configured weight, before servicing the next queue.
- C. The device services a single queue completely before moving on to the next queue.
- D. Shaped mode is available on both the ingress and egress queues.

**Correct Answer:** A

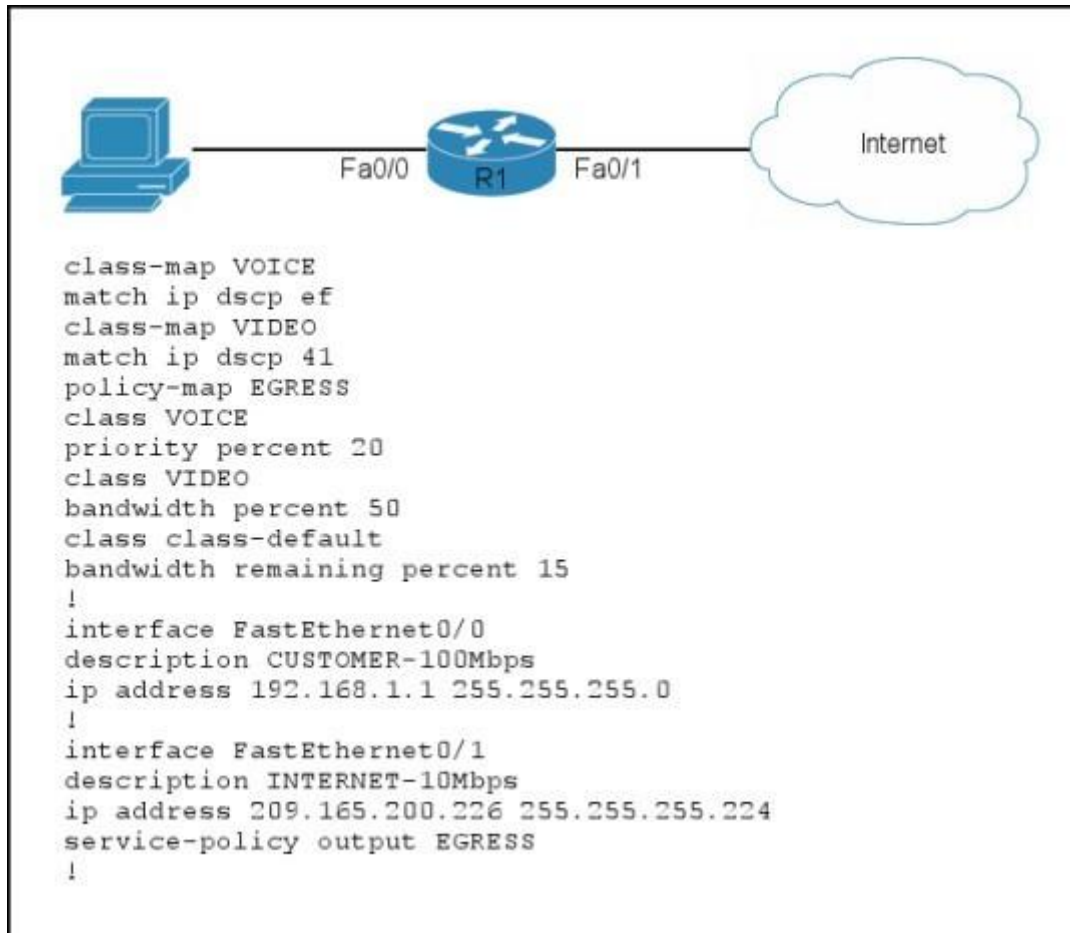
**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 69

Refer to the exhibit.



You discover that only 1.5 Mb/s of web traffic can pass during times of congestion on the given network.

Which two options are possible reasons for this limitation? (Choose two.)

- A. The web traffic class has too little bandwidth reservation.
- B. Video traffic is using too much bandwidth.

- C. The service-policy is on the wrong interface.
- D. The service-policy is going in the wrong direction.
- E. The NAT policy is adding too much overhead.

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 70

Refer to the exhibit.

```
San_Jose#show debug
Load for five secs: 0%/0%; one minute: 0%; five minutes: 0%
Time source is NTP, 09:10:59.124 PST Thu Aug 22 2013
Condition 1: ip 172.16.129.4 (0 flags triggered)
```

Which statement about the debug behavior of the device is true?

- A. The device debugs all IP events for 172.16.129.4.
- B. The device sends all debugging information for 172.16.129.4.
- C. The device sends only NTP debugging information to 172.16.129.4.
- D. The device sends debugging information every five seconds.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 71

Refer to the exhibit.

```
snmp-server community public RO 2
snmp-server trap-source Loopback0
snmp-server chassis-id HONGKONG
snmp-server enable traps snmp linkdown linkup coldstart
snmp-server enable traps ospf state-change
snmp-server enable traps bgp state-changes
snmp-server enable traps pim neighbor-change
snmp-server enable traps cpu threshold
snmp-server enable traps mpls ldp
snmp-server host 192.168.252.254 version 2c public
```

Which statement about this device configuration is true?

- A. The NMS needs a specific route configured to enable it to reach the Loopback0 interface of the device.
- B. The ifindex of the device could be different when the device is reloaded.
- C. The device will allow anyone to poll it via the public community.
- D. The device configuration requires the AuthNoPriv security level.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 72

Which three steps are necessary to enable SSH? (Choose three.)

- A. generating an RSA or DSA cryptographic key
- B. configuring the version of SSH
- C. configuring a domain name
- D. configuring VTY lines for use with SSH
- E. configuring the port for SSH to listen for connections
- F. generating an AES or SHA cryptographic key

**Correct Answer:** ACD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 73**

Which two features does the show ipv6 snooping features command show information about? (Choose two.)

- A. RA guard
- B. DHCP guard
- C. ND inspection
- D. source guard

**Correct Answer:** AC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 74**

Refer to the exhibit.

```
R1#sh policy-map control-plane
Service-policy input: CoPP-POLICY

Class-map: CoPP-CLASS (match-all)
  8 packets, 480 bytes
  5 minute offered rate 0 bps, drop rate 0 bps
  Match: access-group name R9-T0-R2
  police:
    rate 10 pps, burst 0 packets
    conformed 0 packets; actions:
      drop
    exceeded 8 packets; actions:
      drop
    conformed 0 pps, exceed 0 pps

Class-map: class-default (match-any)
  929 packets, 86395 bytes
  5 minute offered rate 0 bps, drop rate 0 bps
  Match: any

R1#sh access-lists
Extended IP access list R9-T0-R2
  10 permit tcp host 10.1.1.9 host 10.10.10.1 eq telnet (4 matches)
  20 deny tcp any any eq telnet (9 matches)
```

Which two statements about how the configuration processes Telnet traffic are true? (Choose two.)

- A. Telnet traffic from 10.1.1.9 to 10.10.10.1 is dropped.
- B. All Telnet traffic is dropped.
- C. Telnet traffic from 10.10.10.1 to 10.1.1.9 is permitted.
- D. Telnet traffic from 10.1.1.9 to 10.10.10.1 is permitted.
- E. Telnet traffic is permitted to all IP addresses.

**Correct Answer:** AC

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 75**

Which three statements are functions that are performed by IKE phase 1? (Choose three.)

- A. It builds a secure tunnel to negotiate IKE phase 1 parameters.
- B. It establishes IPsec security associations.
- C. It authenticates the identities of the IPsec peers.
- D. It protects the IKE exchange by negotiating a matching IKE SA policy.
- E. It protects the identities of IPsec peers.
- F. It negotiates IPsec SA parameters.

**Correct Answer:** CDE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 76**

The session status for an IPsec tunnel with IPv6-in-IPv4 is down with the error message IKE message from 10.10.1.1 failed its sanity check or is malformed.

Which statement describes a possible cause of this error?

- A. There is a verification failure on the IPsec packet.
- B. The SA has expired or has been cleared.
- C. The pre-shared keys on the peers are mismatched.
- D. There is a failure due to a transform set mismatch.
- E. An incorrect packet was sent by an IPsec peer.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 77**

Which three statements describe the characteristics of a VPLS architecture? (Choose three.)

- A. It forwards Ethernet frames.
- B. It maps MAC address destinations to IP next hops.
- C. It supports MAC address aging.
- D. It replicates broadcast and multicast frames to multiple ports.
- E. It conveys MAC address reachability information in a separate control protocol.
- F. It can suppress the flooding of traffic.

**Correct Answer:** ACD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 78**

A GRE tunnel is down with the error message %TUN-5-RECURDOWN: Tunnel0 temporarily disabled due to recursive routing error. Which two options describe possible causes of the error? (Choose two.)

- A. Incorrect destination IP addresses are configured on the tunnel.
- B. There is link flapping on the tunnel.
- C. There is instability in the network due to route flapping.
- D. The tunnel mode and tunnel IP address are misconfigured.
- E. The tunnel destination is being routed out of the tunnel interface.

**Correct Answer:** CE

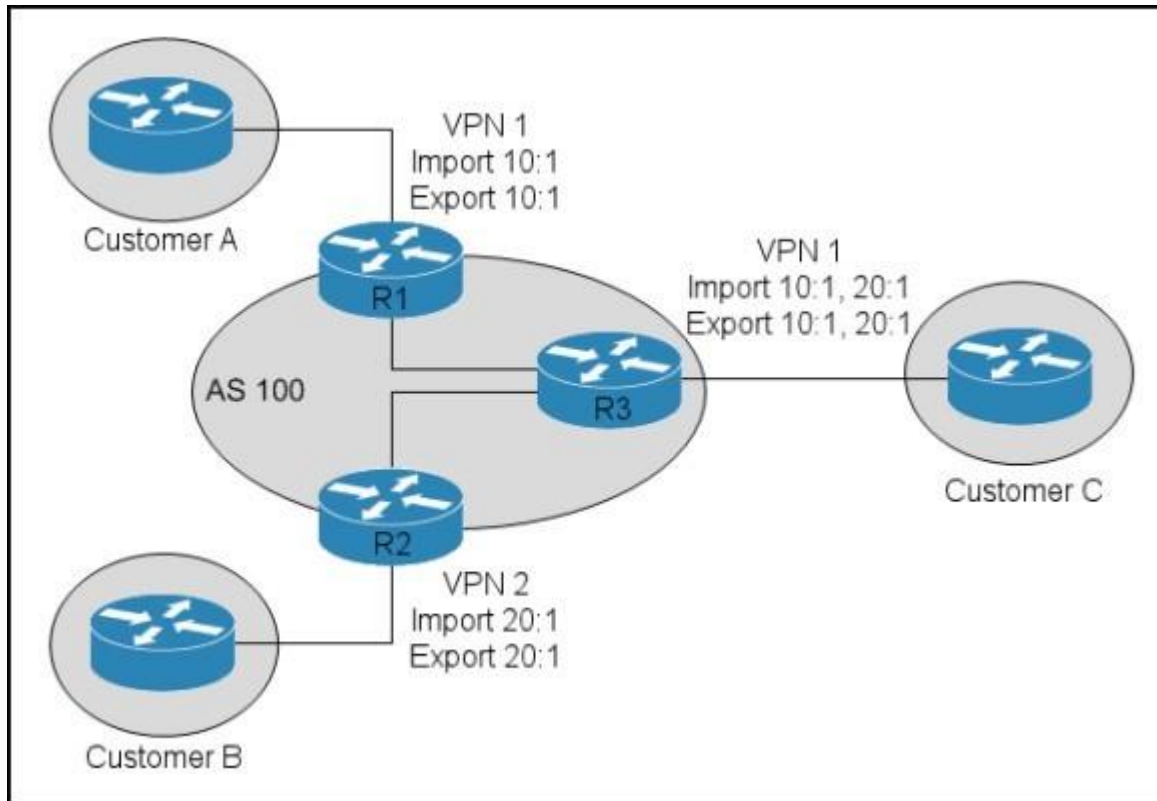
**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 79**

Refer to the exhibit.



Which two statements about the VPN solution are true? (Choose two.)

- A. Customer A and customer B will exchange routes with each other.
- B. R3 will advertise routes received from R1 to R2.
- C. Customer C will communicate with customer A and B.
- D. Communication between sites in VPN1 and VPN2 will be blocked.
- E. R1 and R2 will receive VPN routes advertised by R3.

**Correct Answer:** CE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 80**

Which three statements about IS-IS are true? (Choose three.)

- A. IS-IS can be used only in the service provider network.
- B. IS-IS can be used to route both IP and CLNP.
- C. IS-IS has three different levels of authentication: interface level, process level, and domain level.
- D. IS-IS is an IETF standard.
- E. IS-IS has the capability to provide address summarization between areas.

**Correct Answer:** BCE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 81**

Which mechanism does Cisco recommend for CE router interfaces that face the service provider for an EVPL circuit with multiple EVCs and multiple traffic classes?

- A. HCBWFQ
- B. LLQ
- C. tail drop
- D. WRED

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 82**

Which Carrier Ethernet service supports the multiplexing of multiple point-to-point EVCs across as a single UNI?

- A. EPL
- B. EVPL
- C. EMS
- D. ERMS

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 83**

Which technology can be used to prevent flooding of IPv6 multicast traffic on a switch?

- A. IGMP snooping
- B. IGMP filtering
- C. MLD snooping
- D. MLD filtering

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 84**

Refer to the exhibit.

```
event manager applet LARGECONFIG
  event cli pattern "show running-config" sync yes
  action 1.0 puts "Warning! This device has a VERY LARGE configuration
    and may take some time to process"
  action 1.1 puts newline "Do you wish to continue [Y/N]"
  action 1.2 gets response
  action 1.3 string toupper "$response"
  action 1.4 string match "$_string_result" "Y"
  action 2.0 if $_string_result eq 1
  action 2.1 cli command "enable"
  action 2.2 cli command "show running-config"
  action 2.3 puts $_cli_result
  action 2.4 cli command "exit"
  action 2.9 end
```

Which two statements about the EEM applet configuration are true? (Choose two.)

- A. The EEM applet runs before the CLI command is executed.
- B. The EEM applet runs after the CLI command is executed.
- C. The EEM applet requires a case-insensitive response.
- D. The running configuration is displayed only if the letter Y is entered at the CLI.

**Correct Answer:** AC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 85**

Which variable in an EEM applet is set when you use the sync yes option?

- A. \$\_cli\_result
- B. \$\_result
- C. \$\_string\_result
- D. \$\_exit\_status

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 86**

Which two options are advantages of NetFlow version 9 over NetFlow version 5? (Choose two.)

- A. NetFlow version 9 adds support for IPv6 headers.
- B. NetFlow version 9 adds support for MPLS labels.
- C. NetFlow version 9 adds support for the Type of Service field.
- D. NetFlow version 9 adds support for ICMP types and codes.

**Correct Answer:** AB

**Section:** (none)

## Explanation

## Explanation/Reference:

### QUESTION 87

Refer to the exhibit.

```
Flow export v5 is enabled for main cache
Export source and destination details :
  VRF ID : Default
    Destination(1) 10.5.206.250 (9995)
Version 5 flow records
Cache for prefix aggregation:
  Flow export is disabled
53 flows exported in 18 udp datagrams
0 flows failed due to lack of export packet
0 export packets were sent up to process level
0 export packets were dropped due to no fib
0 export packets were dropped due to adjacency issues
0 export packets were dropped due to fragmentation failures
0 export packets were dropped due to encapsulation fixup failures
0 export packets were dropped enqueueing for the RP
0 export packets were dropped due to IPC rate limiting
0 export packets were dropped due to Card not being able to export
```

Which two statements about the output are true? (Choose two.)

- A. It indicates that prefix aggregation cache export is enabled on the device.
- B. It was obtained with the show ip cache flow command.
- C. It indicates that the device is using NetFlow version 5.
- D. It indicates that the flows are being sent to a destination using an RFC1918 address.

**Correct Answer:** CD

**Section:** (none)

## Explanation

## Explanation/Reference:

**QUESTION 88**

Which statement describes the function of the tracking object created by the track 10 ip route 192.168.99.0/24 reachability command?

- A. It tracks the reachability of route 192.168.99.0/24.
- B. It tracks the line protocol status of the interface on which route 192.168.99.0/24 is received.
- C. It tracks exactly 10 occurrences of route 192.168.99.0/24.
- D. It tracks the summary route 192.168.99.0/24 and all routes contained within.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 89**

Refer to the exhibit.



```
Switch#show interfaces fastEthernet0/1 switchport
Name: Fa0/1
Switchport: Enabled
Administrative Mode: trunk
Operational Mode: trunk
Administrative Trunking Encapsulation: dot1q
Operational Trunking Encapsulation: dot1q
Negotiation of Trunking: On
Access Mode VLAN: 1 (default)
Trunking Native Mode VLAN: 3 (VLAN0003)
Administrative Native VLAN tagging: enabled
Voice VLAN: none
Administrative private-vlan host-association: none
Administrative private-vlan mapping: none
Administrative private-vlan trunk native VLAN: none
Administrative private-vlan trunk Native VLAN tagging: enabled
Administrative private-vlan trunk encapsulation: dot1q
Administrative private-vlan trunk normal VLANs: none
Administrative private-vlan trunk private VLANs: none
Operational private-vlan: none
Trunking VLANs Enabled: 4-100
Pruning VLANs Enabled: 100-200
Capture Mode Disabled
Capture VLANs Allowed: ALL

Protected: false
Unknown unicast blocked: disabled
Unknown multicast blocked: disabled
Appliance trust: none
```

Which VLANs are permitted to send frames out port FastEthernet0/1?

- A. 100 - 200
- B. 4 - 100
- C. 1 and 4 - 100
- D. 3 and 4 - 100

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 90**

Which option is the default maximum age of the MAC address table?

- A. 300 seconds
- B. 500 seconds
- C. 1200 seconds
- D. 3600 seconds

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 91**

Which statement about MSS is true?

- A. It is negotiated between sender and receiver.
- B. It is sent in all TCP packets.
- C. It is 20 bytes lower than MTU by default.
- D. It is sent in SYN packets.
- E. It is 28 bytes lower than MTU by default.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 92**

Which two methods change the IP MTU value for an interface? (Choose two.)

- A. Configure the default MTU.
- B. Configure the IP system MTU.

- C. Configure the interface MTU.
- D. Configure the interface IP MTU.

**Correct Answer:** CD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 93**

Which implementation can cause packet loss when the network includes asymmetric routing paths?

- A. the use of ECMP routing
- B. the use of penultimate hop popping
- C. the use of Unicast RPF
- D. disabling Cisco Express Forwarding

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 94**

Which two mechanisms can be used to eliminate Cisco Express Forwarding polarization? (Choose two.)

- A. alternating cost links
- B. the unique-ID/universal-ID algorithm
- C. Cisco Express Forwarding antipolarization
- D. different hashing inputs at each layer of the network

**Correct Answer:** BD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 95**

Which two mechanisms provide Cisco IOS XE Software with control plane and data plane separation? (Choose two.)

- A. Forwarding and Feature Manager
- B. Forwarding Engine Driver
- C. Forwarding Performance Management
- D. Forwarding Information Base

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 96**

Which group of neighbors can be configured as a BGP peer group?

- A. a group of iBGP neighbors that have the same outbound route policies
- B. a group of iBGP and eBGP neighbors that have the same inbound distribute-list
- C. a group of eBGP neighbors in the same autonomous system that have different outbound route policies
- D. a group of iBGP neighbors that have different outbound route policies

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 97**

Refer to the exhibit.

```
BGP(0): 10.1.3.4 rcvd UPDATE w/ attr: nexthop 10.1.3.4, origin i,  
metric 0, merged path 4, AS_PATH  
BGP(0): 10.1.3.4 rcvd 10.100.1.1/32...duplicate ignored
```

Notice that debug ip bgp updates has been enabled. What can you conclude from the debug output?

- A. This is the result of the clear ip bgp 10.1.3.4 in command.
- B. This is the result of the clear ip bgp 10.1.3.4 out command.
- C. BGP neighbor 10.1.3.4 performed a graceful restart.
- D. BGP neighbor 10.1.3.4 established a new BGP session.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

## QUESTION 98

In the DiffServ model, which class represents the lowest priority with the lowest drop probability?

- A. AF11
- B. AF13
- C. AF41
- D. AF43

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

## QUESTION 99

Which set of commands conditionally advertises 172.16.0.0/24 as long as 10.10.10.10/32 is in the routing table?

A.

```
neighbor x.x.x.x advertise-map ADV exist-map EXT
route-map ADV
  match IP address prefix-list ADV
!
route-map EXT
  match IP address prefix-list EXT
!
ip prefix-list EXT permit 172.16.0.0/24
!
ip prefix-list ADV permit 10.10.10.10/32
```

B.

```
neighbor x.x.x.x advertise-map ADV exist-map EXT
route-map ADV
  match IP address prefix-list ADV
!
route-map EXT
  match IP address prefix-list EXT
!
ip prefix-list ADV permit 172.16.0.0/24
!
ip prefix-list EXT permit 10.10.10.10/32
```

C.

```
neighbor x.x.x.x advertise-map ADV
route-map ADV
  match IP address prefix-list ADV
  match IP address prefix-list EXT
!
ip prefix-list ADV permit 172.16.0.0/24
!
ip prefix-list EXT permit 10.10.10.10/32
```

D.

```
neighbor x.x.x.x exist-map EXT
route-map EXT
  match IP address prefix-list ADV
  match IP address prefix-list EXT
!
ip prefix-list ADV permit 172.16.0.0/24
!
ip prefix-list EXT permit 10.10.10.10/32
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

**Correct Answer:** B

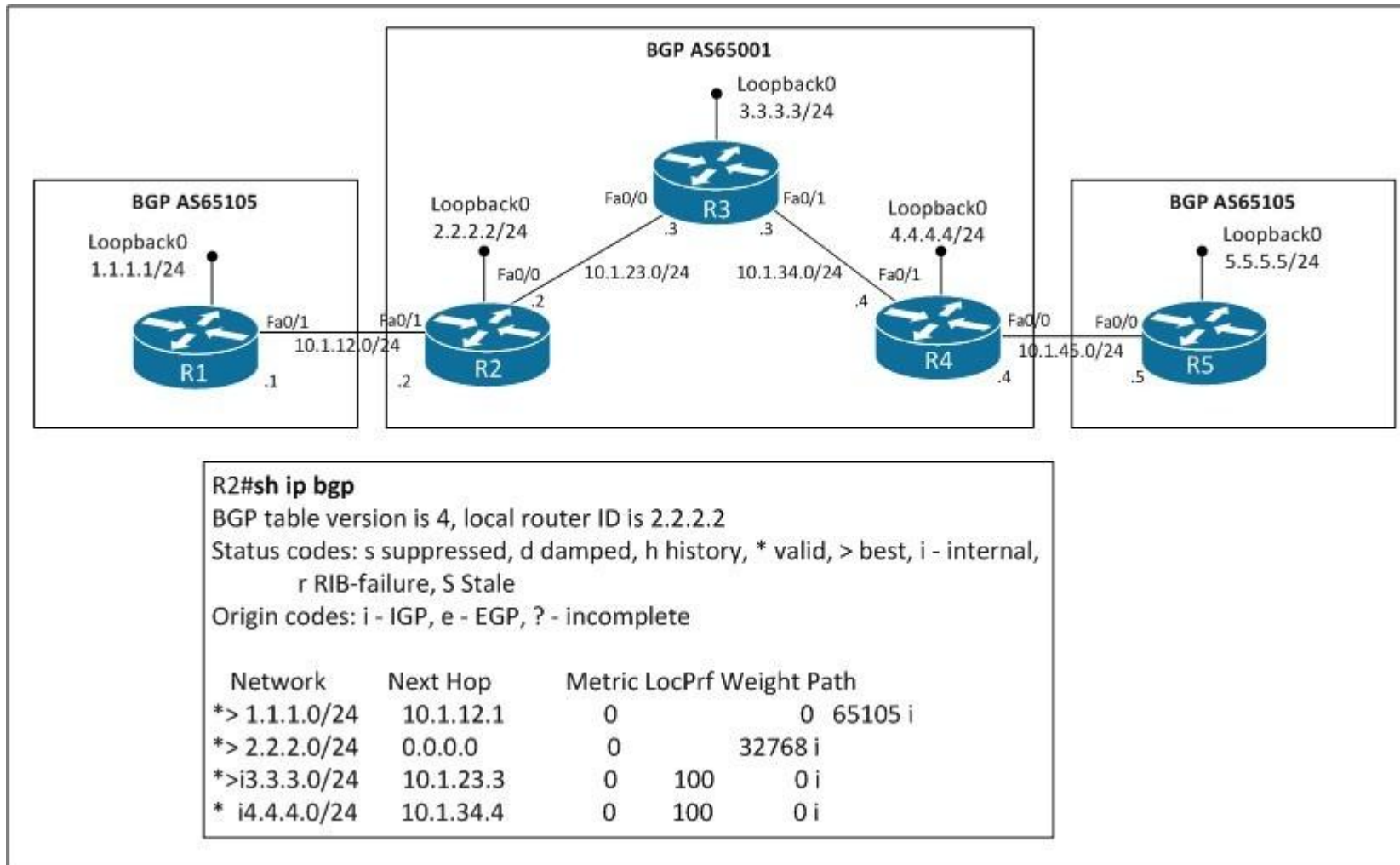
**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 100**

Refer to the exhibit.



Why is R2 unable to ping the loopback interface of R4?

- A. The local preference is too high.
- B. The weight is too low.
- C. The next hop is not reachable from R2.
- D. The route originated from within the same AS.



**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 101**

Refer to the exhibit.

```
Switch# show spanning-tree vlan 1 detail

VLAN0001 is executing the ieee compatible Spanning Tree protocol
  Bridge Identifier has priority 32768, sysid 1, address 0007.0e8f.04c0
  Configured hello time 2, max age 20, forward delay 15
  Current root has priority 8192, address 0007.4f1c.e847
  Root port is 65 (GigabitEthernet2/1), cost of root path is 119
  Topology change flag not set, detected flag not set
  Number of topology changes 1 last change occurred 00:00:35 ago
    from GigabitEthernet1/1
  Times: hold 1, topology change 35, notification 2
    hello 2, max age 20, forward delay 15
  Timers: hello 0, topology change 0, notification 0, aging 300
```

Which two statements about the output are true? (Choose two.)

- A. 802.1D spanning tree is being used.
- B. Setting the priority of this switch to 0 for VLAN 1 would cause it to become the new root.
- C. The hello, max-age, and forward delay timers are not set to their default values.
- D. Spanning-tree PortFast is enabled on GigabitEthernet1/1.

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 102**

Which statement about the BGP originator ID is true?

- A. The route reflector always sets the originator ID to its own router ID.
- B. The route reflector sets the originator ID to the router ID of the route reflector client that injects the route into the AS.
- C. The route reflector client that injects the route into the AS sets the originator ID to its own router ID.
- D. The originator ID is set to match the cluster ID.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 103**

Refer to the exhibit.

```
R5#show ip bgp
BGP table version is 24, local router ID is 10.100.1.5
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
               r RIB-failure, S Stale
Origin codes: i - IGP, e - EGP, ? - incomplete
   Network        Next Hop           Metric LocPrf Weight Path
*> 10.100.1.1/32   10.1.1.1             0      100      0 65001 23456 2 i
r> 10.100.1.2/32   10.1.2.1             0      100      0 65001 23456 i
```

Which two statements are true? (Choose two.)

- A. This router is not 4-byte autonomous system aware.
- B. This router is 4-byte autonomous system aware.
- C. The prefix 10.100.1.1/32 was learned through an autonomous system number with a length of 4 bytes, and this router is 4-byte autonomous system aware.
- D. The prefix 10.100.1.1/32 was learned through an autonomous system number with a length of 4 bytes, and this router is not 4-byte autonomous system aware.
- E. The prefix 10.100.1.1/32 was originated from a 4-byte autonomous system.

**Correct Answer:** AD

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 104**

Refer to the exhibit.

```
R2# show bgp ipv4 unicast summary

BGP router identifier 10.100.1.2, local AS number 2
BGP table version is 1, main routing table version 1

Neighbor          V    AS MsgRcvd MsgSent   TblVer  InQ  OutQ  Up/Down  State/PfxRcd
10.100.1.1        4      1      0      0       1    0     0 6d20h  Idle (PfxCt)
```

Which command is configured on this router?

- A. bgp update-delay 60
- B. neighbor 10.100.1.1 maximum-prefix 200
- C. neighbor 10.100.1.1 maximum-path 2
- D. neighbor 10.100.1.1 ebgp-multihop 2

**Correct Answer: B**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 105**

What is the purpose of Route Target Constraint?

- A. to avoid using route reflectors in MPLS VPN networks
- B. to avoid using multiple route distinguishers per VPN in MPLS VPN networks

- C. to be able to implement VPLS with BGP signaling
- D. to avoid sending unnecessary BGP VPNv4 or VPNv6 updates to the PE router
- E. to avoid BGP having to perform route refreshes

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 106

Refer to the exhibit.

```
R3#sho ip bgp 172.16.1.0
BGP routing table entry for 172.16.1.0/24, version 5
Paths: (1 available, no best path)
Not advertised to any peer
Refresh Epoch 1
1
192.168.1.1 (inaccessible) from 192.168.2.1 (192.168.3.1)
  Origin IGP, metric 0, localpref 100, valid, internal
  rx pathid: 0x0, tx pathid: 0
```

Why is network 172.16.1.0/24 not installed in the routing table?

- A. There is no ARP entry for 192.168.1.1.
- B. The router cannot ping 192.168.1.1.
- C. The neighbor 192.168.1.1 just timed out and BGP will flush this prefix the next time that the BGP scanner runs.
- D. There is no route for 192.168.1.1 in the routing table.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 107

Which two statements about port ACLs are true? (Choose two.)

- A. Port ACLs are supported on physical interfaces and are configured on a Layer 2 interface on a switch.
- B. Port ACLs support both outbound and inbound traffic filtering.
- C. When it is applied to trunk ports, the port ACL filters only native VLAN traffic.
- D. When it is applied to a port with voice VLAN, the port ACL filters both voice and data VLAN traffic.

**Correct Answer:** AD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

## QUESTION 108

Which two statements about private VLANs are true? (Choose two.)

- A. Only one isolated VLAN can be mapped to a primary VLAN.
- B. Only one community VLAN can be mapped to a primary VLAN.
- C. Multiple isolated VLANs can be mapped to a primary VLAN.
- D. Multiple community VLANs can be mapped to a primary VLAN.

**Correct Answer:** AD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

## QUESTION 109

Refer to the exhibit.

```
Routing Process "ospf 1" with ID 1.1.1.1
Start time: 1w5d, Time elapsed: 4d11h
Supports only single TOS(TOS0) routes
Supports opaque LSA
Supports Link-local Signaling (LLS)
Supports area transit capability
Router is not originating router-LSAs with maximum metric
Initial SPF schedule delay 5000 msec
Minimum hold time between two consecutive SPF 10000 msec
Maximum wait time between two consecutive SPF 10000 msec
Incremental-SPF disabled
Minimum LSA interval 5 sec
Minimum LSA arrival 1000 msec
LSA group pacing timer 240 sec
Interface flood pacing timer 33 msec
Retransmission pacing timer 66 msec
Number of external LSA 0. Checksum Sum 0x000000
Number of opaque AS LSA 0. Checksum Sum 0x000000
Number of DCbitless external and opaque AS LSA 0
Number of DoNotAge external and opaque AS LSA 0
Number of areas in this router is 1. 1 normal 0 stub 0 nssa
Number of areas transit capable is 0
External flood list length 0
IETF NSF helper support enabled
Cisco NSF helper support enabled
Reference bandwidth unit is 100 mbps
  Area BACKBONE(0)
    Number of interfaces in this area is 2 (1 loopback)
    Area has no authentication
    SPF algorithm last executed 00:00:11.176 ago
    SPF algorithm executed 7 times
    Area ranges are
    Number of LSA 3. Checksum Sum 0x0140E9
    Number of opaque link LSA 0. Checksum Sum 0x000000
    Number of DCbitless LSA 0
    Number of indication LSA 0
    Number of DoNotAge LSA 0
    Flood list length 0
```

Which two statements are true? (Choose two.)

- A. This is the output of the show ip ospf command.
- B. This is the output of the show ip protocols command.
- C. This router is an ABR.
- D. This router is an ASBR.
- E. Authentication is not configured for the area.

**Correct Answer:** AE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 110**

Consider a network that mixes link bandwidths from 128 kb/s to 40 Gb/s. Which value should be set for the OSPF reference bandwidth?

- A. Set a value of 128.
- B. Set a value of 40000.
- C. Set a manual OSPF cost on each interface.
- D. Use the default value.
- E. Set a value of 40000000.
- F. Set a value of 65535.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 111**

Which statement about a type 4 LSA in OSPF is true?

- A. It is an LSA that is originated by an ABR, that is flooded throughout the AS, and that describes a route to the ASBR.
- B. It is an LSA that is originated by an ASBR, that is flooded throughout the AS, and that describes a route to the ASBR.
- C. It is an LSA that is originated by an ASBR, that is flooded throughout the area, and that describes a route to the ASBR.
- D. It is an LSA that is originated by an ABR, that is flooded throughout the AS, and that describes a route to the ABR.
- E. It is an LSA that is originated by an ABR, that is flooded throughout the area, and that describes a route to the ASBR.

**Correct Answer:** E

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 112**

Refer to the exhibit.



```

R1#show ip route 1.1.1.1
% Network not in table

R1#sho ip ospf database router 1.1.1.1

OSPF Router with ID (10.10.10.10) (Process ID 1)

Router Link States (Area 0)

  Adv Router is not-reachable
  LS age: 6
  Options: (No TOS-capability, DC)
  LS Type: Router Links
  Link State ID: 1.1.1.1
  Advertising Router: 1.1.1.1
  LS Seq Number: 80000003
  Checksum: 0x6889
  Length: 48
  Number of Links: 2

Link connected to: a Stub Network
  (Link ID) Network/subnet number: 1.1.1.1
  (Link Data) Network Mask: 255.255.255.255
    TOS 0 Metrics: 1

Link connected to: a Transit Network
  (Link ID) Designated Router address: 10.1.1.0
  (Link Data) Router Interface address: 10.1.1.1
    TOS 0 Metrics: 10

R1#sho ip ospf neighbor

Neighbor ID      Pri   State           Dead Time   Address      Interface
1.1.1.1          0     FULL/ -         00:00:36    10.1.1.1     Ethernet0/0

```

Why is the prefix 1.1.1.1/32 not present in the routing table of R1?

- A. There is a duplicate router ID.
- B. There is a subnet mask mismatch on Ethernet0/0.
- C. The router LSA has an invalid checksum.
- D. There is an OSPF network type mismatch that causes the advertising router to be unreachable.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 113

Refer to the exhibit.

```
R101#show ip cache verbose flow
[...]
```

SrcIf	SrcIPaddress	DstIf	DstIPaddress	Pr	TOS	Flgs	Pkts
Port Msk AS		Port Msk AS	NextHop			B/Pk	Active
Et0/0	10.0.0.1	Et1/0*	14.0.0.2	01	80	10	1
0000 /0 0		0800 /0 0	0.0.0.0			100	0.0

What is the PHB class on this flow?

- A. EF
- B. none
- C. AF21
- D. CS4

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 114**

Refer to the exhibit.

```
R101#show ip cache flow
```

[...]							
SrcIf	SrcIPaddress	DstIf	DstIPaddress	Pr	SrcP	DstP	Pkts
Et0/0	10.0.0.1	Et1/0*	14.0.0.2	01	0000	0800	34
Et0/0	10.0.0.1	Et1/0	14.0.0.2	01	0000	0800	100
Et0/0	10.0.0.1	Se3/0*	14.0.0.2	01	0000	0800	33
Et0/0	10.0.0.1	Se2/0*	14.0.0.2	01	0000	0800	33
Et0/0	10.0.0.1	Null	224.0.0.5	59	0000	0000	26

What kind of load balancing is done on this router?

- A. per-packet load balancing
- B. per-flow load balancing
- C. per-label load balancing
- D. star round-robin load balancing

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 115**

Which authentication method does OSPFv3 use to secure communication between neighbors?

- A. plaintext
- B. MD5 HMAC
- C. PKI
- D. IPSec

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 116**

Refer to the exhibit.

```
P#show mpls forwarding-table
```

Local Label	Outgoing Label	Prefix or Tunnel Id	Bytes Switched	Label	Outgoing interface	Next Hop
19	21	[mdt 1000:2000 0]	\	33516	Et2/0	10.1.2.2
	19					
20	19	[mdt 1000:2000 0]	\	912	Et1/0	10.1.1.1
	24					
	24					
23	24	[mdt 1000:2000 0]	\	1932	Et3/0	10.1.3.3
	21					
	21					
23	24	[mdt 1000:2000 0]	\	1932	Et2/0	10.1.2.2
	24					
	24					
23	24	[mdt 1000:2000 0]	\	33940	Et3/0	10.1.3.3
	19					
	19					
23	19	[mdt 1000:2000 0]	\	912	Et1/0	10.1.1.1
	24					
	24					

Which statement is true?

A. This is an MPLS TE point-to-multipoint LSP in an MPLS network.

- B. This is an MPLS TE multipoint-to-point LSP in an MPLS network.
- C. This is a point-to-multipoint LSP in an MPLS network.
- D. This is a multipoint-to-multipoint LSP in an MPLS network.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

## QUESTION 117

Which three statements are true about OSPFv3? (Choose three.)

- A. The only method to enable OSPFv3 on an interface is via the interface configuration mode.
- B. Multiple instances of OSPFv3 can be enabled on a single link.
- C. There are two methods to enable OSPFv3 on an interface, either via the interface configuration mode or via the router configuration mode.
- D. For OSPFv3 to function, IPv6 unicast routing must be enabled.
- E. For OSPFv3 to function, IPv6 must be enabled on the interface.
- F. Only one instance of OSPFv3 can be enabled on a single link.

**Correct Answer:** BDE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

## QUESTION 118

Which statement about OSPF multiaccess segments is true?

- A. The designated router is elected first.
- B. The designated and backup designated routers are elected at the same time.
- C. The router that sent the first hello message is elected first.
- D. The backup designated router is elected first.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 119**

Refer to the exhibit.

```
R1#show mpls l2transport vc 100 detail
Local interface: Fa2/6 up, line protocol up, Ethernet up
  Destination address: 2.2.2.3, VC ID: 100, VC status: up
    Preferred path: Tunnel1, active
    Default path: ready
    Tunnel label: 12307, next hop point2point
    Output interface: Tu1, imposed label stack {12307 20}
Create time: 00:00:11, last status change time: 00:00:11
Signaling protocol: LDP, peer 2.2.2.3:0 up
  MPLS VC labels: local 21, remote 20
  Group ID: local 0, remote 2
  MTU: local 1500, remote 1500
  Remote interface description:
Sequencing: receive disabled, send disabled
VC statistics:
  packet totals: receive 1, send 6
  byte totals:   receive 368, send 0
  packet drops: receive 0, send 0
```

Which statement is true?

- A. R1 routes this pseudowire over MPLS TE tunnel 1 with transport label 20.
- B. The default route 0.0.0.0/0 is available in the IPv4 routing table.
- C. R1 is using an MPLS TE tunnel for this pseudowire, because the IP path is not available.
- D. R1 has preferred-path configured for the pseudowire.

**Correct Answer: D**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 120**

What are the minimal configuration steps that are required to configure EIGRP HMAC-SHA2 authentication?

- A. classic router mode, interface XX, authentication mode hmac-sha-256 <password>
- B. named router mode, address-family statement, authentication mode hmac-sha-256 <password>
- C. named router mode, address-family statement, af-interface default, authentication mode hmac-sha-256 <password>
- D. named router mode, address-family statement, authentication mode hmac-sha-256 <password>

**Correct Answer: C**

**Section: (none)**

**Explanation**

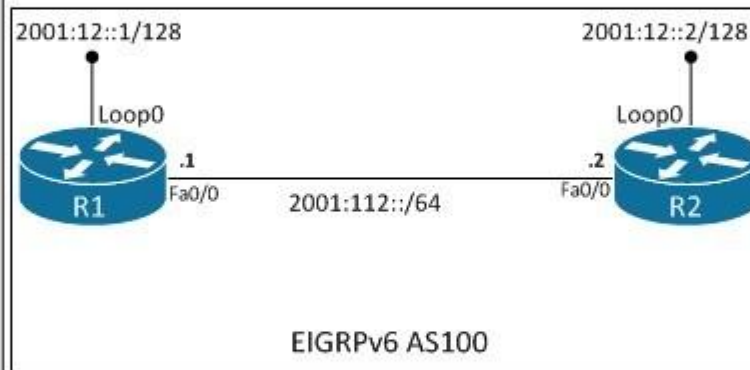
**Explanation/Reference:**

**QUESTION 121**

Refer to the exhibit.

**R1:**

```
interface Loopback0
 ip address 1.1.1.1 255.255.255.0
 ipv6 address 2001:12::1/128
 ipv6 eigrp 100
!
interface FastEthernet0/0
 ip address 10.1.12.1
 255.255.255.0
 duplex auto
 speed auto
 ipv6 address 2001:112::1/64
 ipv6 eigrp 100
!
interface FastEthernet0/1
 no ip address
 shutdown
 duplex auto
 speed auto
!
ip forward-protocol nd
!
!
no ip http server
no ip http secure-server
!
!
ipv6 router eigrp 100
 no shutdown
!
!
control-plane
!
```



**R2:**

```
interface Loopback0
 ip address 2.2.2.2 255.255.255.0
 ipv6 address 2001:12::2/128
 ipv6 eigrp 100
!
interface FastEthernet0/0
 ip address 10.1.12.2
 255.255.255.0
 duplex auto
 speed auto
 ipv6 address 2001:112::2/64
 ipv6 eigrp 100
!
interface FastEthernet0/1
 no ip address
 shutdown
 duplex auto
 speed auto
!
ip forward-protocol nd
!
!
no ip http server
no ip http secure-server
!
!
ipv6 router eigrp 100
 shutdown
!
!
control-plane
!
```

How many EIGRP routes will appear in the routing table of R2?

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



D. 3

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 122**

For which kind of MPLS deployment is the next-hop-self all keyword used on a BGP neighbor command?

- A. 6VPE
- B. MPLS Carrier's carrier
- C. inter-AS MPLS VPN option D
- D. inter-AS MPLS VPN option C
- E. Unified MPLS

**Correct Answer:** E

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 123**

What is a reason for 6PE to use two MPLS labels in the data plane instead of one?

- A. 6PE allows penultimate hop popping and has a requirement that all P routers do not have to be IPv6 aware.
- B. 6PE does not allow penultimate hop popping.
- C. It allows MPLS traffic engineering to work in a 6PE network.
- D. It allows 6PE to work in an MPLS network where 6VPE is also deployed.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 124**

Which two configuration changes should be made on the OTP interface of an EIGRP OTP route reflector? (Choose two.)

- A. passive-interface
- B. no split-horizon
- C. no next-hop-self
- D. hello-interval 60, hold-time 180

**Correct Answer:** BC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 125**

Which statement about the function of poison reverse in EIGRP is true?

- A. It tells peers to remove paths that previously might have pointed to this router.
- B. It tells peers to remove paths to save memory and bandwidth.
- C. It provides reverse path information for multicast routing.
- D. It tells peers that a prefix is no longer reachable.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 126**

What is the preferred method to improve neighbor loss detection in EIGRP?

- A. EIGRP natively detects neighbor down immediately, and no additional feature or configuration is required.
- B. BFD should be used on interfaces that support it for rapid neighbor loss detection.
- C. Fast hellos (subsecond) are preferred for EIGRP, so that it learns rapidly through its own mechanisms.
- D. Fast hellos (one-second hellos) are preferred for EIGRP, so that it learns rapidly through its own mechanisms.

**Correct Answer:** B

**Section:** (none)

## Explanation

## Explanation/Reference:

### QUESTION 127

How does EIGRP derive the metric for manual summary routes?

- A. It uses the best composite metric of any component route in the topology table.
- B. It uses the worst composite metric of any component route in the topology table.
- C. It uses the best metric vectors of all component routes in the topology table.
- D. It uses the worst metric vectors of all component routes in the topology table.

**Correct Answer:** A

**Section:** (none)

## Explanation

## Explanation/Reference:

### QUESTION 128

Refer to the exhibit.

```
R2#show ipv6 interface e0/0
Ethernet0/0 is up, line protocol is up
  IPv6 is enabled, link-local address is FE80::A8BB:CCFF:FE00:200
  No Virtual link-local address(es):
  No global unicast address is configured
  Joined group address(es):
    FF02::1
    FF02::2
    FF02::A
    FF02::1:FE00:200
```

Which part of the joined group addresses list indicates that the interface has joined the EIGRP multicast group address?

- A. FF02::1
- B. FF02::1:FE00:200

- C. FF02::A
- D. FF02::2

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 129**

EIGRP allows configuration of multiple MD5 keys for packet authentication to support easy rollover from an old key to a new key. Which two statements are true regarding the usage of multiple authentication keys? (Choose two.)

- A. Received packets are authenticated by the key with the smallest key ID.
- B. Sent packets are authenticated by all valid keys, which means that each packet is replicated as many times as the number of existing valid keys.
- C. Received packets are authenticated by any valid key that is chosen.
- D. Sent packets are authenticated by the key with the smallest key ID.

**Correct Answer:** CD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 130**

Refer to the exhibit.

```

R1
!
ip vrf R2
rd 1:1
!
interface FastEthernet0/0
ip address 192.168.0.1 255.255.255.252
!
router eigrp 100
no auto-summary
address-family ipv4 vrf R2
network 192.168.0.0 0.0.0.255
!

R2
!
interface FastEthernet0/0
ip address 192.168.0.2 255.255.255.252
!
router eigrp 100
no auto-summary
network 192.168.0.2 0.0.0.1
!

```

Which two corrective actions could you take if EIGRP routes from R2 fail to reach R1? (Choose two.)

- A. Configure R2 to use a VRF to send routes to R1.
- B. Configure the autonomous system in the EIGRP configuration of R1.
- C. Correct the network statement on R2.
- D. Add the interface on R1 that is connected to R2 into a VRF.

**Correct Answer:** BD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 131

Refer to the exhibit.

```

R1
!
interface FastEthernet0/0
ip address 10.1.1.5 255.255.255.0
!
router ospf 1
network 10.1.1.5 0.0.0.0 area 0
passive-interface default
!

R2
!
interface FastEthernet0/1
ip address 10.1.1.6 255.255.255.0
!
router ospf 10
network 10.1.1.6 0.0.0.0 area 0
!

```

Which additional configuration is necessary for R1 and R2 to become OSPF neighbors?

- A. R1
    - !
    - router ospf 1
    - no passive-interface FastEthernet0/0
    - !
  - B. R2
    - !
    - router ospf 10
    - no network 10.1.1.6 0.0.0.0 area 0
    - network 10.1.1.6 0.0.0.0 area 1
    - !
  - C. R1
    - !
    - interface FastEthernet0/0
    - ip ospf mtu-ignore
    - !
- R2
- !

```
interface FastEthernet0/1
ip ospf mtu-ignore
!
D. R1
!
no router ospf 1
router ospf 10
network 10.1.1.5 0.0.0.0 area 0
```

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

## QUESTION 132

Consider an OSPFv3 network with four parallel links between each pair of routers. Which measure can you use to reduce the CPU load and at the same time keep all links available for ECMP?

- A. Configure some interfaces as passive interface.
- B. Configure ipv6 ospf priority 0 on some interfaces.
- C. Configure some routers with a distribute list in ingress of the OSPFv3 process.
- D. Configure ipv6 ospf database-filter all out on some interfaces.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

## QUESTION 133

Refer to the exhibit.

```
Load for five secs: 12%/0%; one minute: 4%; five minutes: 5%
Time source is NTP, 11:19:50.533 US/Ariz Tue Oct 1 2013

(10.10.76.191, 239.93.200.8), 7w0d/00:02:55, flags: sTI
  Incoming interface: TenGigabitEthernet8/2, RPF nbr 70.169.73.188, RPF-MFD
  Outgoing interface list:
    GigabitEthernet1/5, Forward/Sparse, 2w5d/00:02:25, H
    GigabitEthernet1/2, Forward/Sparse, 5w3d/00:02:25, H
    GigabitEthernet1/1, Forward/Sparse, 25w6d/00:02:49, H

(10.10.76.191, 239.93.200.9), 7w0d/00:02:55, flags: sTI
  Incoming interface: TenGigabitEthernet8/2, RPF nbr 70.169.73.188, RPF-MFD
  Outgoing interface list:
    GigabitEthernet1/5, Forward/Sparse, 2w5d/00:02:25, H
```

Which two statements about the device that generated the output are true? (Choose two.)

- A. The SPT-bit is set.
- B. The sparse-mode flag is set.
- C. The RP-bit is set.
- D. The source-specific host report was received.

**Correct Answer:** AD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 134

A service provider is deploying L2VPN LAN services in its MPLS cloud. Which statement is true regarding LDP signaling and autodiscovery?

- A. LDP signaling requires that each PE is identified, and that an LDP session is active with its P neighbor for autodiscovery to take place.
- B. LDP signaling requires that each P is identified, and that a targeted LDP session is active for autodiscovery to take place.
- C. LDP signaling requires that each PE is identified, and that a targeted LDP session with a BGP route reflector is active for autodiscovery to take place.
- D. LDP signaling requires that each PE is identified, and that a targeted LDP session is active for autodiscovery to take place.

**Correct Answer:** D



**Section: (none)**  
**Explanation**

**Explanation/Reference:**

**QUESTION 135**  
Refer to the exhibit.

```

Switch#show ip mroute
IP Multicast Routing Table
Flags: D - Dense, S - Sparse, B - Bidir Group, s - SSM Group, C - Connected,
       L - Local, P - Pruned, R - RP-bit set, F - Register flag,
       T - SPT-bit set, J - Join SPT, M - MSDP created entry, E - Extranet,
       X - Proxy Join Timer Running, A - Candidate for MSDP Advertisement,
       U - URD, I - Received Source Specific Host Report,
       Z - Multicast Tunnel, z - MDT-data group sender,
       Y - Joined MDT-data group, y - Sending to MDT-data group,
       V - RD & Vector, v - Vector
Outgoing interface flags: H - Hardware switched, A - Assert winner
Timers: Uptime/Expires
Interface state: Interface, Next-Hop or VCD, State/Mode

(*, 239.192.1.1), 00:01:43/stopped, RP 10.210.150.1, flags: SJC
  Incoming interface: Null, RPF nbr 0.0.0.0
  Outgoing interface list:
    Vlan150, Forward/Sparse-Dense, 00:01:43/00:02:55

(10.210.168.132, 239.192.1.1), 00:00:25/00:02:38, flags: T
  Incoming interface: Port-channell, RPF nbr 10.85.20.20
  Outgoing interface list:
    Vlan150, Forward/Sparse-Dense, 00:00:25/00:02:34

(*, 224.0.1.40), 00:01:57/00:02:53, RP 10.210.150.1, flags: SJCL
  Incoming interface: Null, RPF nbr 0.0.0.0
  Outgoing interface list:
    Port-channell, Forward/Sparse-Dense, 00:01:09/00:03:18
    Vlan150, Forward/Sparse-Dense, 00:01:39/00:02:55

```

Which three statements about the output are true? (Choose three.)

- A. This switch is currently receiving a multicast data stream that is being forwarded out VLAN 150.
- B. A multicast receiver has requested to join one or more of the multicast groups.
- C. Group 224.0.1.40 is a reserved address, and it should not be used for multicast user data transfer.

- D. One or more multicast groups are operating in PIM dense mode.
- E. One or more of the multicast data streams will be forwarded out to neighbor 10.85.20.20.
- F. Group 239.192.1.1 is a reserved address, and it should not be used for multicast user data transfer.

**Correct Answer:** ABC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 136**

Which statement about the RPF interface in a BIDIR-PIM network is true?

- A. In a BIDIR-PIM network, the RPF interface is always the interface that is used to reach the PIM rendezvous point.
- B. In a BIDIR-PIM network, the RPF interface can be the interface that is used to reach the PIM rendezvous point or the interface that is used to reach the source.
- C. In a BIDIR-PIM network, the RPF interface is always the interface that is used to reach the source.
- D. There is no RPF interface concept in BIDIR-PIM networks.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 137**

Which technology is an application of MSDP, and provides load balancing and redundancy between the RPs?

- A. static RP
- B. PIM BSR
- C. auto RP
- D. anycast RP

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 138**

Which two statements are true about IPv6 multicast? (Choose two.)

- A. Receivers interested in IPv6 multicast traffic use IGMPv6 to signal their interest in the IPv6 multicast group.
- B. The PIM router with the lowest IPv6 address becomes the DR for the LAN.
- C. An IPv6 multicast address is an IPv6 address that has a prefix of FF00::/8.
- D. The IPv6 all-routers multicast group is FF02:0:0:0:0:0:0:2.

**Correct Answer:** CD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 139**

Which attribute is not part of the BGP extended community when a PE creates a VPN-IPv4 route while running OSPF between PE-CE?

- A. OSPF domain identifier
- B. OSPF route type
- C. OSPF router ID
- D. MED
- E. OSPF network type

**Correct Answer:** E

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 140**

Refer to the exhibit.

```
aaa new-model
aaa authentication login default local
username cisco privilege 15 password cisco

User Access Verification

Username: cisco
Password:

Router>en
% Error in authentication.

Router>
```

While configuring AAA with a local database, users can log in via Telnet, but receive the message "error in authentication" when they try to go into enable mode. Which action can solve this problem?

- A. Configure authorization to allow the enable command.
- B. Use aaa authentication login default enable to allow authentication when using the enable command.
- C. Verify whether an enable password has been configured.
- D. Use aaa authentication enable default enable to allow authentication when using the enable command.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 141

Which three factors does Cisco PIR use to calculate the best exit path? (Choose three.)

- A. quality of service
- B. packet size
- C. delay
- D. loss
- E. reachability

F. administrative distance

**Correct Answer:** CDE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 142**

What is a reason to use DHCPv6 on a network that uses SLAAC?

- A. To get a record of the IPs that are used by the clients
- B. To push DNS and other information to the clients
- C. No reason, because there is no need for DHCPv6 when using SLAAC
- D. Because DHCPv6 can be used only in stateful mode with SLAAC to record the IPs of the clients
- E. Because DHCPv6 can be used only in stateless mode with SLAAC to record the IPs of the clients
- F. Because DHCPv6 is required to use first-hop security features on the switches

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 143**

Which statement is true about Fast Link Pulses in Ethernet?

- A. They are used during collision detection.
- B. They are used only if the media type is optical.
- C. They are part of UniDirectional Link Detection.
- D. They are used during autonegotiation.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 144**

What is a disadvantage of using aggressive mode instead of main mode for ISAKMP/IPsec establishment?

- A. It does not use Diffie-Hellman for secret exchange.
- B. It does not support dead peer detection.
- C. It does not support NAT traversal.
- D. It does not hide the identity of the peer.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 145**

What can PfR passive monitoring mode measure for TCP flows?

- A. only delay
- B. delay and packet loss
- C. delay and reachability
- D. delay, packet loss, and throughput
- E. delay, packet loss, throughput, and reachability

**Correct Answer:** E

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 146**

Which two statements are true about an EVPL? (Choose two.)

- A. It has a high degree of transparency.
- B. It does not allow for service multiplexing.
- C. The EVPL service is also referred to as E-line.
- D. It is a point-to-point Ethernet connection between a pair of UNIs.

**Correct Answer:** CD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 147**

Which two statements are true about OTV? (Choose two.)

- A. It relies on flooding to propagate MAC address reachability information.
- B. It uses a full mesh of point-to-multipoint tunnels to prevent head-end replication of multicast traffic.
- C. It can work over any transport that can forward IP packets.
- D. It supports automatic detection of multihoming.

**Correct Answer:** CD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 148**

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

- A. By default, RSTP uses a separate TCN BPDU when interoperating with 802.1D switches.
- B. By default, RSTP does not use a separate TCN BPDU when interoperating with 802.1D switches.
- C. If a designated port receives an inferior BPDU, it immediately triggers a reconfiguration.
- D. By default, RSTP uses the topology change TC flag.
- E. If a port receives a superior BPDU, it immediately replies with its own information, and no reconfiguration is triggered.

**Correct Answer:** BD

**Section:** (none)

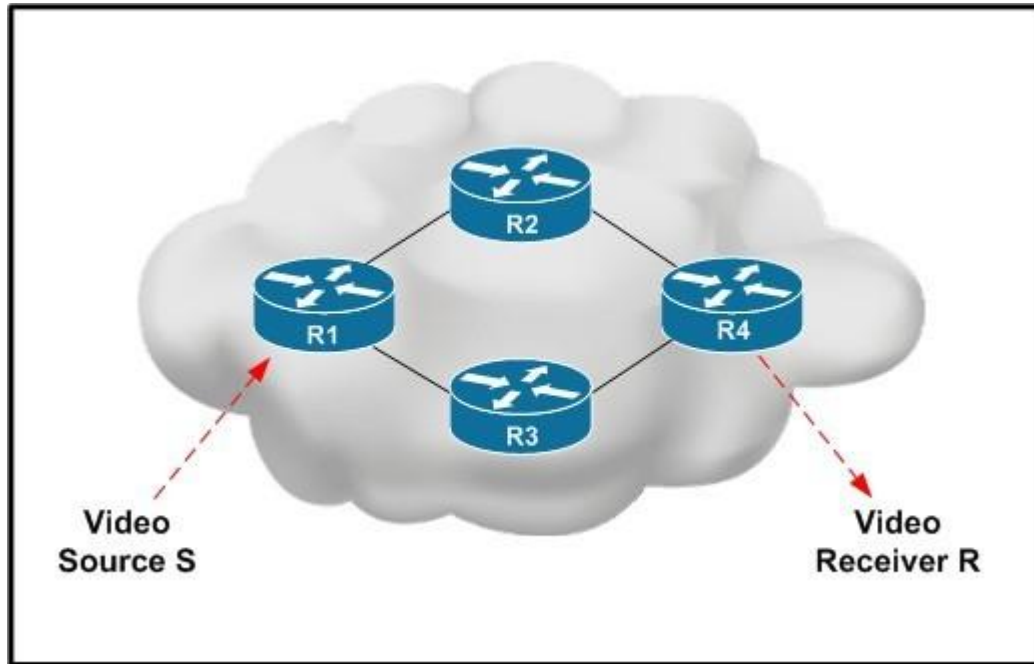
**Explanation**

**Explanation/Reference:**

**QUESTION 149**

Refer to the exhibit.





Video Source S is sending interactive video traffic to Video Receiver R. Router R1 has multiple routing table entries for destination R. Which load-balancing mechanism on R1 can cause out-of-order video traffic to be received by destination R?

- A. per-flow load balancing on R1 for destination R
- B. per-source-destination pair load balancing on R1 for destination R
- C. CEF load balancing on R1 for destination R
- D. per-packet load balancing on R1 for destination R

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 150

Refer to the exhibit.

```
switch#show spanning-tree detail
```

```
MST0 is executing the mstp compatible Spanning Tree protocol
Bridge Identifier has priority 32768, sysid 0, address f4ac.c1c4.2b80
Configured hello time 2, max age 20, forward delay 15, transmit hold-count 6
Current root has priority 24576, address 0019.07aa.9ac0
Root port is 56 (Port-channel1), cost of root path is 0
Topology change flag not set, detected flag not set
Number of topology changes 296 last change occurred 00:01:17 ago
from GigabitEthernet0/15
```

Which two statements are true about the displayed STP state? (Choose two.)

- A. The STP version configured on the switch is IEEE 802.1w.
- B. Port-channel 1 is flapping and the last flap occurred 1 minute and 17 seconds ago.
- C. The switch does not have PortFast configured on Gi0/15.
- D. BPDUs with the TCN bit set are transmitted over port channel 1.

**Correct Answer:** CD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 151

Refer to the exhibit.

```
police cir percent 10 conform-action proceed exceed-action set-mpls-experimental-topmost 6
```

A PE router is configured with a policy map that contains the policer shown. The policy map is configured in the inbound direction of an interface facing a CE router. If the PE router receives 12Mb/s of traffic with the CoS value set to 7 on a 100-Mb/s interface from the CE router, what value of MPLS EXP is set when this traffic goes through the policer shown?

- A. 0
- B. 6
- C. 7

D. 8

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 152**

What is Nagle's algorithm used for?

- A. To increase the latency
- B. To calculate the best path in distance vector routing protocols
- C. To calculate the best path in link state routing protocols
- D. To resolve issues caused by poorly implemented TCP flow control.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 153**

Which statement is true regarding the UDP checksum?

- A. It is used for congestion control.
- B. It cannot be all zeros.
- C. It is used by some Internet worms to hide their propagation.
- D. It is computed based on the IP pseudo-header.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 154**

How many hash buckets does Cisco Express Forwarding use for load balancing?

- A. 8
- B. 16
- C. 24
- D. 32

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 155**

Which statement describes the purpose of the Payload Type field in the RTP header?

- A. It identifies the signaling protocol.
- B. It identifies the codec.
- C. It identifies the port numbers for RTP.
- D. It identifies the port numbers for RTCP.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 156**

Which Cisco IOS XE process administers routing and forwarding?

- A. Forwarding manager
- B. Interface manager
- C. Cisco IOS
- D. Host manager

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 157**

Which circumstance can cause packet loss due to a microburst?

- A. slow convergence
- B. a blocked spanning-tree port
- C. process switching
- D. insufficient buffers

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 158**

When you migrate a network from PVST+ to rapid-PVST+, which two features become inactive? (Choose two.)

- A. Root guard
- B. Loop guard
- C. UplinkFast
- D. UDLD
- E. BackboneFast
- F. Bridge Assurance

**Correct Answer:** CE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 159**

Which three condition types can be monitored by crypto conditional debug? (Choose three.)

- A. Peer hostname
- B. SSL

- C. ISAKMP
- D. Flow ID
- E. IPsec
- F. Connection ID

**Correct Answer:** ADF

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 160

Refer to the exhibit.

```
Internet Protocol, Src: 192.168.0.2 (192.168.0.2), Dst: 224.0.0.10 (224.0.0.10)
Version: 4
Header length: 20 bytes
Differentiated Services Field: 0xc0 (DSCP 0x30: Class Selector 6; ECN: 0x00)
Total Length: 60
Identification: 0x0000 (0)
Flags: 0x00
Fragment offset: 0
Time to live: 2
Protocol: EIGRP (88)
Header checksum: 0x16f6 [correct]
Source: 192.168.0.2 (192.168.0.2)
Destination: 224.0.0.10 (224.0.0.10)
```

Which two pieces of information in this Wireshark capture indicate that you are viewing EIGRP traffic? (Choose two.)

- A. the header length
- B. the protocol number
- C. the destination address
- D. the Class Selector
- E. the source address
- F. the header checksum

**Correct Answer:** BC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 161**

Which statement is true about MLD?

- A. MLD v1 gives hosts the ability to receive multicast packets from specific source addresses.
- B. All MLD messages are sent with a link-local IPv6 source address of FF02::D.
- C. The multicast address field is cleared to zero when sending an MLD report message.
- D. MLD is used by IPv6 routers to discover multicast listeners on a directly attached link.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 162**

Which statement is true about LLDP?

- A. LLDP provides VTP support.
- B. LLDP does not use a multicast address to communicate.
- C. LLDP can indicate only the duplex setting of a link, and not the speed capabilities.
- D. LLDP does not support native VLAN indication.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 163**

Which statement is true when using a VLAN ID from the extended VLAN range (1006-4094)?

- A. VLANs in the extended VLAN range can be used with VTPv2 in either client or server mode.

- B. VLANs in the extended VLAN range can only be used as private VLANs.
- C. STP is disabled by default on extended-range VLANs.
- D. VLANs in the extended VLAN range cannot be pruned.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

## QUESTION 164

Which statement is true about trunking?

- A. Cisco switches that run PVST+ do not transmit BPDUs on nonnative VLANs when using a dot1q trunk.
- B. When removing VLAN 1 from a trunk, management traffic such as CDP is no longer passed in that VLAN.
- C. DTP only supports autonegotiation on 802.1q and does not support autonegotiation for ISL.
- D. DTP is a point-to-point protocol.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

## QUESTION 165

Which three statements are true about an EtherChannel? (Choose three.)

- A. PAGP and LACP can be configured on the same switch if the switch is not in the same EtherChannel.
- B. EtherChannel ports in suspended state can receive BPDUs but cannot send them.
- C. An EtherChannel forms between trunks that are using different native VLANs.
- D. LACP can operate in both half duplex and full duplex, if the duplex setting is the same on both ends.
- E. Ports with different spanning-tree path costs can form an EtherChannel.

**Correct Answer:** ABE

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 166**

Which technology can be affected when switches are used that do not support jumbo frames?

- A. 802.1x
- B. BFD
- C. OSPFv3
- D. 802.1q

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 167**

Which statement describes the native VLAN concept in an ISL trunk?

- A. It is the VLAN ID that is assigned to untagged packets.
- B. It is the VLAN with highest priority.
- C. It is the default VLAN for a trunk.
- D. There is no native VLAN concept in an ISL trunk.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 168**

Which protocol is the encapsulating protocol for mtrace packets?

- A. ICMP
- B. IGMP
- C. PIM
- D. GRE

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 169**

Assume that the following MAC addresses are used for the bridge ID MAC address by four different switches in a network. Which switch will be elected as the spanning-tree root bridge?

- A. SwitchA uses MAC 1000.AA-AA-AA-AA-AA-AA.
- B. SwitchB uses MAC 2000.BB-BB-BB-BB-BB-BB.
- C. SwitchC uses MAC 3000.CC-CC-CC-CC-CC-CC.
- D. SwitchD uses MAC 4000.DD-DD-DD-DD-DD-DD.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 170**

What is the destination MAC address of a BPDU frame?

- A. 01-80-C2-00-00-00
- B. 01-00-5E-00-00-00
- C. FF-FF-FF-FF-FF-FF
- D. 01-80-C6-00-00-01

**Correct Answer:** A

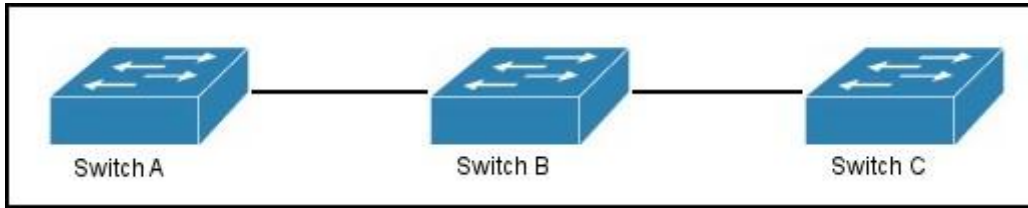
**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 171**

Refer to the exhibit.



All switches are Cisco switches. Assume that Cisco Discovery Protocol is enabled only on switches A and C.

Which information is returned when you issue the command `show cdp neighbors` on switch C?

- A. a limited amount of information about switch B
- B. no neighbor details will be returned
- C. neighbor details for switch B
- D. neighbor details for switch A
- E. neighbor details for switch C

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 172

Which two features are supported when Cisco HDLC is implemented? (Choose two.)

- A. error recovery
- B. error detection
- C. asynchronous links
- D. multiple protocols

**Correct Answer:** BD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 173

Refer to the exhibit.

```
R1
interface Serial0/0
  encapsulation ppp
  ppp pap sent-username SITE2 password cisco

R2
username SITE2 password cisco
interface Serial0/0
  encapsulation ppp
  ppp authentication pap
```

With these configurations for R1 and R2, which statement about PPP authentication is true?

- A. Authentication fails because R1 is missing a username and password.
- B. R2 responds with the correct authentication credentials.
- C. R2 requires authentication from R1.
- D. R1 requires authentication from R2.

**Correct Answer: C**

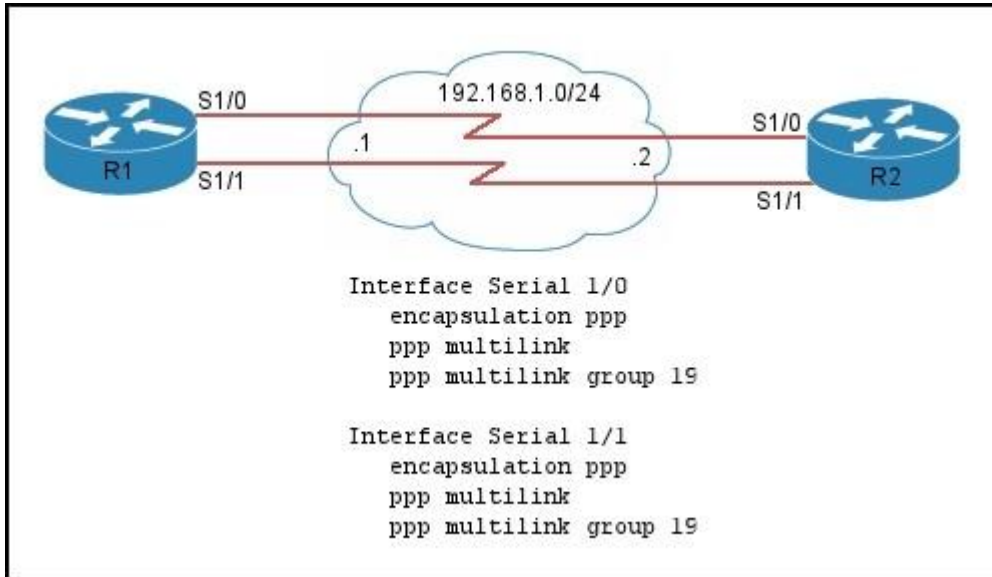
**Section: (none)**

**Explanation**

**Explanation/Reference:**

#### **QUESTION 174**

Refer to the exhibit.



You must complete the configuration on R1 so that a maximum of three links can be used and fragmentation is supported.

Which additional configuration accomplishes this task?

- A. interface Multilink19  
ip address 192.168.1.1 255.255.255.0  
ppp multilink  
ppp multilink group 19  
ppp multilink links minimum 1  
ppp multilink links maximum 3  
ppp multilink interleave
- B. interface Multilink19  
ip address 192.168.1.1 255.255.255.0  
ppp multilink  
ppp multilink group 19  
ppp multilink links maximum 3  
ppp multilink fragment delay 20
- C. interface Multilink19  
ip address 192.168.1.1 255.255.255.0  
ppp multilink  
ppp multilink group 19  
ppp multilink links maximum 3

ppp multilink fragment delay 20  
ppp multilink interleave  
D. interface Multilink19  
ip address 192.168.1.1 255.255.255.252  
ppp multilink  
ppp multilink group 19  
ppp multilink links maximum 3  
ppp multilink interleave

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 175**

When BGP route reflectors are used, which attribute ensures that a routing loop is not created?

- A. weight
- B. local preference
- C. multiexit discriminator
- D. originator ID

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 176**

Refer to the exhibit.

```
Router#sh ip osp data summ

      OSPF Router with ID (100.1.1.1) (Process ID 1)

      Summary Net Link States (Area 0)

LS age: 22
Options: (No TOS-capability, DC, Downward)
LS Type: Summary Links(Network)
Link State ID: 2.2.0.0 (summary Network Number)
Advertising Router: 2.3.4.101
LS Seq Number: 80000001
Checksum: 0x3316
Length: 28
Network Mask: /24
      MTID: 0      Metric: 1
```

Which statement is true about the downward bit?

- A. It forces the CE router to use a backup link instead of sending traffic via MPLS VPN.
- B. It informs the PE router that the LSA metric has been recently decreased to 1 and that partial SPF calculation cannot be delayed.
- C. It forces the CE router to install the LSA with the downward bit set into its routing table as a discard route.
- D. It informs the PE router that the LSA was already redistributed into BGP by another PE router and that the LSA must not be redistributed into BGP again.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 177

Which regular expression will match prefixes that originated from AS200?

- A. ^\$
- B. ^200\_
- C. \_200\$

- D. ^200)
- E. \_200\_

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 178**

Which statement describes the difference between a stub area and a totally stub area?

- A. The ABR advertises a default route to a totally stub area and not to a stub area.
- B. Stub areas do not allow LSA types 4 and 5, while totally stub areas do not allow LSA types 3, 4, and 5.
- C. Totally stub areas allow limited external routes in the area via a special type 7 LSA, while stub areas do not
- D. Stub areas do not allow external LSAs, ASBR summary LSAs, or summary LSAs with the exception of a default route originated by the ABR via a summary LSA.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 179**

Which two statements are true about IS-IS? (Choose two.)

- A. IS-IS DIS election is nondeterministic.
- B. IS-IS SPF calculation is performed in three phases.
- C. IS-IS works over the data link layer, which does not provide for fragmentation and reassembly.
- D. IS-IS can never be routed beyond the immediate next hop.

**Correct Answer:** CD

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 180**

Which command do you use to connect a dense-mode domain to a sparse-mode multicast domain?

- A. none, because there is no such command
- B. ip pim spt-threshold infinity
- C. ip pim register dense-mode
- D. ip pim dense-mode proxy-register

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 181**

Which two statements about the function of a PIM designated router are true? (Choose two.)

- A. It forwards multicast traffic from the source into the PIM network.
- B. It registers directly connected sources to the PIM rendezvous point.
- C. It sends PIM Join/Prune messages for directly connected receivers.
- D. It sends IGMP queries.
- E. It sends PIM asserts on the interfaces of the outgoing interface list.

**Correct Answer:** BC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 182**

Refer to the exhibit.

```
router bgp 1
neighbor 10.1.1.1 remote-as 2
neighbor 10.1.1.1 ttl-security hops 2
```

Which IP packets will be accepted from EBGP neighbor 10.1.1.1?

- A. IP packets with a TTL count in the header that is equal to or greater than 253
- B. IP packets with a TTL count in the header that is equal to 253
- C. IP packets with a TTL count in the header that is equal to or greater than 2
- D. IP packets with a TTL count in the header that is equal to 2

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 183**

Which two statements about proxy ARP are true? (Choose two.)

- A. It is supported on networks without ARP.
- B. It allows machines to spoof packets.
- C. It requires larger ARP tables
- D. It reduces the amount of ARP traffic.

**Correct Answer:** BC

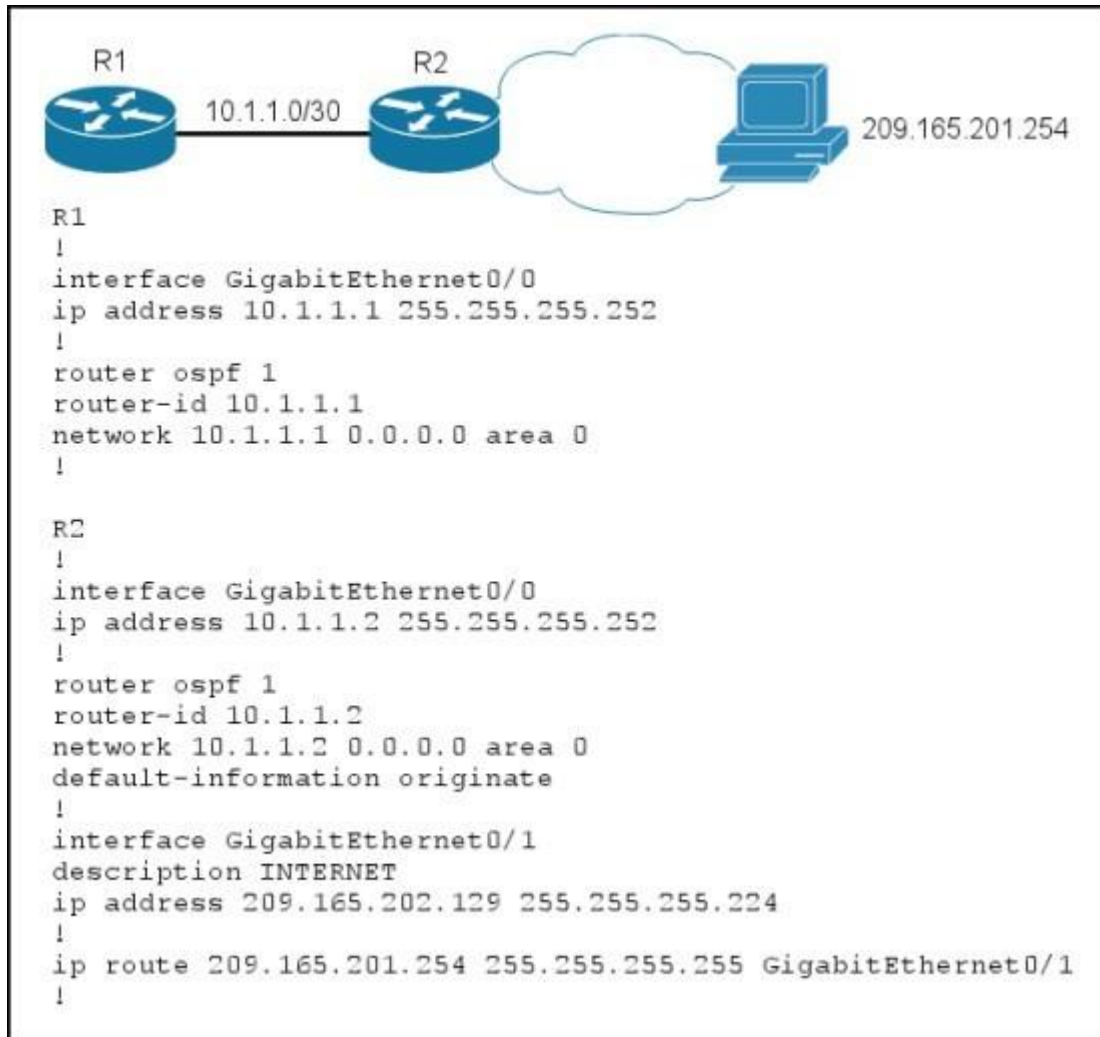
**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 184**

Refer to the exhibit.



Routers R1 and R2 are configured as shown, and traffic from R1 fails to reach host 209.165.201.254.

Which action can you take to correct the problem?

- A. Ensure that R2 has a default route in its routing table.
- B. Change the OSPF area type on R1 and R2.
- C. Edit the router configurations so that address 209.165.201.254 is a routable address.

D. Remove the default-information originate command from the OSPF configuration of R2.

**Correct Answer:** A

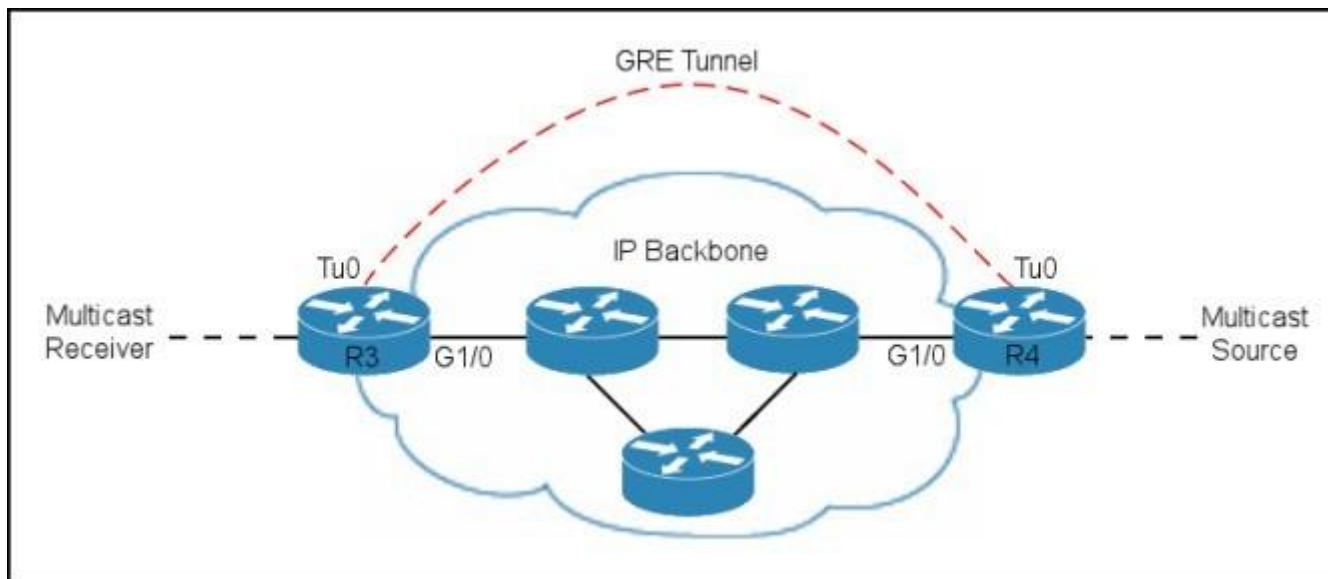
**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 185

Refer to the exhibit.



A tunnel is configured between R3 to R4 sourced with their loopback interfaces. The ip pim sparse-dense mode command is configured on the tunnel interfaces and multicast-routing is enabled on R3 and R4. The IP backbone is not configured for multicast routing.

The RPF check has failed toward the multicast source.

Which two conditions could have caused the failure? (Choose two.)

- A. The route back to the RP is through a different interface than tunnel 0.
- B. The backbone devices can only route unicast traffic.
- C. The route back to the RP is through the same tunnel interface.

D. A static route that points the RP to GigabitEthernet1/0 is configured.

**Correct Answer:** AD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 186**

Which option is the default number of routes over which EIGRP can load balance?

- A. 1
- B. 4
- C. 8
- D. 16

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 187**

When EIGRP is used as the IPv4 PE-CE protocol, which two requirements must be configured before the BGP IPv4 address family can be configured? (Choose two.)

- A. the route distinguisher
- B. the virtual routing and forwarding instance
- C. the loopback interface
- D. the router ID

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 188**

Which three EIGRP packet types are valid? (Choose three.)

- A. open
- B. notification
- C. keep-alive
- D. hello
- E. query
- F. reply

**Correct Answer:** DEF

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 189**

Which term describes an EIGRP route that has feasible successors?

- A. active
- B. passive
- C. redistributed
- D. invalid

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 190**

Refer to the exhibit.

```
Routing Protocol is "eigrp 1"
  Outgoing update filter list for all interfaces is not set
  Incoming update filter list for all interfaces is not set
  Default networks flagged in outgoing updates
  Default networks accepted from incoming updates
  EIGRP metric weight K1=1, K2=0, K3=1, K4=1, K5=0
  EIGRP maximum hopcount 100
  EIGRP maximum metric variance 1
  Redistributing: eigrp 1
  EIGRP NSF-aware route hold timer is 240s
  Automatic network summarization is not in effect
  Maximum path: 4
  Routing for Networks:
    10.1.24.0/24
    10.1.34.0/24
  Routing Information Sources:
    Gateway         Distance      Last Update
    10.1.24.2        90           00:00:28
    10.1.34.3        90           00:00:28
  Distance: internal 90 external 170
```

If EIGRP is configured between two routers as shown in this output, which statement about their EIGRP relationship is true?

- A. The routers will establish an EIGRP relationship successfully.
- B. The routers are using different authentication key-strings.
- C. The reliability metric is enabled.
- D. The delay metric is disabled.

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

#### **QUESTION 191**

Which type of OSPF packet is an OSPF link state update packet?

- A. type 1

- B. type 2
- C. type 3
- D. type 4
- E. type 5

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 192**

If two OSPF type 3 prefixes have the same metric, and are within the same process, which prefix(es) are installed into the routing table?

- A. The route whose originator has the lower router ID.
- B. Both routes are installed.
- C. The route whose originator has the higher router ID.
- D. The first route that is learned.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 193**

Which OSPF feature supports LSA rate limiting in milliseconds to provide faster convergence?

- A. LSA throttling
- B. incremental SPF
- C. fast hello
- D. SPF tuning

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 194**

Which two options are BGP attributes that are updated when router sends an update to its eBGP peer? (Choose two.)

- A. weight
- B. local preference
- C. AS\_path
- D. next-hop

**Correct Answer:** CD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

sophisticated answer.

**QUESTION 195**

Which BGP aggregate address configuration advertises only the aggregate address, with attributes inherited from the more specific routes?

- A. summary-only as-set
- B. as-set
- C. summary
- D. summary-only

**Correct Answer:** A

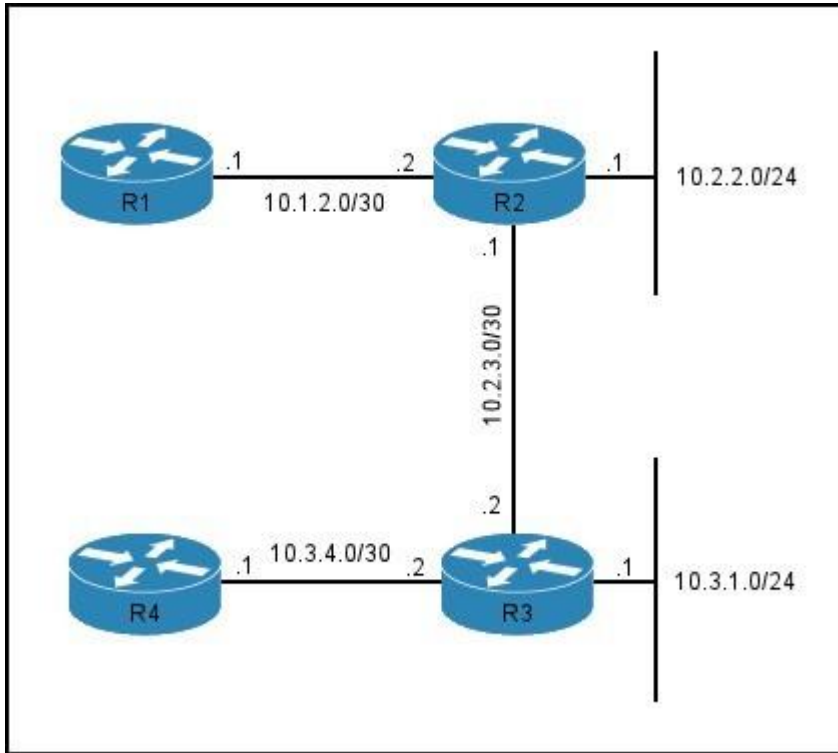
**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 196**

Refer to the exhibit.



If ISIS is configured utilizing default metrics, what is the cost for Router 4 to reach the 10.2.2.0/24 network?

- A. 1
- B. 20
- C. 30
- D. 63

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 197

Refer to the exhibit.

```
ip route vrf red 0.0.0.0 0.0.0.0 192.168.1.1 global
```

Which three statements about this configuration are true? (Choose three.)

- A. The default route appears in the global routing table.
- B. The static route appears in the VRF red routing table.
- C. The subnet 192.168.1.0 is unique to the VRF red routing table.
- D. The static route is added to the global routing table and leaked from the VRF red.
- E. The subnet 192.168.1.0 is unique to the global routing table.
- F. 192.168.1.1 is reachable using any of the addresses on the router where the static route is configured.

**Correct Answer:** ABE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 198

Refer to the exhibit.

```
ip route 10.0.0.0 255.255.255.0 192.168.1.2
interface loopback0
 ip address 10.0.0.1 255.255.255.0
router rip
 network 10.0.0.0
router eigrp 1
 network 10.0.0.0
router ospf 1
 network 10.0.0.0 0.0.0.255 area 0
```

Which route type is displayed when you enter the command show ip route supernets-only on a device with this configuration?

- A. Connected
- B. OSPF

- C. RIP
- D. EIGRP
- E. An empty route set

**Correct Answer:** E

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 199

Which statement about passive interfaces is true?

- A. The interface with the OSPF passive interface configuration appears as a not-so-stubby network.
- B. The interface with the EIGRP passive interface configuration ignores routes after the exchange of hello packets.
- C. The interface with the IS-IS passive interface configuration sends the IP address of that interface in the link-state protocol data units.
- D. Passive interface can be configured on the interface for IS-IS.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 200

Refer to the exhibit.

```
access-list 1 permit 10.3.5.0 0.0.3.255
router eigrp 1
  network 10.0.0.0
  no auto-summary
  distribute-list 1 out
```

Which two routes are included in the route update? (Choose two.)

- A. 10.3.0.0
- B. 10.3.2.0

- C. 10.3.4.0
- D. 10.3.6.0

**Correct Answer:** CD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 201**

Which two statements about the metric-style wide statement as it applies to route redistribution are true? (Choose two.)

- A. It is used in IS-IS.
- B. It is used in OSPF.
- C. It is used in EIGRP.
- D. It is used for accepting TLV.
- E. It is used in PIM for accepting mroutes.
- F. It is used for accepting external routes.

**Correct Answer:** AD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 202**

You are tasked with configuring a router on an OSPF domain to import routes from an EIGRP domain and summarize the routes to 192.168.64.0.

Which statement configures the summarized route and provides equal-path route redundancy?

- A. area 32 range 192.168.64.0 255.255.192.0 cost 100
- B. area 32 range 192.168.64.0 255.255.63.0 cost 100
- C. area 32 range 192.168.64.0 255.255.64.0 cost 100
- D. area 32 range 192.168.64.0 255.255.192.0 multi-path

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 203**

Packets from a router with policy-based routing configured are failing to reach the next hop.

Which two additions can you make to the router configuration to enable the packets to flow correctly? (Choose two.)

- A. Enable ip proxy-arp on the exiting interface.
- B. Specify the next hop as an address.
- C. Specify the next hop as an interface.
- D. Add a match-any permit statement to the route map.

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 204**

Which two options are EIGRP route authentication encryption modes? (Choose two.)

- A. MD5
- B. HMAC-SHA2-256bit
- C. ESP-AES
- D. HMAC-AES

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 205**

Which technology facilitates neighbor IP address resolution in DMVPN?

- A. CEF
- B. mGRE

- C. a dynamic routing protocol
- D. NHRP

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 206

Which two are features of DMVPN? (Choose two.)

- A. It does not support spoke routers behind dynamic NAT.
- B. It requires IPsec encryption.
- C. It only supports remote peers with statically assigned addresses.
- D. It supports multicast traffic.
- E. It offers configuration reduction.

**Correct Answer:** DE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 207

Refer to the exhibit.

```
interface tunnel 1
 tunnel source ethernet 0
 tunnel mode ipv6ip isatap
 ipv6 address 2001:DB8::/64 eui-64
```

What is wrong with the configuration of this tunnel interface?

- A. ISATAP tunnels cannot use the EUI-64 address format.
- B. No tunnel destination has been specified.
- C. The tunnel source of an ISATAP tunnel must always point to a loopback interface.

D. Router advertisements are disabled on this tunnel interface.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 208

Which two statements are true about a 6to4 tunnel connecting two IPv6 islands over the IPv4 Internet? (Choose two.)

- A. It embeds the IPv6 packet into the IPv4 payload with the protocol type set to 51.
- B. It works by appending the private IPv4 address (converted into hexadecimal format) to the 2002::/16 prefix.
- C. It embeds the IPv6 packet into the IPv4 payload with the protocol type set to 41.
- D. It works by appending the public IPv4 address (converted into hexadecimal format) to the 2002::/16 prefix.

**Correct Answer:** CD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 209

Refer to the exhibit.

```
interface GigabitEthernet0/0
ip address 10.10.10.1 255.255.255.0
duplex auto
speed auto
media-type rj45
!
interface Tunnel0
ip address 192.168.1.1 255.255.255.252
tunnel source GigabitEthernet0/0
tunnel destination 192.168.1.240
```

What will be the IP MTU of tunnel 0?



- A. 1500
- B. 1524
- C. 1476
- D. 1452
- E. 1548

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 210**

On an MPLS L3VPN, which two tasks are performed by the PE router? (Choose two.)

- A. It exchanges VPNv4 routes with other PE routers.
- B. It typically exchanges iBGP routing updates with the CE device.
- C. It distributes labels and forwards labeled packets.
- D. It exchanges VPNv4 routes with CE devices.
- E. It forwards labeled packets between CE devices.

**Correct Answer:** AC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 211**

Refer to the exhibit.

```
R1#show ip nhrp detail
10.1.0.2/32 via 10.1.0.2, Tunnel0 created 00:06:35, expire 00:00:29
  Type: dynamic, Flags: authoritative unique registered used
  NBMA address: 192.168.2.2
10.1.0.3/32 via 10.1.0.3, Tunnel0 created 00:05:28, expire 00:00:52
  Type: dynamic, Flags: authoritative unique registered used
  NBMA address: 192.168.3.3
```

Which statement describes what the authoritative flag indicates?

- A. Authentication was used for the mapping.
- B. R1 learned about the NHRP mapping from a registration request.
- C. Duplicate mapping in the NHRP cache is prevented.
- D. The registration request had the same flag set.

**Correct Answer:** B

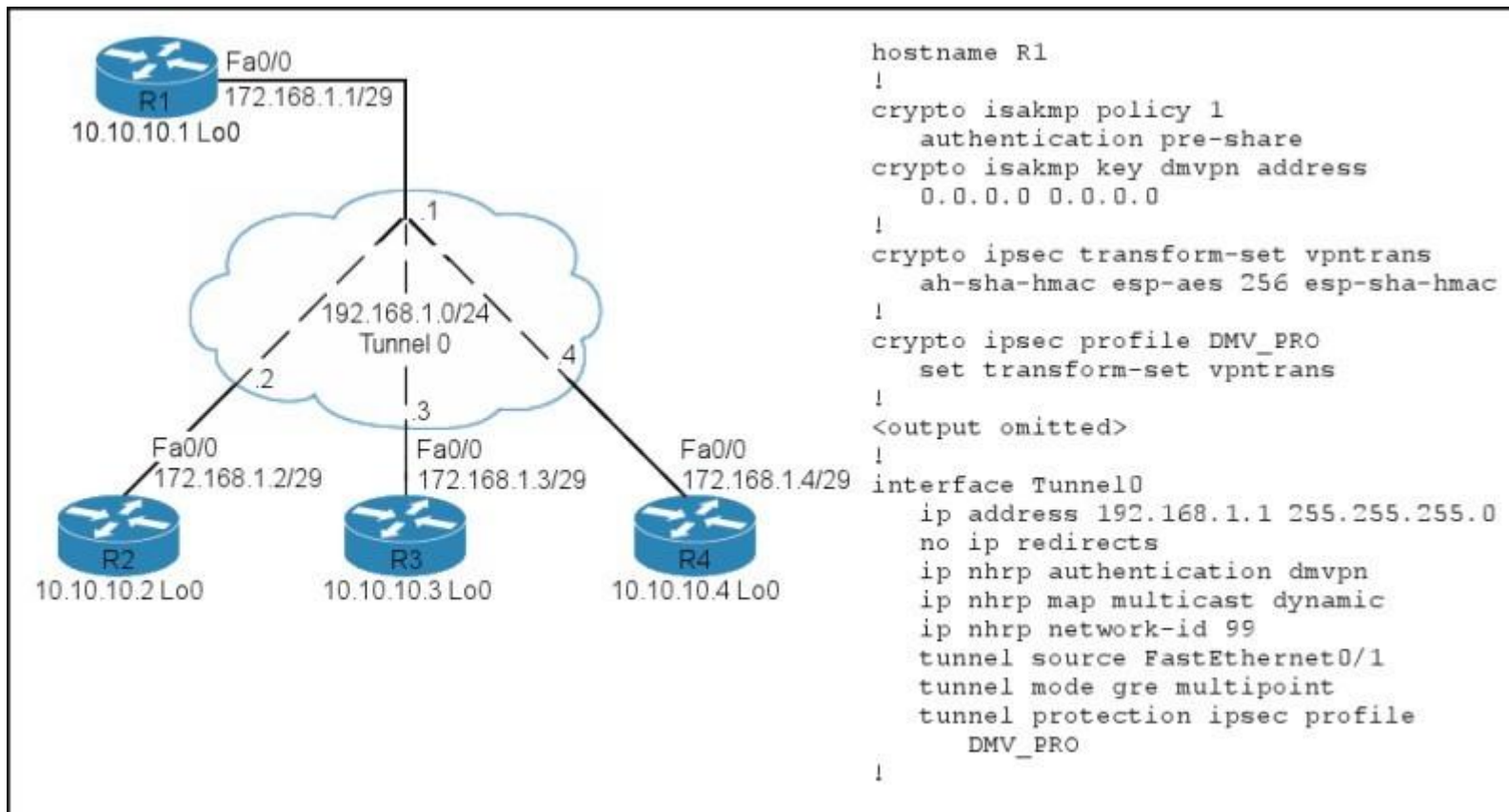
**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 212**

Refer to the exhibit.



Which two statements about this configuration are true? (Choose two.)

- A. Spoke devices will be dynamically added to the NHRP mappings.
- B. The next-hop server address must be configured to 172.168.1.1 on all spokes.
- C. The next-hop server address must be configured to 192.168.1.1 on all spokes.
- D. R1 will create a static mapping for each spoke.

**Correct Answer:** AC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 213**

Which two tunneling techniques determine the IPv4 destination address on a per-packet basis? (Choose two.)

- A. 6to4 tunneling
- B. ISATAP tunneling
- C. manual tunneling
- D. GRE tunneling

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 214**

Which two services are used to transport Layer 2 frames across a packet-switched network? (Choose two.)

- A. Frame Relay
- B. ATM
- C. AToM
- D. L2TPv3

**Correct Answer:** CD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 215**

Which two statements about the C-bit and PW type are true? (Choose two.)

- A. The C-bit is 1 byte and the PW type is 15 bytes.
- B. The PW type indicates the type of pseudowire.
- C. The C-bit is 3 bits and the PW type is 10 bits.
- D. The C-bit set to 1 indicates a control word is present.
- E. The PW type indicates the encryption type.

**Correct Answer:** BD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 216**

Which statement describes the function of rekey messages?

- A. They prevent unencrypted traffic from passing through a group member before registration.
- B. They refresh IPsec SAs when the key is about to expire.
- C. They trigger a rekey from the server when configuring the rekey ACL.
- D. They authenticate traffic passing through a particular group member.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 217**

Which three statements about GET VPN are true? (Choose three.)

- A. It encrypts WAN traffic to increase data security and provide transport authentication.
- B. It provides direct communication between sites, which reduces latency and jitter.
- C. It can secure IP multicast, unicast, and broadcast group traffic.
- D. It uses a centralized key server for membership control.
- E. It enables the router to configure tunnels.
- F. It maintains full-mesh connectivity for IP networks.

**Correct Answer:** ABD

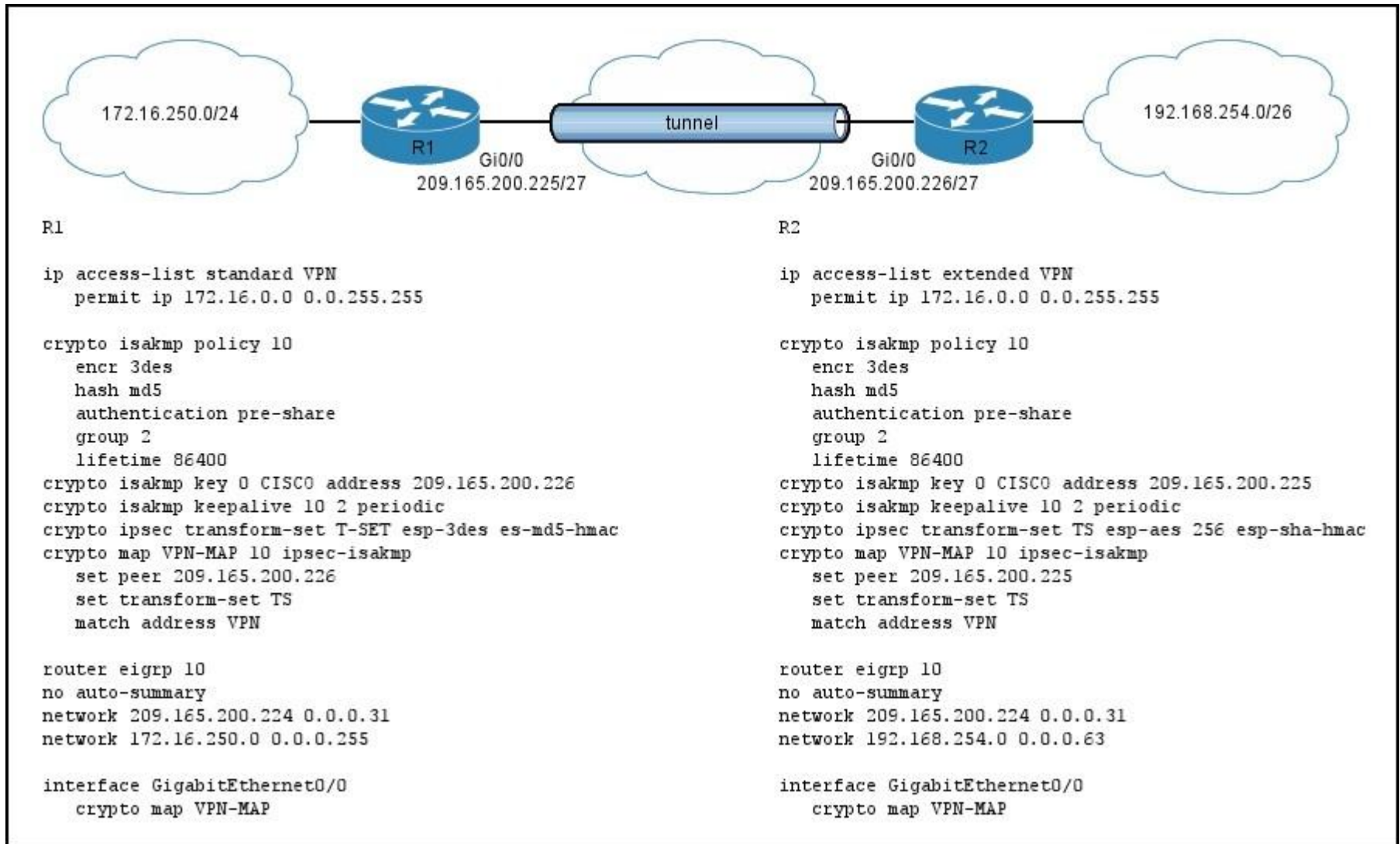
**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 218**

Refer to the exhibit.



If the traffic flowing from network 192.168.254.0 to 172.16.250.0 is unencrypted, which two actions must you take to enable encryption? (Choose two).

A. Configure the transform-set on R2 to match the configuration on R1.

- B. Configure the crypto map on R2 to include the correct subnet.
- C. Configure the ISAKMP policy names to match on R1 and R2.
- D. Configure the crypto map names to match on R1 and R2.
- E. Configure the Diffie-Hellman keys used in the ISAKMP policies to be different on R1 and R2.

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 219**

Which service is disabled by the no service tcp-small-servers command?

- A. the finger service
- B. the Telnet service
- C. the Maintenance Operation Protocol service
- D. the chargen service

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 220**

What is the ip dhcp snooping information option command used for?

- A. It displays information about the DHCP snooping table.
- B. It sends a syslog and an SNMP trap for a DHCP snooping violation.
- C. It enables the DHCP snooping host tracking feature.
- D. It enables DHCP option 82 data insertion.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 221**

Which two statements are true about unicast RPF? (Choose two.)

- A. Unicast RPF requires CEF to be enabled.
- B. Unicast RPF strict mode works better with multihomed networks.
- C. Unicast RPF strict mode supports symmetric paths.
- D. Unicast RPF strict mode supports asymmetric paths.
- E. CEF is optional with Unicast RPF, but when CEF is enabled it provides better performance.

**Correct Answer:** AC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 222**

Under Cisco IOS Software, which two features are supported in RADIUS Change of Authorization requests? (Choose two.)

- A. session identification
- B. session reauthentication
- C. session termination
- D. host termination

**Correct Answer:** AC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 223**

In a PfR environment, which two statements best describe the difference between active mode monitoring and fast mode monitoring? (Choose two.)

- A. Active mode monitoring can monitor and measure actual traffic via NetFlow data collection.
- B. Fast mode monitoring can measure bursty traffic better than active mode.
- C. Active mode monitoring uses IP SLA probes for the purpose of obtaining performance characteristics of the current WAN exit link.
- D. Fast mode monitoring uses IP SLA probes via all valid exits continuously to quickly determine an alternate exit link.



Correct Answer: CD

Section: (none)

Explanation

Explanation/Reference:

#### QUESTION 224

Refer to the exhibit.

```
MC#sh pfr master traffic-class
```

OER Prefix Statistics:

Pas - Passive, Act - Active, S - Short term, L - Long term, Dly - Delay (ms),

P - Percentage below threshold, Jit - Jitter (ms),

MOS - Mean Opinion Score

Los - Packet Loss (packets-per-million), Un - Unreachable (flows-per-million),

E - Egress, I - Ingress, Bw - Bandwidth (kbps), N - Not applicable

U - unknown, \* - uncontrolled, + - control more specific, @ - active probe all

# - Prefix monitor mode is Special, & - Blackholed Prefix

% - Force Next-Hop, ^ - Prefix is denied

DstPrefix	Flags	Appl_ID	Dscp	Prot	SrcPort	DstPort	SrcPrefix	Protocol
			State	Time		CurrBR	CurrI/F	
	PasSDly	PasLDly	PasSUn	PasLUn	PasSLos	PasLLos	EBw	IBw
	ActSDly	ActLDly	ActSUn	ActLUn	ActSJit	ActPMOS	ActSLos	ActLLos
-----								
10.1.0.0/24			N N N		N	N N		
			INPOLICY*	@83		10.4.5.4	Et0/1	U
	52	52	0	0	0	0	67	7
	51	51	0	0	N	N	N	N

Which two statements are true regarding prefix 10.1.0.0/24? (Choose two.)

- A. The prefix is in policy, and Cisco PfR rerouted the traffic via 10.4.5.3 Et0/1 because of an OOP event.
- B. Cisco PfR is monitoring the prefix via passive NetFlow mode only.

- C. Cisco PfR is monitoring the prefix via active, fast, or active throughput IP SLA probe mode only.
- D. The prefix is in policy, and Cisco PfR did not reroute the traffic via 10.4.5.3 Et0/1 because the traffic was previously in policy.
- E. Cisco PfR is monitoring the prefix via mode monitor, which provides both NetFlow and IP SLA measurements.

**Correct Answer:** DE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 225**

In the DiffServ model, which class represents the lowest priority with the highest drop probability?

- A. AF11
- B. AF13
- C. AF41
- D. AF43

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 226**

Which two hashing algorithms can be used when configuring SNMPv3? (Choose two.)

- A. MD5
- B. SHA-1
- C. Blowfish
- D. DES
- E. AES
- F. SSL

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 227**

Which two statements about the default router settings for SSH connections are true? (Choose two.)

- A. The default timeout value for the SSH negotiation phase is 120 seconds.
- B. Data is exchanged in clear text by default unless AAA authentication is enabled on the console.
- C. The default number of authentication retries is 3.
- D. SSH is enabled by default when you configure the username command.

**Correct Answer:** AC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

actual answer.

**QUESTION 228**

Refer to the exhibit.

```
R1#sh logging
Syslog logging: enabled (12 messages dropped, 0 messages rate-limited, 0 flushes, 0 overruns, xml disabled, filtering disabled)

No Active Message Discriminator.

No Inactive Message Discriminator.

  Console logging: level debugging, 28 messages logged, xml disabled, filtering disabled
  Monitor logging: level debugging, 0 messages logged, xml disabled, filtering disabled
  Buffer logging:  level debugging, 7 messages logged, xml disabled, filtering disabled
  Logging Exception size (4096 bytes)
  Count and timestamp logging messages: disabled
  Persistent logging: disabled

No active filter modules.

ESM: 0 messages dropped

%SYS-5-CONFIG_I: Configured from console by console
  Trap logging: level informational, 32 message lines logged

Log Buffer (4096 bytes):

%BGP-5-ADJCHANGE: neighbor 209.165.200.226 Down Interface flap
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to administratively down
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to down
%SYS-5-CONFIG_I: Configured from console by console
```

Which statement about the R1 configuration is true?

- A. It supports the service timestamps log uptime command to display time stamps.
- B. The logging buffer command was used to increase the default of the buffer.
- C. The logging of warning messages is disabled.
- D. Log message sequence numbering is disabled.

**Correct Answer: A**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 229**

Which two statements about class maps are true? (Choose two.)

- A. As many as eight DSCP values can be included in a match dscp statement.
- B. The default parameter on a class map with more than one match command is match-any.
- C. The match class command can nest a class map within another class map.
- D. A policy map can be used to designate a protocol within a class map.

**Correct Answer:** AC

**Section:** (none)

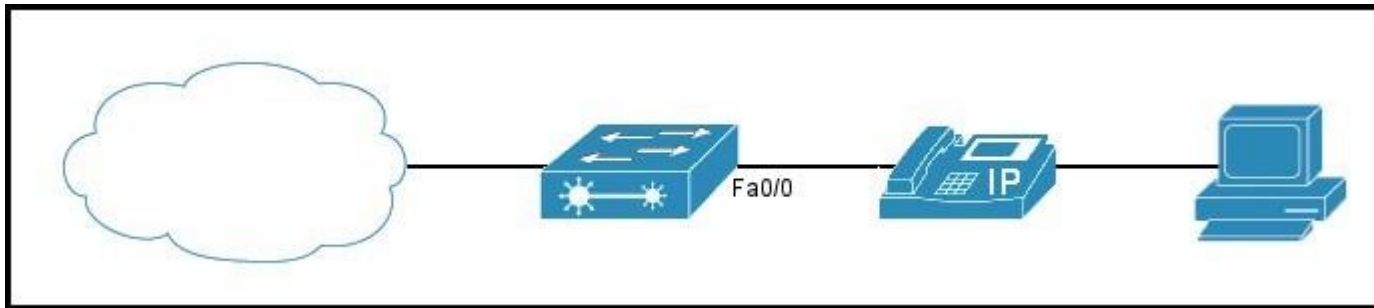
**Explanation**

**Explanation/Reference:**

Best answer.

**QUESTION 230**

Refer to the exhibit.



Which statement about configuring the switch to manage traffic is true?

- A. The switchport priority extend cos command on interface FastEthernet0/0 prevents traffic to and from the PC from taking advantage of the high-priority data queue that is assigned to the IP phone.
- B. The switchport priority extend cos command on interface FastEthernet0/0 enables traffic to and from the PC to use the high priority data queue that is assigned to the IP phone.
- C. When the switch is configured to trust the CoS label of incoming traffic, the trusted boundary feature is disabled automatically.
- D. The mls qos cos override command on interface FastEthernet0/0 configures the port to trust the CoS label of traffic to and from the PC.

**Correct Answer:** A

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 231**

Which IP SLA operation type is enhanced by the use of the IP SLAs Responder?

- A. DNS
- B. HTTP
- C. ICMP Echo
- D. UDP Echo

**Correct Answer: D**

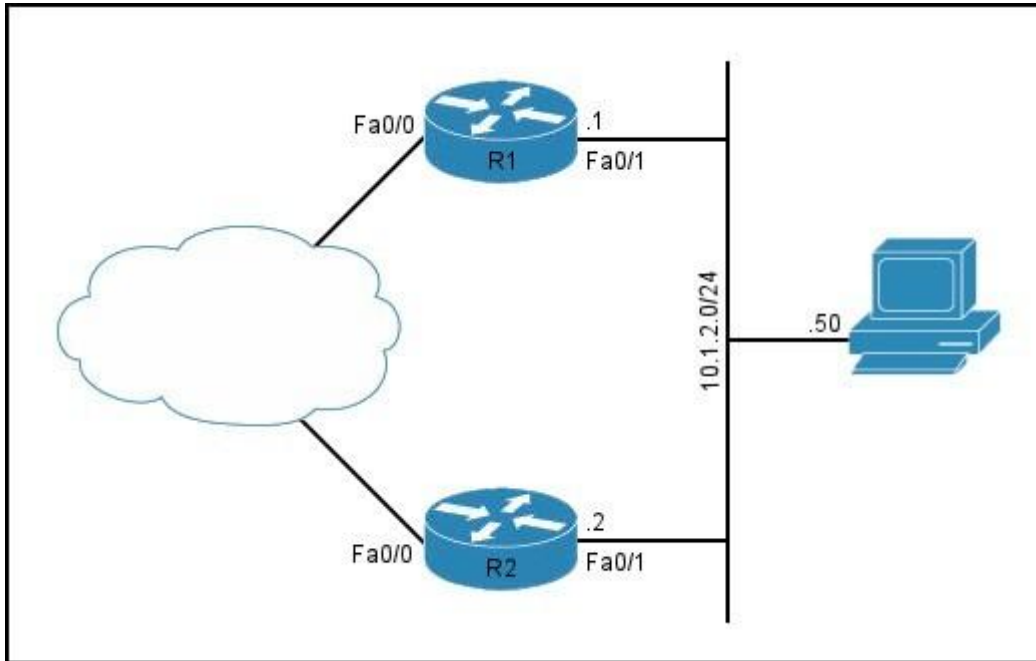
**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 232**

Refer to the exhibit.



Router 1 and Router 2 use HSRP to provide first hop redundancy for hosts on the 10.1.2.0/24 network.

Which feature can provide additional failover coverage for the PC?

- A. Cisco Express Forwarding
- B. NetFlow
- C. Accounting
- D. Enhanced Object Tracking

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 233

Which neighbor-discovery message type is used to verify connectivity to a neighbor when the link-layer address of the neighbor is known?

- A. neighbor solicitation
- B. neighbor advertisement
- C. router advertisement
- D. router solicitation

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 234

Refer to the exhibit.

```
R2#show ntp associations
  address      ref clock    st  when  poll reach  delay  offset  disp
~10.1.1.1      0.0.0.0      16   61    64    0     0.0    0.00  16000.
* master (syncd), # master (unsyncd), + selected, - candidate, ~ configured

R2#show ip route | include 10.1.1.1
O      10.1.1.1/32 [110/11] via 10.1.12.1, 00:20:28, FastEthernet0/0.12

R2#show run | include ntp
ntp authentication-key 1 md5 110A1016141D 7
ntp authenticate
ntp trusted-key 1
ntp clock-period 17179894
ntp server 10.1.1.1 key 1

R1#show ip route connected
 209.165.200.0/27 is subnetted, 1 subnets
C      209.165.200.224 is directly connected, FastEthernet0/0.112
 10.0.0.0/8 is variably subnetted, 7 subnets, 2 masks
C      10.1.13.0/24 is directly connected, FastEthernet0/1.13
C      10.1.12.0/24 is directly connected, FastEthernet0/0.12
C      10.1.1.0/24 is directly connected, Loopback0
```

Which two possible network conditions can you infer from this configuration? (Choose two.)

- A. The authentication parameters on R1 and R2 are mismatched.



- B. R1 is using the default NTP source configuration.
- C. R1 and R2 have established an NTP session.
- D. R2 is configured as the NTP master with a stratum of 7.

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 235**

Which three message types are used for prefix delegation in DHCPv6? (Choose three.)

- A. DHCP Discover
- B. Renew
- C. Solicit
- D. DHCP Offer
- E. Advertise
- F. DHCP Ack

**Correct Answer:** BCE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 236**

Which two statements about static NAT are true? (Choose two.)

- A. An outside local address maps to the same outside global IP address.
- B. An inside local address maps to a different inside global IP address.
- C. An outside local address maps to a different outside global IP address.
- D. An inside local address maps to the same inside global IP address.

**Correct Answer:** AD

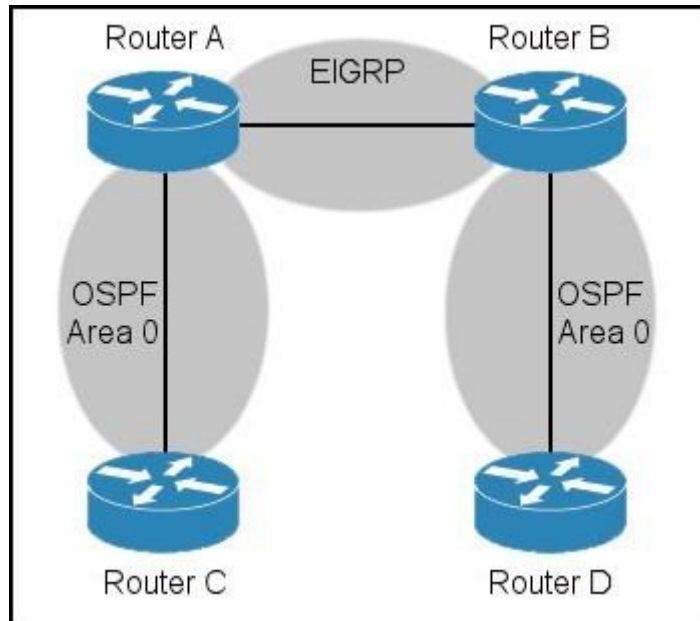
**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 237**

Refer to the exhibit.



Which action must you take to enable full reachability from router C to router D?

- A. Build an OSPF virtual link.
- B. Build an OSPF sham link.
- C. Configure mutual redistribution between OSPF and EIGRP on routers A and B.
- D. Add a static route on router D.

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 238**

Which two Cisco Express Forwarding tables are located in the data plane? (Choose two.)

- A. the forwarding information base
- B. the label forwarding information base
- C. the IP routing table
- D. the label information table
- E. the adjacency table

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 239**

Which option is the most effective action to avoid packet loss due to microbursts?

- A. Implement larger buffers.
- B. Install a faster CPU.
- C. Install a faster network interface.
- D. Configure a larger tx-ring size.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 240**

Which two statements about packet fragmentation on an IPv6 network are true? (Choose two.)

- A. The fragment header is 64 bits long.
- B. The identification field is 32 bits long.
- C. The fragment header is 32 bits long.
- D. The identification field is 64 bits long.
- E. The MTU must be a minimum of 1280 bytes.

F. The fragment header is 48 bits long.

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 241**

You are backing up a server with a 1 Gbps link and a latency of 2 ms. Which two statements about the backup are true? (Choose two.)

- A. The bandwidth delay product is 2 Mb.
- B. The default TCP send window size is the limiting factor.
- C. The default TCP receive window size is the limiting factor.
- D. The bandwidth delay product is 500 Mb.
- E. The bandwidth delay product is 50 Mb.

**Correct Answer:** AC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 242**

Which two pieces of information does RTCP use to inform endpoint devices about the RTP flow? (Choose two.)

- A. the transmitted octet
- B. the lost packet count
- C. session control function provisioning information
- D. the CNAME for session participants
- E. the authentication method
- F. MTU size changes in the path of the flow

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 243**

Which two options are required parts of an EEM policy? (Choose two.)

- A. event register keyword
- B. body
- C. environment must defines
- D. namespace import
- E. entry status
- F. exit status

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 244**

Which two actions can you take to allow the greatest number of pertinent packets to be stored in the temporary buffer of Cisco IOS Embedded Packet Capture? (Choose two.)

- A. Specify the sampling interval.
- B. Specify the capture buffer type.
- C. Specify a reflexive ACL.
- D. Specify the minimum packet capture rate.
- E. Specify the packet size.
- F. Store the capture simultaneously onto an external memory card as the capture occurs.

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 245**

Which technology can be used to secure the core of an STP domain?

- A. UplinkFast
- B. BPDU guard
- C. BPDU filter
- D. root guard

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 246**

What is the destination multicast MAC address for BPDUs on the native VLAN, for a switch that is running 802.1D?

- A. 0185. C400. 0000
- B. 0100.0CCC.CCCC
- C. 0100.0CCC.CCCD
- D. 0180. C200. 0000

**Correct Answer:** D

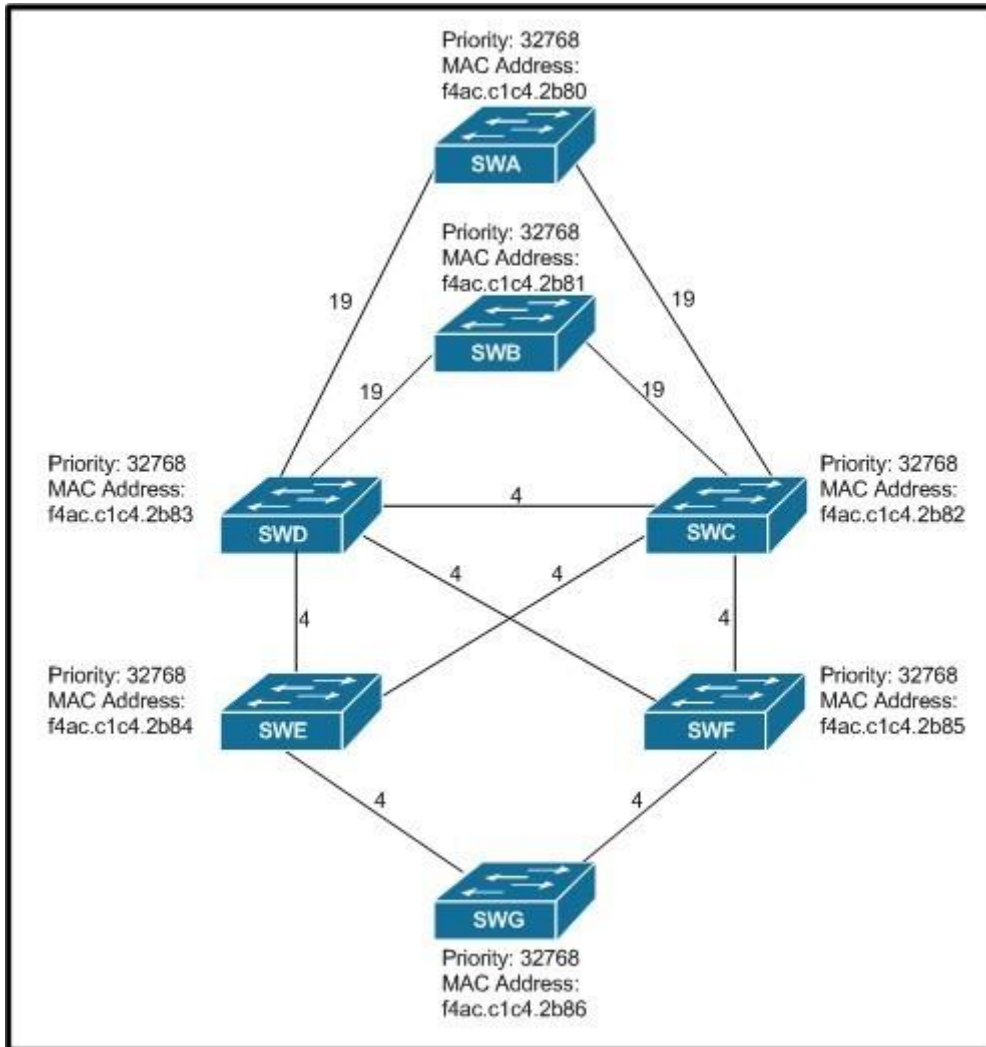
**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 247**

Refer to the exhibit.



All switches have default bridge priorities, and originate BPDUs with MAC addresses as indicated. The numbers shown are STP link metrics.

After STP converges, you discover that traffic from switch SWG toward switch SWD takes a less optimal path. What can you do to optimize the STP tree in this switched network?

- A. Change the priority of switch SWA to a lower value than the default value.
- B. Change the priority of switch SWB to a higher value than the default value.

- C. Change the priority of switch SWG to a higher value than the default value.
- D. Change the priority of switch SWD to a lower value than the default value.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 248**

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

- A. VSS separates the control planes of the active and the standby chassis.
- B. Configuration changes can be made on both active and standby chassis.
- C. When the VSS active chassis recovers after a failure, it initiates a switchover and takes on the active role again.
- D. VSS unifies the control planes of the active and the standby chassis.
- E. HSRP configuration is not required to run VSS.
- F. The VSS standby chassis monitors the VSS active chassis using the VSL.

**Correct Answer:** DEF

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 249**

Which flag in a configuration BPDU instructs all switches to shorten their bridge table aging process from the default 300 seconds to the current forward delay value?

- A. topology change bit
- B. topology change acknowledgment bit
- C. priority bit
- D. max-age bit

**Correct Answer:** A

**Section:** (none)

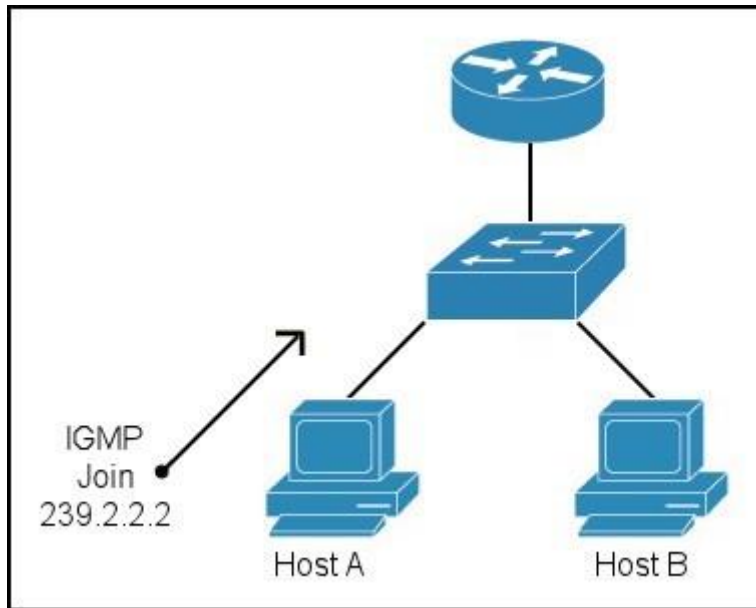
**Explanation**



**Explanation/Reference:**

**QUESTION 250**

Refer to the exhibit.



Which technology can be used on the switch to enable host A to receive multicast packets for 239.2.2.2 but prevent host B from receiving them?

- A. IGMP filtering
- B. MLD snooping
- C. IGMP snooping
- D. MLD filtering

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 251**

Which option describes the purpose of the PPP endpoint discriminator?

- A. It identifies the maximum payload packet.
- B. It notifies the peer that it prefers 12-bit sequence numbers.
- C. It identifies the system attached to the link.
- D. It determines whether a loopback is on the link.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 252**

Which three statements about SPAN traffic monitoring are true? (Choose three.)

- A. Traffic from a non-source VLAN is discarded when it arrives on a source VLAN.
- B. Multiple sessions can send traffic to an individual destination port.
- C. It supports up to 32 SPAN ports per switch.
- D. The destination port acts as a normal switchport.
- E. It supports up to 64 SPAN ports per switch.
- F. Only one session can send traffic to an individual destination port.

**Correct Answer:** AEF

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 253**

Which option describes how a VTPv3 device responds when it detects a VTPv2 device on a trunk port?

- A. It sends VTPv3 packets only.
- B. It sends VTPv2 packets only.
- C. It sends VTPv3 and VTPv2 packets.
- D. It sends a special packet that contains VTPv3 and VTPv2 packet information.

**Correct Answer:** C

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 254**

Which three statements about bridge assurance are true? (Choose three.)

- A. Bridge assurance must be enabled on both ends of a link.
- B. Bridge assurance can be enabled on one end of a link or on both ends.
- C. Bridge assurance is enabled on STP point-to-point links only.
- D. Bridge assurance is enabled on STP multipoint links only.
- E. If a bridge assurance port fails to receive a BPDU after a timeout, the port is put into a blocking state.
- F. If a bridge assurance port fails to receive a BPDU after a timeout, the port is put into an error disabled state.

**Correct Answer: ACE**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 255**

What is the hop limit for an MLD message?

- A. 1
- B. 2
- C. 15
- D. 255

**Correct Answer: A**

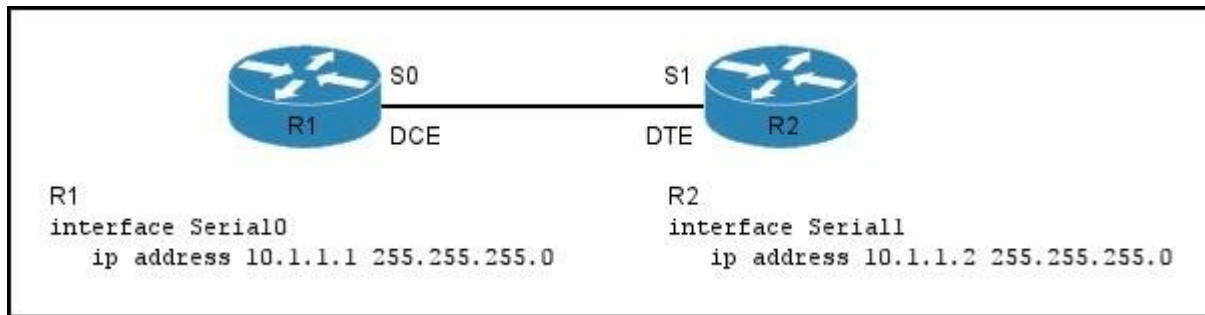
**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 256**

Refer to the exhibit.



Which action must you take to enable the WAN link to function properly?

- A. Enter a clock rate on the DCE interface.
- B. Enter a clock rate on the DTE interface.
- C. Enter a compression algorithm on both interfaces.
- D. Configure both interfaces for HDLC encapsulation.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 257

Which two options are the two main phases of PPPoE? (Choose two.)

- A. Active Discovery Phase
- B. IKE Phase
- C. Main Mode Phase
- D. PPP Session Phase
- E. Aggressive Mode Phase
- F. Negotiation Phase

**Correct Answer:** AD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 258**

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

- A. Spanning Tree must use MST mode on EVC ports.
- B. PAGP is supported on EVC ports.
- C. Spanning Tree must use RSTP mode on EVC ports.
- D. LACP is supported on EVC ports.
- E. Layer 2 multicast framing is supported.
- F. Bridge domain routing is required.

**Correct Answer:** ABD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 259**

Refer to the exhibit.

```
Router#show version
```

```
Router processor (revision 0x00) with 524288K bytes of memory.
```

```
Router#show memory statistics
```

	Head	Total (b)	Used (b)	Free (b)	Lowest (b)	Largest (b)
Processor	38A6400	405117952	360086164	1031788	37130412	34036896

```
Router#show process memory
```

PID	TTY	Allocated	Freed	Holding	Getbufs	Retbufs	Process
0	0	73373216	1706280	69497168	0	0	*Init*
154	0	1103256760	1247933568	311905892	204360	0	BGP Router
327	0	212528944	322521272	44071084	0	0	IP RIB Update

```
Router#show ip bgp summary
```

```
BGP router identifier 1.1.1.1, local AS number 65000
BGP table version is 310248959, main routing table version 310248959
246316 network entries using 29557920 bytes of memory
1586197 path entries using 76137456 bytes of memory
256960/41528 BGP path/bestpath attribute entries using 27751680 bytes of memory
440 BGP rrinfo entries using 10560 bytes of memory
115467 BGP AS-PATH entries using 3047538 bytes of memory
5952 BGP community entries using 479704 bytes of memory
0 BGP route-map cache entries using 0 bytes of memory
230723 BGP filter-list cache entries using 2768676 bytes of memory
BGP using 139753534 total bytes of memory
Dampening enabled. 8 history paths, 0 dampened paths
631350 received paths for inbound soft reconfiguration
BGP activity 9798913/9552597 prefixes, 220384574/218798377 paths, scan interval 60 secs
Neighbor    V    AS  MsgRcvd  MsgSent  TblVer  InQ  OutQ  Up/Down  State/PfxRcd
1.1.1.2      4  65001  39985912 1384531 310248959    0    0  9w1d    277030
1.1.1.3      4  65001  12269759  529250 310248959    0    0  26w0d    276929
1.1.1.4      4  65001  42728751 20209410 310248959    0    0  32w2d    200372
1.1.1.5      4  65001  46624114 20179383 310248959    0    0  1y14w    200372
```

Why is the router out of memory?

- A. The router is experiencing a BGP memory leak software defect.
- B. The BGP peers have been up for too long.
- C. The amount of BGP update traffic in the network is too high.
- D. The router has insufficient memory due to the size of the BGP database.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 260

Refer to the exhibit.

```
R1#show ip ospf neighbor
```

Neighbor ID	Pri	State	Dead Time	Address	Interface
192.168.2.2	0	2WAY/DROTHER	00:00:35	10.25.123.2	Ethernet0/0
192.168.3.3	0	2WAY/DROTHER	00:00:38	10.25.123.3	Ethernet0/0

R1#

Why is the OSPF state in 2WAY/DROTHER?

- A. This is the expected output when the interface Ethernet0/0 of R1 is configured with OSPF Priority 0.
- B. There is a duplicate router ID.
- C. There is an MTU mismatch.
- D. There is an OSPF timer (hello/dead) mismatch.
- E. This is the expected output when R1 is the DR.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 261

In a nonbackbone OSPF area, all traffic that is destined to the Internet is routed by using a default route that is originated by the ABR. Which change in the configuration of the OSPF area type causes traffic from that area that is destined to the Internet to be dropped?

- A. The OSPF area changes from NSSA to totally stubby area.
- B. The OSPF area changes from NSSA to regular area.
- C. The OSPF area changes from stub area to totally stubby area.
- D. The OSPF area changes from stub area to NSSA.

**Correct Answer:** D

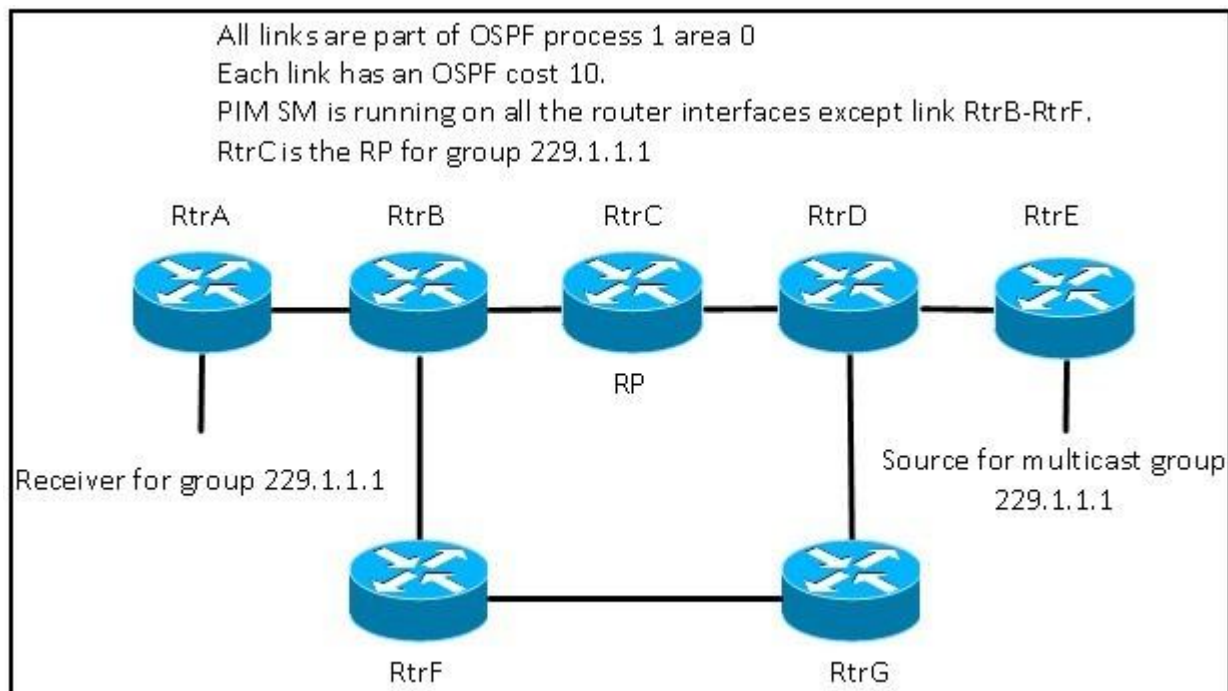
**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 262

Refer to the exhibit.





When the link between RtrB and RtrC goes down, multicast receivers stop receiving traffic from the source for multicast group 229.1.1.1. Which solution will resolve this?

- A. adding a static mroute on RtrB and RtrF
- B. adding a static unicast route on RtrB and RtrF
- C. creating a GRE tunnel between RtrB and RtrD
- D. enabling PIM sparse mode on both ends of the link between RtrB and RtrF

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 263**

Which measure does ISIS use to avoid sending traffic with a wrong MTU configuration?

- A. ISIS does not protect from MTU mismatch.
- B. MTU value is communicated in ISIS Sequence Number PDUs (SNP), and ISIS adjacency is not established if an MTU mismatch is detected.
- C. ISIS uses path MTU discovery as specified in RFC 1063.
- D. ISIS uses padding of hello packets to full MTU.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 264**

Which regular expression will match prefixes from the AS 200 that is directly connected to our AS?

- A. ^\$
- B. ^200)
- C. \_200\$
- D. \_200\_
- E. ^200\_

**Correct Answer:** E

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 265**

Refer to the exhibit.

```
!
interface Loopback10
  no ip address
  ipv6 address 6010:AB8::/64 eui-64
!
interface Loopback20
  no ip address
  ipv6 address 6020:AB8::/64 eui-64
!
interface Ethernet0/0
  no ip address
  ipv6 enable
  ipv6 eigrp 50
!
ipv6 router eigrp 50
!
```

Assuming that the peer is configured correctly and the interface is up, how many neighbors will be seen in the EIGRPv6 neighbor table on this IPv6-only router?

- A. one neighbor, which will use a local router-id of 6010. AB8. . /64
- B. one neighbor, which will use a local router-id of 6020. AB8. . /64
- C. none, because EIGRPv6 only supports authenticated peers
- D. none, because of the mismatch of timers
- E. none, because there is no EIGRP router ID configured

**Correct Answer: E**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 266**

What does a nonzero forwarding address indicate in a type-5 LSA?

- A. It indicates that this link-state ID is eligible for ECMP.
- B. It indicates that this router should have an OSPF neighbor relationship with the forwarding address before using this link-state ID.
- C. It indicates that the receiving router must check that the next hop is reachable in its routing table before using this link-state ID.
- D. It indicates that traffic can be directly routed to this next hop in shared segment scenarios where the external route source is directly connected.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 267**

Which type of EIGRP routes are summarized by the auto-summary command?

- A. internal routes that are learned from a peer that is outside the range of local network statements
- B. external routes that are learned from a peer that is inside the range of local network statements
- C. locally created routes that are outside the range of local network statements
- D. external routes that are learned from a peer that is outside the range of local network statements

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 268**

Refer to the exhibit.

```
router eigrp foo
!
address-family ipv4 unicast autonomous-system 1
!
af-interface default
  hello-interval 10
  hold-time 30
exit-af-interface
!
topology base
exit-af-topology
network 10.0.0.0
exit-address-family
```

How can the EIGRP hello and hold time for Gig0/0 be changed to 5 and 15?

- A. No action is required, since Gig0/0 is not listed with a nondefault hello and hold time.
- B. Add the commands `ip hello-interval eigrp 1 5` and `ip hold-time eigrp 1 15` under interface Gig0/0.
- C. Add the commands `hello-interval 5` and `hold-time 15` under "af-interface Gig0/0" under the address family.
- D. Add the commands `default hello-interval` and `default hold-time` under the af-interface Gig0/0 statement under the address family.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 269

What is the range of addresses that is used for IPv4-mapped IPv6 addresses?

- A. 2001. db9. . /32
- B. 2001. db8. . /32
- C. 2002. . /16
- D. . . ffff. /16
- E. . . ffff. 0. 0/96

**Correct Answer:** E

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 270**

Which statement about the overload bit in IS-IS is true?

- A. The IS-IS adjacencies on the links for which the overload bit is set are brought down.
- B. Routers running SPF ignore LSPs with the overload bit set and hence avoid blackholing traffic.
- C. A router setting the overload bit becomes unreachable to all other routers in the IS-IS area.
- D. The overload bit in IS-IS is used only for external prefixes.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 271**

Refer to the exhibit.

```
R2#show ip mroute 225.1.1.1
(*, 225.1.1.1), 01:32:54/00:03:06, RP 10.100.1.2, flags: SJC
  Incoming interface: Ethernet1/0, RPF nbr 10.1.3.2
  Outgoing interface list:
    Ethernet3/0, Forward/Sparse, 01:32:54/00:03:06

(10.1.4.7, 225.1.1.1), 01:32:54/00:01:05, flags: JT
  Incoming interface: Ethernet1/0, RPF nbr 10.1.3.2
  Outgoing interface list:
    Ethernet3/0, Forward/Sparse, 00:37:38/00:02:26, A
```

Which statement is true?

- A. R2 is directly connected to the receiver for this group and is the winner of an assert mechanism.
- B. R2 is directly connected to the receiver for this group, and it forwards the traffic onto Ethernet3/0, but it is forwarding duplicate traffic onto Ethernet3/0.
- C. R2 has the A flag (Accept flag) set on Ethernet 3/0. This is fine, since the group is in BIDIR PIM mode.
- D. R2 is directly connected to the receiver for this group and is the loser of an assert mechanism.
- E. The A flag is set until the SPT threshold is reached for this multicast group.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 272**

Which three statements about IS-IS are true? (Choose three.)

- A. IS-IS is not encapsulated in IP.
- B. IS-IS is directly encapsulated in the data link layer.
- C. 0xFEFE is used in the Layer 2 header to identify the Layer 3 protocol.
- D. IS-IS uses protocol ID 93.
- E. IS-IS can be used to route the IPX protocol.
- F. IS-IS is an IETF standard.

**Correct Answer:** ABC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 273**

Refer to the exhibit.

```
PE1#show ip rpf 10.100.1.4
RPF information for ? (10.100.1.4)
  RPF interface: Ethernet1/0
  RPF neighbor: ? (10.1.1.4)
  RPF route/mask: 10.100.1.4/32
  RPF type: multicast (isis)
  Doing distance-preferred lookups across tables
  RPF topology: ipv4 multicast base
```

Which statement is true?

- A. The command ip multicast rpf mult topology is missing from the configuration.
- B. Multitopology routing for multicast has been enabled for IS-IS.
- C. This output is invalid.
- D. The command mpls traffic-eng multicast-intact is configured on this router.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 274

As a best practice, when a router is configured as an EIGRP Stub, which routes should be received from its distribution neighbor?

- A. the default route
- B. static routes
- C. internal routes only
- D. internal and external routes

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 275**

Which BGP feature allows BGP routing tables to be refreshed without impacting established BGP sessions?

- A. BGP synchronization
- B. soft reconfiguration
- C. confederations
- D. hard reset

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 276**

Which two options describe two functions of a neighbor solicitation message? (Choose two.)

- A. It requests the link-layer address of the target.
- B. It provides its own link-layer address to the target.
- C. It requests the site-local address of the target.
- D. It provides its own site-local address to the target.
- E. It requests the admin-local address of the target.
- F. It provides its own admin-local address to the target.

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 277**

Which three options are three of the default EIGRP administrative distances? (Choose three.)

- A. Internal, 90
- B. External, 170
- C. Summary, 5
- D. Outside Local, 100



- E. Inside Local, 180
- F. Inside Global, 1

**Correct Answer:** ABC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 278

Refer to the exhibit.

```
O E2    172.17.108.128/25
        [110/20] via 10.169.73.12, 3d07h, TenGigabitEthernet8/0/0
O E2    10.167.111.216/29
        [110/20] via 10.169.73.12, 3d07h, TenGigabitEthernet8/0/0
O IA    10.68.2.0/31
        [110/489] via 10.169.73.12, 3d07h, TenGigabitEthernet8/0/0
O IA    10.68.2.2/31
        [110/488] via 10.169.73.12, 3d07h, TenGigabitEthernet8/0/0
B       10.1.50.0/24 [200/0] via 172.16.189.9, 3d07h
B       10.1.51.0/24 [200/0] via 172.16.189.9, 3d07h
```

Which two statements about this route table are true? (Choose two.)

- A. The BGP routes are internal.
- B. The OSPF routes with the E2 flag retain the same metric as they leave the router.
- C. The OSPF routes with the IA flag have their administrative distances incremented as they leave the router.
- D. The BGP routes are external.
- E. The OSPF routes with the E2 flag have their metrics incremented as they leave the router.

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 279

Refer to the exhibit.

```
interface GigabitEthernet0/1
  ip address 192.168.1.5 255.255.255.0
  prefix-list FILTER seq 5 permit 172.16.0.0/16
  prefix-list FILTER seq 10 permit 0.0.0.0/0
  router eigrp 65000
    no auto-summary
    network 192.168.1.5 0.0.0.0
    distribute-list prefix FILTER out
```

Which two statements about this configuration are true? (Choose two.)

- A. It allows 172.16.0.0/16 to be distributed into EIGRP.
- B. It allows a default route to be distributed into EIGRP.
- C. It allows 172.16.0.0/16 and larger subnets to be distributed into EIGRP.
- D. It prevents 172.16.0.0/16 from being distributed into EIGRP.
- E. It prevents a default route from being distributed into EIGRP.
- F. It creates summary routes and injects them into EIGRP.

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 280

Refer to the exhibit.

```
R2
interface Loopback2
 ip address 172.16.2.2 255.255.255.0
interface Loopback3
 ip address 172.16.3.3 255.255.255.0
interface Loopback4
 ip address 172.16.5.4 255.255.255.0
interface GigabitEthernet1/0
 ip address 10.0.78.8 255.255.255.0
 ip router isis
router isis
 net 49.0001.0031.0031.00
 redistribute connected route-map LOOPBACKS
 ip access-list standard LOOPBACKS
 permit 172.16.0.0 0.0.3.255
route-map LOOPBACKS permit 10
 match ip address LOOPBACKS
```

R1 is able to reach only some of the subnets that R2 is advertising. Which two configuration changes can you make to ensure that R1 can reach all routes from R2? (Choose two.)

- A. Add an additional permit statement to the LOOPBACKS route map.
- B. Modify the LOOPBACKS access list to include all loopback subnets.
- C. Add an additional statement in the LOOPBACKS route map to match both Level 1 and Level 2 circuits.
- D. Add an additional statement in the LOOPBACKS route map to match the R1 CLNS address.
- E. Configure the interfaces between R1 and R2 with a Level 1 IS-IS circuit.
- F. Configure the interfaces between R1 and R2 with a Level 2 IS-IS circuit.

**Correct Answer:** AB

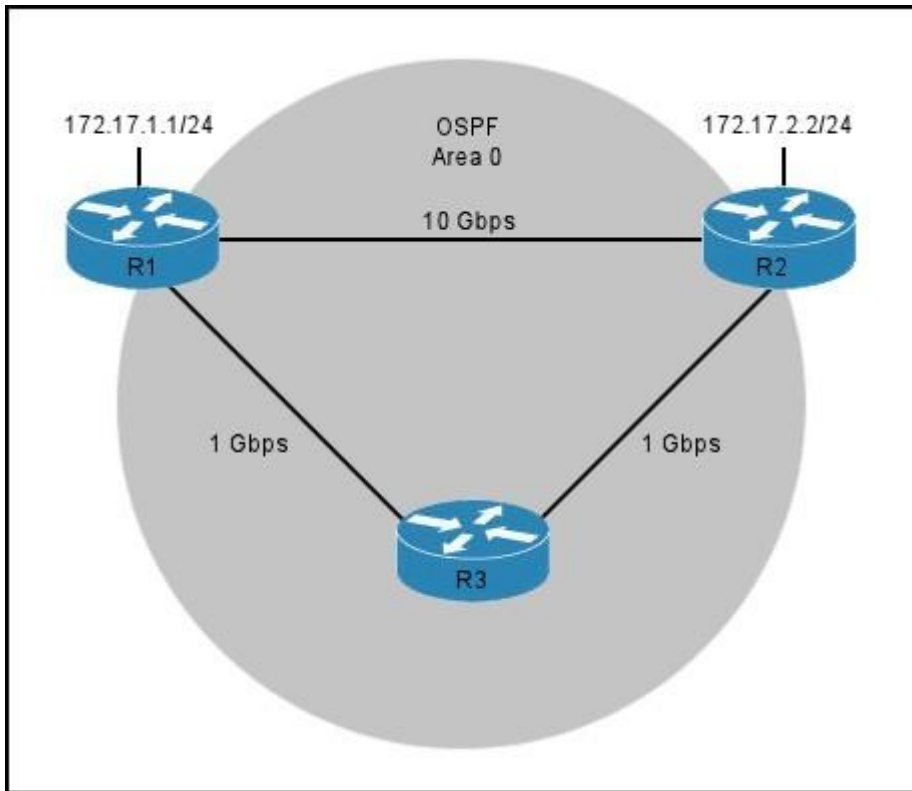
**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 281

Refer to the exhibit.



R1, R2, and R3 have full network connectivity to each other, but R2 prefers the path through R3 to reach network 172.17.1.0/24. Which two actions can you take so that R2 prefers the path through R1 to reach 172.17.1.0/24? (Choose two.)

- A. Set the reference bandwidth to 10000 on R1, R2, and R3.
- B. Configure the cost on the link between R1 and R3 to be greater than 100 Mbps.
- C. Set the reference bandwidth on R2 only.
- D. Configure a manual bandwidth statement with a value of 1 Gbps on the link between R1 and R3.
- E. Modify the cost on the link between R1 and R2 to be greater than 10 Gbps.
- F. Configure a manual bandwidth statement with a value of 100 Mbps on the link between R1 and R2.

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 282**

What are two advantages to using Asynchronous mode instead of Demand mode for BFD? (Choose two.)

- A. Asynchronous mode requires half as many packets as Demand mode for failure detection.
- B. Asynchronous mode can be used in place of the echo function.
- C. Asynchronous mode supports a larger number of BFD sessions.
- D. Asynchronous mode requires one fourth as many packets as Demand mode for failure detection.
- E. Asynchronous mode's round-trip jitter is less than that of Demand mode.

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 283**

Which action does route poisoning take that serves as a loop-prevention method?

- A. It immediately sends routing updates with an unreachable metric to all devices.
- B. It immediately sends routing updates with a metric of 255 to all devices.
- C. It prohibits a router from advertising back onto the interface from which it was learned.
- D. It advertises a route with an unreachable metric back onto the interface from which it was learned.
- E. It poisons the route by tagging it uniquely within the network.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 284**

Which two statements about the ipv6 ospf authentication command are true? (Choose two.)

- A. The command is required if you implement the IPsec AH header.
- B. The command configures an SPI.

- C. The command is required if you implement the IPsec TLV.
- D. The command can be used in conjunction with the SPI authentication algorithm.
- E. The command must be configured under the OSPFv3 process.

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 285**

Which two statements about SoO checking in EIGRP OTP deployments are true? (Choose two).

- A. During the import process, the SoO value in BGP is checked against the SoO value of the site map.
- B. During the reception of an EIGRP update, the SoO value in the EIGRP update is checked against the SoO value of the site map on the ingress interface.
- C. At the ingress of the PE/CE link, the SoO in the EIGRP update is checked against the SoO within the PE/CE routing protocol.
- D. At the egress of the PE/CE link, the SoO is checked against the SoO within the PE/CE routing protocol.
- E. The SoO is checked at the ingress of the backdoor link.
- F. The SoO is checked at the egress of the backdoor link.

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 286**

Which two OSPF LSA types are flooded within the originating area? (Choose two.)

- A. type 1, Router LSA
- B. type 2, Network LSA
- C. type 3, Network Summary LSA
- D. type 4, ASBR Summary LSA
- E. type 6, Group Membership LSA
- F. type 9, Opaque LSA

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 287**

Which statement about the OSPF Loop-Free Alternate feature is true?

- A. It is supported on routers that are configured with virtual links.
- B. It is supported in VRF OSPF instances.
- C. It is supported when a traffic engineering tunnel interface is protected.
- D. It is supported when traffic can be redirected to a primary neighbor.

**Correct Answer:** B

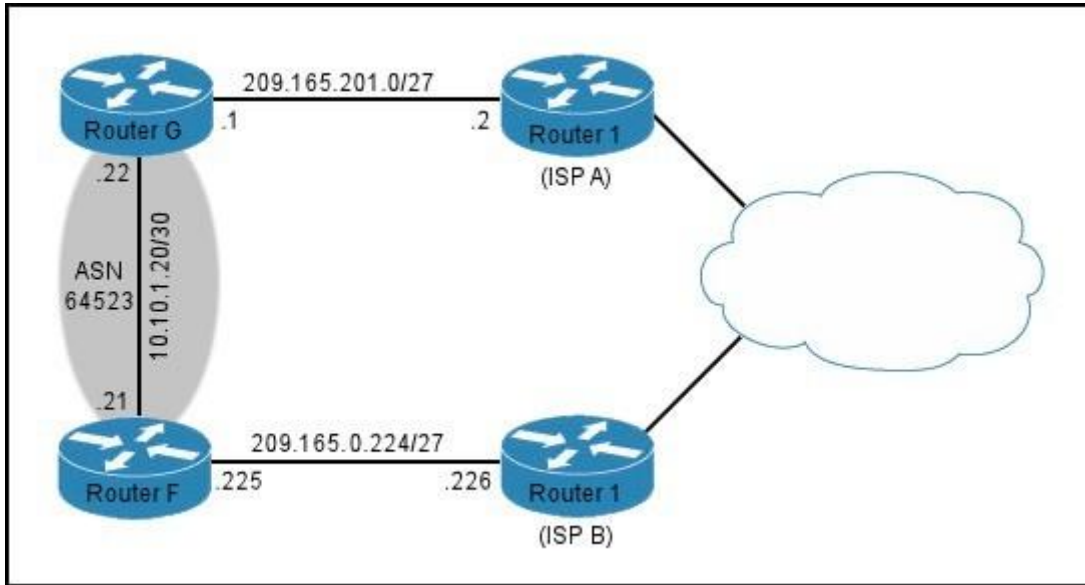
**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 288**

Refer to the exhibit.



ASN 64523 has a multi-homed BGP setup to ISP A and ISP B. Which BGP attribute can you set to allow traffic that originates in ASN 64523 to exit the ASN through ISP B?

- A. origin
- B. next-hop
- C. weight
- D. multi-exit discriminator

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 289

When deploying redundant route reflectors in BGP, which attribute can you configure on the route reflector to allow routes to be identified as belonging to the same group?

- A. ROUTER\_ID
- B. CLUSTER\_ID



- C. ORIGINATOR\_ID
- D. PEER\_GROUP

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 290**

Which two options are mandatory components of a multiprotocol BGP VPN-IPv4 address? (Choose two.)

- A. a route distinguisher
- B. an IPv4 address
- C. a route target
- D. an MPLS label
- E. a system ID
- F. an area ID

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 291**

Which BGP feature enables you to install a backup path in the forwarding table?

- A. soft reconfiguration
- B. prefix independent convergence
- C. route refresh
- D. synchronization

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 292

Refer to the exhibit.

R1

```
ip vrf VPN
  rd 1:1
  import-map INBOUND
  route-target both 1:1
interface GigabitEthernet0/0
  ip vrf forwarding VPN
  ip address 192.168.0.1 255.255.255.0
access-list 10 5 permit 192.168.0.0 255.255.0.0
access-list 10 10 permit 10.2.2.2 255.255.255.255
route-map INBOUND 10
  match ip address 10
router ospf 1 vrf VPN
  network 192.168.0.0 0.0.0.255 area 0
```

R2

```
ip vrf VPN
  rd 1:1
  route-target both 1:1
interface Loopback1
  ip vrf forwarding VPN
  ip address 10.1.1.1 255.255.255.0
interface Loopback1
  ip vrf forwarding VPN
  ip address 10.2.2.2 255.255.255.0
interface Loopback2
  ip vrf forwarding VPN
  ip address 10.3.3.3 255.255.255.0
interface GigabitEthernet0/0
  ip vrf forwarding VPN
  ip address 192.168.0.2 255.255.255.0
router ospf 2 vrf VPN
  network 192.168.0.0 0.0.0.255 area 0
  network 10.1.1.1 0.0.0.0 area 0
  network 10.2.2.2 0.0.0.0 area 0
  network 10.3.3.0 0.0.0.15 area 0
```

R1 and R2 have a working VRF-Lite configuration, but R1 is receiving a route only to 10.2.2.2 from R2. Which two changes can you make so that R1 receives all routes from R2? (Choose two.)

- A. Create an additional permit statement in the access list that is referenced by the import-map on R1.
- B. Disable VRF filtering on R1.
- C. Set the R1 and R2 OSPF process IDs to match.
- D. Change the wildcard mask for the network 10.3.3.0 to 0.0.0.0.
- E. Create a matching export map in the VRF for R2.

**Correct Answer:** AB

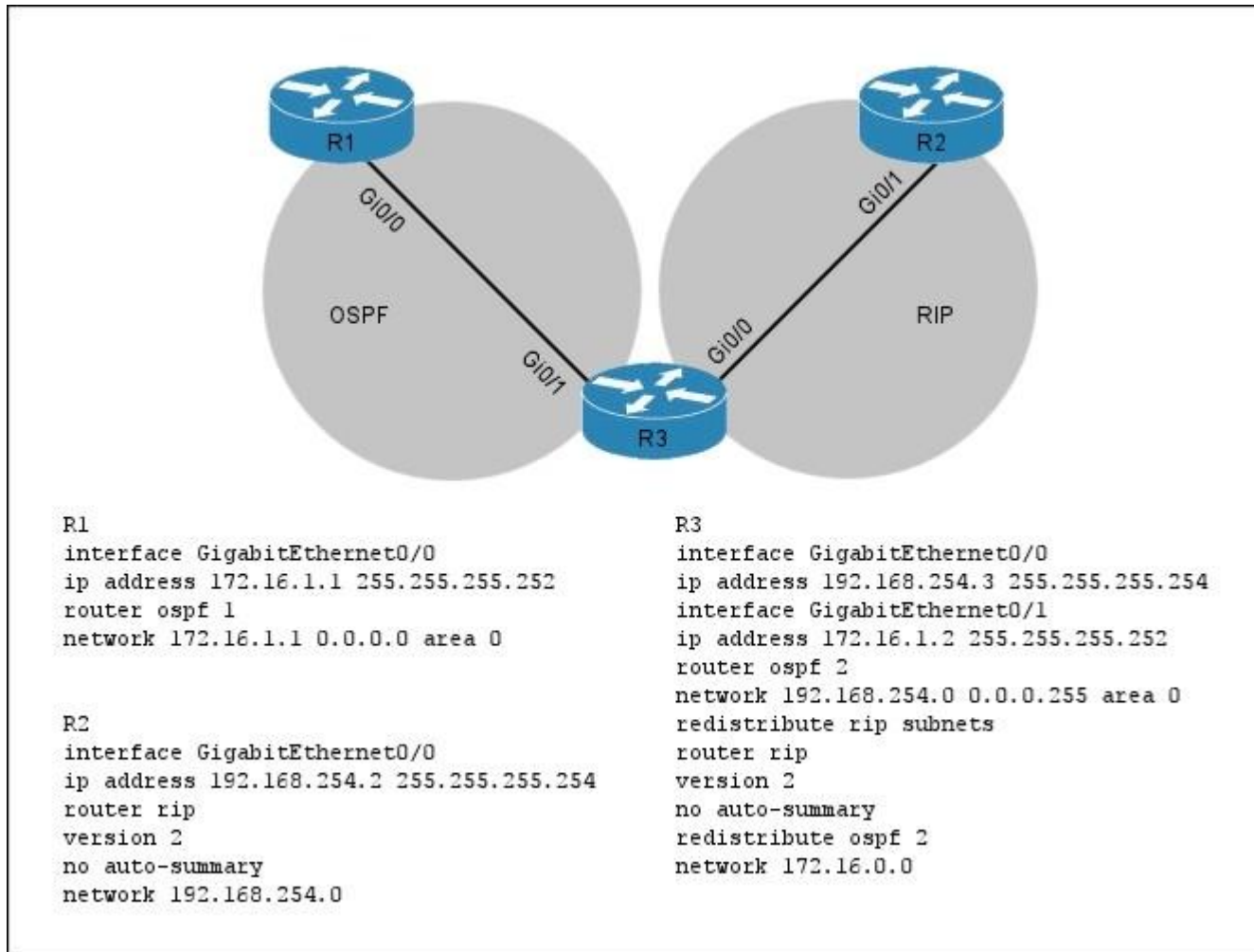
**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 293**

Refer to the exhibit.



R2 is unable to access the 172.16.1.0/30 network between R1 and R3. Which option is a possible reason for the failure?

- A. The seed metric for redistributing into RIP on R3 is missing.
- B. The OSPF processes on R2 and R3 are different.
- C. Auto-summary is misconfigured under the RIP process of R3.
- D. The subnet mask on the link between R2 and R3 is smaller than /30.
- E. The wildcard mask on R3 is misconfigured.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 294**

Refer to the exhibit.

```
interface tunnel0
 tunnel mode ipv6ip 6to4
 tunnel source 125.203.89.1
 ipv6 address ?
```

Which statement is true about a valid IPv6 address that can be configured on interface tunnel0?

- A. There is not enough information to calculate the IPv6 address.
- B. 6to4 tunneling allows you to use any IPv6 address.
- C. 2001.7DCB.5901. . /128 is a valid IPv6 address.
- D. 2002.7DCB.5901. . /128 is a valid IPv6 address.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 295**

Which technology is not necessary to set up a basic MPLS domain?

- A. IP addressing
- B. an IGP
- C. LDP or TDP
- D. CEF
- E. a VRF

**Correct Answer:** E

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 296**

What is the main component of Unified MPLS?

- A. Multiple IGPs in the network are used, where the loopback IP addresses of the PE routers are aggregated on the area border routers.
- B. Confederations are used to provide scalability.
- C. The loopback prefixes from one IGP area are redistributed into BGP without changing the next hop.
- D. The ABR is a BGP route reflector and sets next-hop to self for all reflected routes.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 297**

For which feature is the address family "rtfilter" used?

- A. Enhanced Route Refresh
- B. MPLS VPN filtering
- C. Route Target Constraint
- D. Unified MPLS

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 298**

Refer to the exhibit.

```
Codes: '!' - success, 'Q' - request not sent, '.' - timeout,  
'L' - labeled output interface, 'B' - unlabeled output interface,  
'D' - DS Map mismatch, 'F' - no FEC mapping, 'f' - FEC mismatch,  
'M' - malformed request, 'm' - unsupported tlvs, 'N' - no label entry,  
'P' - no rx intf label prot, 'p' - premature termination of LSP,  
'R' - transit router, 'I' - unknown upstream index,  
'X' - unknown return code, 'x' - return code 0
```

Type escape sequence to abort.

```
! size 100, reply addr 70.169.72.33, return code 3  
! size 100, reply addr 70.169.72.33, return code 3  
! size 100, reply addr 70.169.72.33, return code 3  
! size 100, reply addr 70.169.72.33, return code 3  
! size 100, reply addr 70.169.72.33, return code 3
```

Success rate is 100 percent (5/5), round-trip min/avg/max = 4/4/4 ms

What does the return code 3 represent in this output?

- A. The mapping of the replying router for the FEC is different.
- B. The packet is label-switched at stack depth.
- C. The return code is reserved.
- D. The upstream index is unknown.
- E. The replying router was the proper egress for the FEC.

**Correct Answer:** E

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 299

Which two values comprise the VPN ID for an MPLS VPN? (Choose two.)

- A. an OUI
- B. a VPN index
- C. a route distinguisher

- D. a 16-bit AS number
- E. a 32-bit IP address

**Correct Answer:** AB

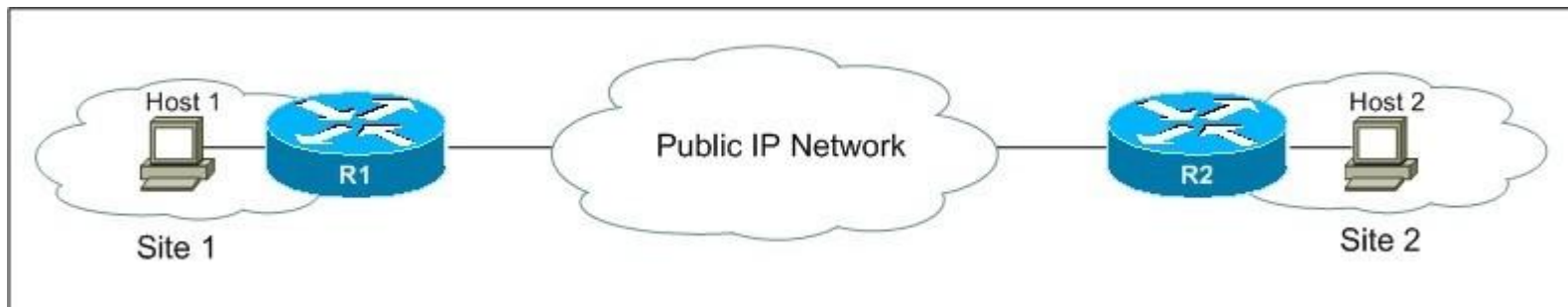
**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 300**

Refer to the exhibit.



Which LISP component do routers in the public IP network use to forward traffic between the two networks?

- A. EID
- B. RLOC
- C. map server
- D. map resolver

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 301**

Refer to the exhibit.



```
NHRP: Send Registration Request via Tunnel1 vrf 0, packet size: 108
src: 172.30.10.66, dst: 172.30.10.1
(F) afn: AF_IP(1), type: IP(800), hop: 255, ver: 1
  shtl: 4(NSAP), sstl: 0(NSAP)
  pktsz: 108 extoff: 52
(M) flags: "unique nat ", reqid: 113922
  src NBMA: 10.100.100.193
  src protocol: 172.30.10.66, dst protocol: 172.30.10.1
(C-1) code: no error(0)
  prefix: 32, mtu: 17912, hd_time: 600
  addr_len: 0(NSAP), subaddr_len: 0(NSAP), proto_len: 0, pref: 0
NHRP: Receive Registration Reply via
  addr_len: 0(NSAP), subaddr_len: 0(NSAP), proto_len: 0, pref: 0
```

Which device role could have generated this debug output?

- A. an NHS only
- B. an NHC only
- C. an NHS or an NHC
- D. a DMVPN hub router

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 302

Which statement about the NHRP network ID is true?

- A. It is sent from the spoke to the hub to identify the spoke as a member of the same NHRP domain.
- B. It is sent from the hub to the spoke to identify the hub as a member of the same NHRP domain.
- C. It is sent between spokes to identify the spokes as members of the same NHRP domain.
- D. It is a locally significant ID used to define the NHRP domain for an interface.

**Correct Answer:** D

**Section:** (none)

### **Explanation**

### **Explanation/Reference:**

#### **QUESTION 303**

You are configuring a DMVPN spoke to use IPsec over a physical interface that is located within a VRF. For which three configuration sections must you specify the VRF name? (Choose three.)

- A. the ISAKMP profile
- B. the crypto keyring
- C. the IPsec profile
- D. the IPsec transform set
- E. the tunnel interface
- F. the physical interface

**Correct Answer:** BEF

**Section:** (none)

### **Explanation**

### **Explanation/Reference:**

#### **QUESTION 304**

Which IPv6 prefix is used for 6to4 tunnel addresses?

- A. 2001. . /23
- B. 2002. . /16
- C. 3ffe. . /16
- D. 5f00. . /8
- E. 2001. . /32

**Correct Answer:** B

**Section:** (none)

### **Explanation**

### **Explanation/Reference:**

#### **QUESTION 305**

When you configure the ip pmtu command under an L2TPv3 pseudowire class, which two things can happen when a packet exceeds the L2TP path MTU? (Choose two.)

- A. The router drops the packet.
- B. The router always fragments the packet after L2TP/IP encapsulation.
- C. The router drops the packet and sends an ICMP unreachable message back to the sender only if the DF bit is set to 1.
- D. The router always fragments the packet before L2TP/IP encapsulation.
- E. The router fragments the packet after L2TP/IP encapsulation only if the DF bit is set to 0.
- F. The router fragments the packet before L2TP/IP encapsulation only if the DF bit is set to 0.

**Correct Answer:** CF

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 306**

Which two parameters does the Tunnel Mode Auto Selection feature select automatically? (Choose two.)

- A. the tunneling protocol
- B. the transport protocol
- C. the ISAKMP profile
- D. the transform-set
- E. the tunnel peer

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 307**

By default, how does a GET VPN group member router handle traffic when it is unable to register to a key server?

- A. All traffic is queued until registration is successful or the queue is full.
- B. All traffic is forwarded through the router unencrypted.
- C. All traffic is forwarded through the router encrypted.

D. All traffic through the router is dropped.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 308**

Which two protocols are not protected in an edge router by using control plane policing? (Choose two.)

- A. SMTP
- B. RPC
- C. SSH
- D. Telnet

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 309**

Which two statements are true about AAA? (Choose two.)

- A. AAA can use RADIUS, TACACS+, or Windows AD to authenticate users.
- B. If RADIUS is the only method configured in AAA, and the server becomes unreachable, the user will be able to log in to the router using a local username and password.
- C. If the local keyword is not included and the AAA server does not respond, then authorization will never be possible and the connection will fail.
- D. AAA can be used to authenticate the enable password with a AAA server.

**Correct Answer:** CD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 310**

Which three types of traffic are allowed by IEEE 802.1X access control prior to getting authenticated? (Choose three.)

- A. EAPOL
- B. VTP
- C. STP
- D. ARP
- E. CDP
- F. HTTP

**Correct Answer:** ACE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 311**

Which two statements about MAC ACLs are true? (Choose two.)

- A. They support only inbound filtering.
- B. They support both inbound and outbound filtering.
- C. They are configured with the command mac access-list standard.
- D. They can filter non-IP traffic on a VLAN and on a physical interface.

**Correct Answer:** AD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 312**

Refer to the exhibit.

```
Router#sh policy-map control-plane
Control Plane

Service-policy output: control-plane-out

Class-map: icmp-class (match-all)
  197314985 packets, 11510114428 bytes
  5 minute offered rate 1000 bps, drop rate 0000 bps
  Match: access-group name killicmpv2
  police:
    cir 1000000 bps, bc 31250 bytes
    conformed 197138885 packets, 11499818077 bytes; actions:
      transmit
    exceeded 176100 packets, 10296351 bytes; actions:
      drop
    conformed 1000 bps, exceed 0000 bps

Class-map: class-default (match-any)
  1126224901 packets, 158790413979 bytes
  5 minute offered rate 41000 bps, drop rate 0000 bps
  Match: any
```

What happens to packets when traffic in the icmp-class class exceeds the policed amount?

- A. Packets are discarded and a message is logged.
- B. Packets are discarded and a trap is sent to any servers that are configured to receive traps.
- C. Packets are discarded silently.
- D. Packets are discarded and an inform is sent to any servers that are configured to receive informs.

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

### QUESTION 313

Which statement describes Cisco PfR link groups?

- A. Link groups enable Cisco PfR Fast Reroute when NetFlow is enabled on the external interfaces of the border routers.

- B. Link groups define a strict or loose hop-by-hop path preference.
- C. Link groups are required only when Cisco PfR is configured to load-balance all traffic.
- D. Link groups are enabled automatically when Cisco PfR is in Fast Reroute mode.
- E. Link groups set a preference for primary and fallback (backup) external exit interfaces.

**Correct Answer:** E

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 314**

Which two statements about NetFlow are true? (Choose two.)

- A. It must be configured on each router in a network.
- B. It supports ATM LAN emulation.
- C. The existing network is unaware that NetFlow is running.
- D. It uses SIP to establish sessions between neighbors.
- E. It provides resource utilization accounting.

**Correct Answer:** CE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 315**

You are installing a new device to replace a device that failed. The configuration of the failed device is stored on a networked server, and the new device has an RXBOOT image installed. Under which condition does the streamlined Setup mode fail?

- A. The last four bits of the configuration register are not equal to the decimal value 0 or 1.
- B. The startup configuration file was deleted.
- C. Bit 6 is set in the configuration register.
- D. The startup configuration is corrupt.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 316**

Which option is the Cisco recommended method to secure access to the console port?

- A. Configure the activation-character command.
- B. Configure a very short timeout (less than 100 milliseconds) for the port.
- C. Set the privilege level to a value less than 15.
- D. Configure an ACL.

**Correct Answer: A**

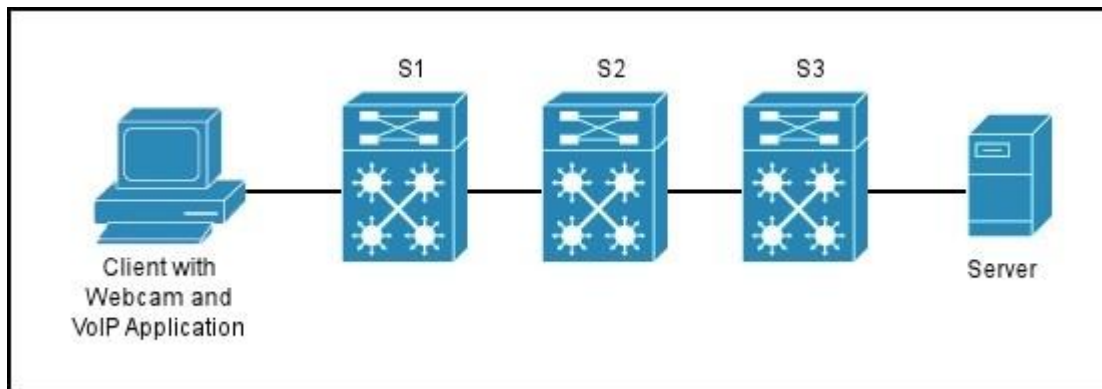
**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 317**

Refer to the exhibit.



You are configuring the S1 switch for the switchport connecting to the client computer. Which option describes the effect of the command `mls qos map cos-dscp 0 8 16 24 32 40 46 56`?

- A. Voice traffic is excluded from the default priority queue.
- B. Voice packets are given a class selector of 5.



- C. Video conferencing is marked CS3.
- D. Voice packets are processed in the priority queue.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 318**

Refer to the exhibit.

```
class-map match-any voice
match dscp ef
class-map match-any router
match dscp cs6
class-map match-any gold
match dscp af41
class-map match-any silver
match dscp af31

policy-map egress_queue
class voice
priority percent 25
class gold
bandwidth percent 40
class silver
bandwidth percent 15
class router
bandwidth percent 5
class class-default
bandwidth percent remaining

policy-map egress_queue_2
class class-default
shape average 6000000
service-policy egress_queue

interface GigabitEthernet0/1
service-policy output egress_queue_2
```

If the network switch is configured as shown, which two statements about network traffic are true? (Choose two.)

- A. Traffic enters the shaper on a FIFO basis.
- B. Traffic enters the shaper on a weighted fair queueing basis.
- C. Drop behavior is random for traffic in excess of 6 Mbps.
- D. Voice traffic is given priority until it reaches 1.5 Mbps.
- E. Voice traffic is given priority until it reaches 6 Mbps.

**Correct Answer:** AD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 319**

Which two options are two characteristics of the HSRPv6 protocol? (Choose two.)

- A. It uses virtual MAC addresses 0005.73a0.0000 through 0005.73a0.0fff.
- B. It uses UDP port number 2029.
- C. It uses virtual MAC addresses 0005.73a0.0000 through 0005.73a0.ffff.
- D. It uses UDP port number 2920.
- E. If a link local IPv6 address is used, it must have a prefix.

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 320**

Which statement about VRRP is true?

- A. It supports load balancing.
- B. It can be configured with HSRP on a switch or switch stack.
- C. It supports IPv4 and IPv6.
- D. It supports encrypted authentication.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 321**

Refer to the exhibit.

```
ip sla monitor 10
  type echo protocol ipIcmpEcho 10.1.1.1 source-ipaddr 10.1.1.2
  frequency 60

ip sla monitor schedule 10 life 360
```

What is the polling frequency set by this configuration?

- A. 60 seconds
- B. 10 seconds
- C. 360 seconds
- D. 60 milliseconds
- E. 10 milliseconds

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 322

Refer to the exhibit.

```
configure terminal
  interface Ethernet 0/0
    ip address 10.1.1.2 255.255.255.0
    ip flow-export destination 10.1.1.1
```

Which additional information must you specify in this configuration to capture NetFlow traffic?

- A. ingress or egress traffic
- B. the number of cache entries
- C. the flow cache active timeout

D. the flow cache inactive timeout

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 323**

For which three routing protocols can Cisco PfR provide direct route control? (Choose three.)

A. OSPF

B. ISIS

C. BGP

D. EIGRP

E. static routing

F. ODR

**Correct Answer:** CDE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 324**

Which three features require Cisco Express Forwarding? (Choose three.)

A. NBAR

B. AutoQoS

C. fragmentation

D. MPLS

E. UplinkFast

F. BackboneFast

**Correct Answer:** ABD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 325**

Which two options are interface requirements for turbo flooding? (Choose two.)

- A. The interface is Ethernet.
- B. The interface is configured for ARPA encapsulation.
- C. The interface is PPP.
- D. The interface is configured for GRE encapsulation.
- E. The interface is configured for 802.1Q encapsulation.

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 326**

Which three options are sub-subfields of the IPv4 Option Type subfield? (Choose three.)

- A. Option Class
- B. GET
- C. Copied
- D. PUSH
- E. Option Number
- F. TTL

**Correct Answer:** ACE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 327**

Which TCP mechanism prevents the sender from sending data too quickly for the receiver to process?

- A. Congestion control

- B. Error detection
- C. Selective acknowledgement
- D. Flow control

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 328**

Which two packet types does an RTP session consist of? (Choose two.)

- A. TCP
- B. RTCP
- C. RTP
- D. ICMP
- E. BOOTP
- F. ARP

**Correct Answer:** BC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 329**

Which option describes the effect of the OSPF default-information originate always command?

- A. It creates a stub area.
- B. It configures the device to advertise a default route regardless of whether it exists in the routing table.
- C. It configures the device to automatically redistribute a default route.
- D. It adds a static default route to the device configuration.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 330**

Which technology can create a filter for an embedded packet capture?

- A. Control plane policing
- B. Access lists
- C. NBAR
- D. Traffic shaping

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 331**

Which two options are reasons to manipulate the delay metric instead of the bandwidth metric for EIGRP routing? (Choose two.)

- A. Because the delay metric provides better handling for bursty traffic
- B. Because manipulating the bandwidth metric can also affect QoS
- C. Because manipulating the bandwidth affects only a particular path
- D. Because changes to the delay metric are propagated to all neighbors on a segment

**Correct Answer:** BD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 332**

Which option describes a limitation of Embedded Packet Capture?

- A. It can capture data only on physical interfaces and subinterfaces.
- B. It can store only packet data.
- C. It can capture multicast packets only on ingress.
- D. It can capture multicast packets only on egress.



**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 333**

Which statement about Cisco Discovery Protocol is true?

- A. The multicast address 0100.0cdd.dddd is used as the destination address for periodic advertisements.
- B. An inactive VLAN that is configured on an access port passes periodic Cisco Discovery Protocol advertisements.
- C. The multicast address 0100.0ccc.ccd is used as the destination address for periodic advertisements.
- D. A VLAN must be active on an access port before periodic Cisco Discovery Protocol advertisements are passed.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 334**

Which three TLVs does LLDP use to discover network devices? (Choose three.)

- A. Management address
- B. Port description
- C. Network policy
- D. System name
- E. Location information
- F. Power management

**Correct Answer:** ABD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 335**

Which command enables L2 QoS support in all VLANs (including the native VLAN)?

- A. switchport priority extend cos
- B. mls qos trust dscp
- C. mls qos rewrite ip dscp
- D. switchport trunk native vlan tag

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 336**

Which three modes are valid for forming an EtherChannel between the ports of two switches? (Choose three.)

- A. Active/active
- B. Active/passive
- C. Passive/passive
- D. Auto/auto
- E. Auto/desirable
- F. Desirable/on

**Correct Answer:** ABE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 337**

In which 802.1D port state are the root bridge, the root port, and the designated port(s) elected?

- A. Listening
- B. learning
- C. forwarding
- D. blocking

E. disabled

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 338

Refer to the exhibit.

```
switch#show mls cef exception status
Current IPv4 FIB exception state = TRUE
Current IPv6 FIB exception state = FALSE
Current MPLS FIB exception state = FALSE
```

A Cisco Catalyst 6500 Series Switch experiences high CPU utilization. What can be the cause of this issue, and how can it be prevented?

- A. The hardware routing table is full. Redistribute from BGP into IGP.
- B. The software routing table is full. Redistribute from BGP into IGP.
- C. The hardware routing table is full. Reduce the number of routes in the routing table.
- D. The software routing table is full. Reduce the number of routes in the routing table.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 339

In a network where a Layer 2 switch interconnects several routers, which feature restricts multicast packets for each IP multicast group to only those multicast router ports that have downstream receivers joined to that group?

- A. PIM snooping
- B. IGMP snooping
- C. IGMP filter
- D. IGMP proxy

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 340**

Which three statements about Cisco HDLC are true? (Choose three.)

- A. HDLC serial encapsulation provides asynchronous framing and error detection.
- B. Serial link keepalives are maintained by SLARP.
- C. HDLC serial encapsulation provides synchronous framing without retransmission.
- D. HDLC frame size can be reduced with MPPC compression.
- E. The interface is brought down after five ignored keepalives.
- F. The interface is brought down after three ignored keepalives.

**Correct Answer:** BCF

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 341**

Which two fields reside in the initial CHAP challenge packet? (Choose two.)

- A. the authentication name of the challenger
- B. a random hash value generated by the device
- C. the hashed packet type ID
- D. the packet type ID in clear text

**Correct Answer:** AD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 342**

Which statement about WAN Ethernet Services is true?

- A. Rate-limiting can be configured per EVC.
- B. Point-to-point processing and encapsulation are performed on the customer network.
- C. Ethernet multipoint services function as a multipoint-to-multipoint VLAN-based connection.
- D. UNIs can perform service multiplexing and all-in-one bundling.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 343**

What is the maximum number of secondary IP addresses that can be configured on a router interface?

- A. 1
- B. 2
- C. 4
- D. 1024
- E. 65535
- F. no limit to the number of addresses

**Correct Answer:** F

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 344**

Which address is a MAC address that is mapped from an IPv6 address (RFC 2464)?

- A. 3333.FF17.FC0F
- B. FFFE.FF17.FC0F
- C. FF34.3333.FF17
- D. FF7E.FF17.FC0F

**Correct Answer:** A

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 345**

Which multicast protocol uses source trees and RPF?

- A. DVMRP
- B. PIM sparse mode
- C. CBT
- D. mOSPF

**Correct Answer: A**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 346**

What is the function of the command ip pim autorp listener?

- A. It allows a border PIM sparse mode router to accept autorp information from another autonomous system.
- B. It allows the mapping agents to accept autorp information from the PIM rendezvous point.
- C. It allows the routers to flood the autorp information in a sparse-mode-only network.
- D. It allows a BSR to accept autorp information and translate it into BSR messages.

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 347**

Refer to the exhibit.

```
FHR#show ipv6 mroute FF7E::1234
(2001:db8::7, FF7E::1234), 00:02:27/00:01:02, flags: SFT
Incoming interface: Ethernet1/0
RPF nbr: FE80::A8BB:CCFF:FE00:701, Registering
Immediate Outgoing interface list:
Tunnel2, Forward, 00:01:38/never
```

Which statement is true about why the first-hop PIM IPv6 router is stuck in registering?

- A. The scope of the IPv6 multicast address is link-local.
- B. The outgoing interface for the IPv6 multicast group should not be a tunnel interface.
- C. The R-bit is set in the IPv6 address, but this is not an embedded RP multicast IPv6 address.
- D. The S flag should not be set on a first-hop PIM router.
- E. A multicast IPv6 address does not start with FF.

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

#### **QUESTION 348**

Refer to the exhibit.

```
!  
ip access-list extended REDIRECT  
permit tcp any any eq 25  
!  
route-map REDIRECT 10  
match ip address REDIRECT-SNMP  
set interface GigabitEthernet1/0  
!  
interface loopback0  
ip address 172.21.254.254 255.255.252.0  
!  
ip local policy route-map REDIRECT-SNMP  
!
```

Which option is the result of this configuration?

- A. All SNMP traffic coming into the router is redirected to interface GigabitEthernet1/0.
- B. All SNMP traffic generated from the router is redirected to interface GigabitEthernet1/0.
- C. All SMTP traffic generated from the router is redirected to interface GigabitEthernet1/0.
- D. All POP3 traffic coming into the router is redirected to interface GigabitEthernet1/0.
- E. All SMTP traffic coming into the router is redirected to interface GigabitEthernet1/0.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 349

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

- A. BFD is independent of the routing protocol, so it can be used as a generic failure detection mechanism for EIGRP.
- B. Some parts of BFD can be distributed to the data plane, so it can be less CPU-intensive than reduced timers, which exist wholly at the control plane.
- C. Reduced EIGRP timers have an absolute minimum detection timer of 1-2 seconds; BFD can provide sub-second failure detection.
- D. BFD is tied to specific routing protocols and can be used for generic fault detection for the OSPF, EIGRP, and BGP routing protocols.
- E. BFD is dependent on the EIGRP routing protocol, so it can be used as a specific failure detection mechanism.
- F. BFD resides on the control plane, so it is less CPU-intensive than if it resided on the data plane.



**Correct Answer:** ABC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 350

You are implementing new addressing with EIGRP routing and must use secondary addresses, which are missing from the routing table. Which action is the most efficient solution to the problem?

- A. Disable split-horizon on the interfaces with secondary addresses.
- B. Disable split-horizon inside the EIGRP process on the router with the secondary interface addresses.
- C. Add additional router interfaces and move the secondary addresses to the new interfaces.
- D. Use a different routing protocol and redistribute the routes between EIGRP and the new protocol.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 351

Refer to the exhibit.

```
R1(config-if)#ipv6 ospf authentication ipsec spi 256 md5 0 o-routes
```

Which two options are possible states for the interface configured with the given OSPFv3 authentication? (Choose two.)

- A. GOING UP
- B. DOWN
- C. UNCONFIGURED
- D. GOING DOWN

**Correct Answer:** AB

**Section:** (none)

## Explanation

## Explanation/Reference:

### QUESTION 352

Refer to the exhibit.

```
ip route 10.0.0.0 255.255.255.0 192.168.192.9  
ip default-network 172.16.199.9
```

The device with this configuration is unable to reach network 172.31.31.0/24. The next hop router has been verified to have full connectivity to the network. Which two actions can you take to establish connectivity to the network? (Choose two.)

- A. Create a static route to 172.16.199.0 using the address of the next hop router.
- B. Create a default route to the link address of the next hop router.
- C. Create a static route to the loopback address of the next hop router.
- D. Create a default route to 172.16.199.9.
- E. Modify the existing static route so that the next hop is 0.0.0.0.
- F. Replace the ip default-network command with the ip default-gateway command.

**Correct Answer:** AB

**Section:** (none)

## Explanation

## Explanation/Reference:

### QUESTION 353

Which algorithm heavily influenced the algorithm used by path-vector protocols?

- A. Bellman-Ford
- B. SPF
- C. DUAL
- D. Spanning-Tree
- E. Adaptive
- F. Deflection

Correct Answer: A

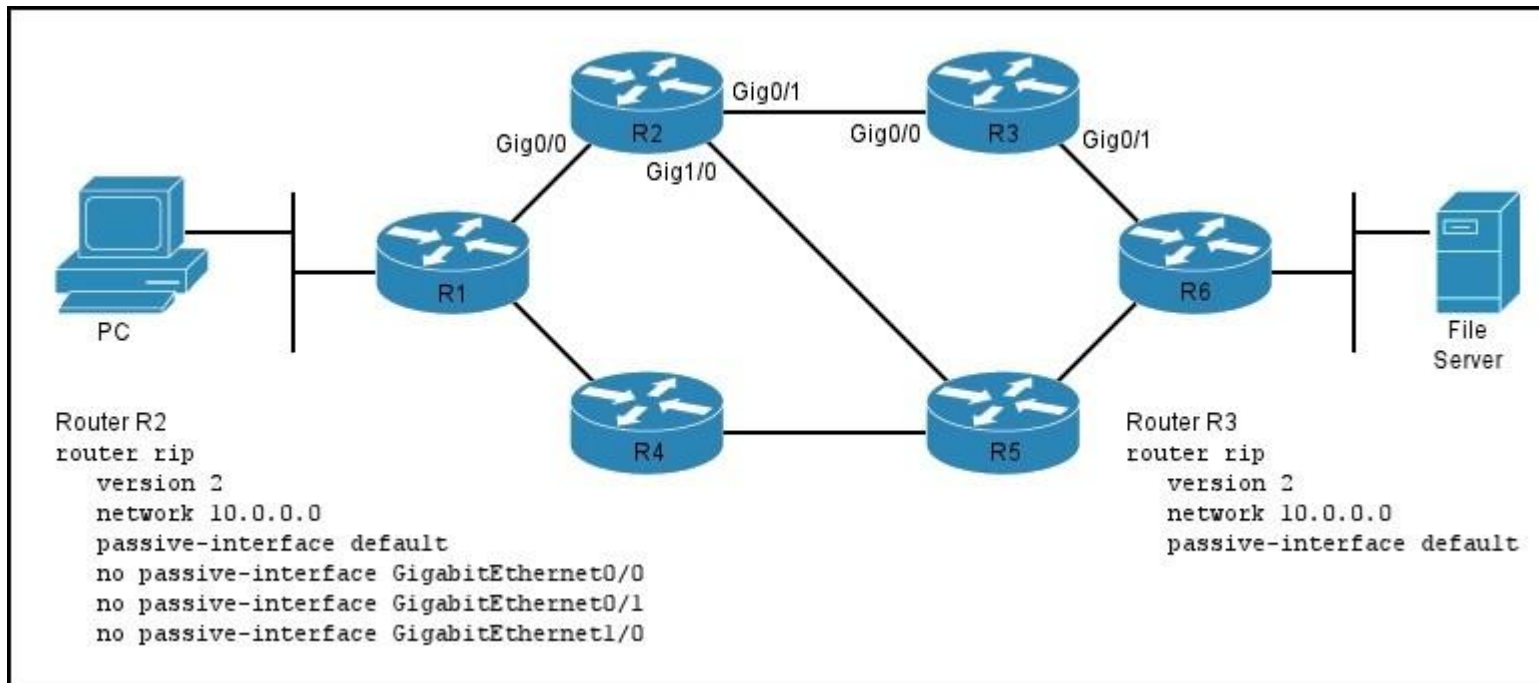
Section: (none)

Explanation

Explanation/Reference:

#### QUESTION 354

Refer to the exhibit.



All of the routers on this network are running RIP. If you edit the R3 RIP process configuration to reduce the number of hops from R3 to R1, which statement about the configuration change is true?

- A. Configuring no passive-interface for GigabitEthernet0/0 in the R3 RIP process reduces the number of hops to R1 by 2.
- B. Configuring no passive-interface for GigabitEthernet0/0 in the R3 RIP process reduces the number of hops to R1 by 1.
- C. Configuring no passive-interface for GigabitEthernet0/1 in the R3 RIP process reduces the number of hops to R1 by 3.
- D. Configuring no passive-interface for GigabitEthernet0/1 in the R3 RIP process reduces the number of hops to R1 by 1.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 355**

Where should the passive-interface command be used?

- A. Under the routing process for interfaces that need to be routed, but prevented from peering
- B. under the routing process for interfaces that need to be routed and allowed to peer
- C. under the interface configuration for interfaces that need to be routed, but prevented from peering
- D. under the interface configuration for interfaces that need to be routed and allowed to peer
- E. under the VTY configuration within global configuration mode

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 356**

Refer to the exhibit.

```
ip prefix-list EIGRP-ROUTES seq 5 permit 10.10.10.0/24 le 32
ip prefix-list OUTBOUND seq 5 permit 192.168.168.1/32
router eigrp 65535
network 192.168.168.0 0.0.255.255
network 172.31.10.0 0.0.0.255
distribute-list prefix EIGRP-ROUTES gateway OUTBOUND in
```

Which statement about the device routing table is true?

- A. Only networks 10.10.10.0/24 and smaller from host 192.168.168.1 are in the routing table.
- B. Only networks 10.10.10.0/24 and larger from host 192.168.168.1 are in the routing table.
- C. Only network 10.10.10.0/24 from host 192.168.168.1 is in the routing table.

D. Networks 10.10.10.0/24 and smaller from any host are in the routing table.

**Correct Answer:** A

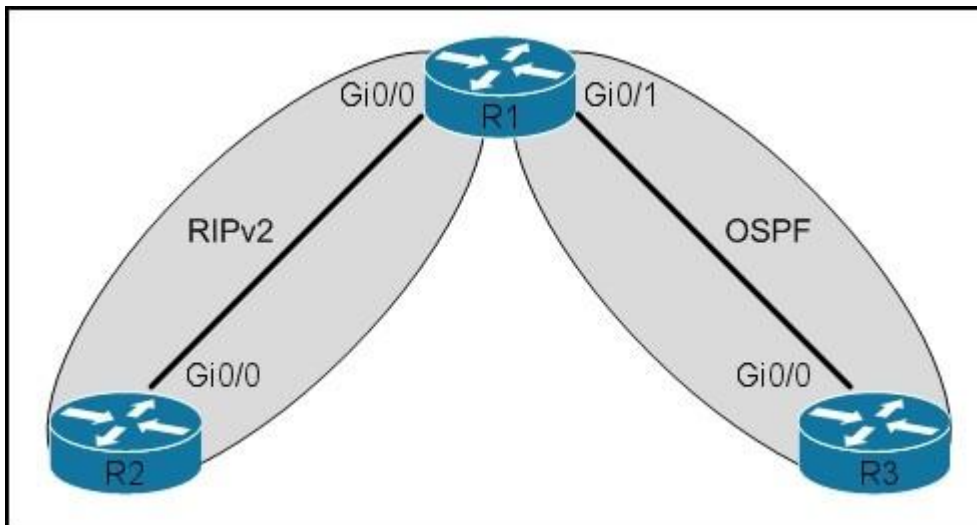
**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 357

Refer to the exhibit.



R1 is performing mutual redistribution, but OSPF routes from R3 are unable to reach R2. Which three options are possible reasons for this behavior? (Choose three.)

- A. R1 requires a seed metric to redistribute RIP.
- B. The RIP version supports only classful subnet masks.
- C. R1 is filtering OSPF routes when redistributing into RIP.
- D. R3 and R1 have the same router ID.
- E. R1 and R3 have an MTU mismatch.
- F. R2 is configured to offset OSPF routes with a metric of 16.

**Correct Answer:** ACF

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 358**

Refer to the exhibit.

```
R1#sh ip eigrp 1 topology all
IP-EIGRP Topology Table for AS(1)/ID(10.1.1.2)

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

P 10.8.1.0/24, 1 successors, FD is 156160, serno 7
  via 10.1.1.1 (156160/128256), FastEthernet1/0
P 10.1.1.0/24, 1 successors, FD is 28160, serno 1
  via Connected, FastEthernet1/0
P 10.6.1.0/24, 1 successors, FD is 156160, serno 8
  via 10.1.1.1 (156160/128256), FastEthernet1/0
```

If the downstream router has a summary route configured, which two actions must you take on the local router to create the summary route that summarizes all routes from the downstream router? (Choose two.)

- A. Configure the summary address on the interface.
- B. Use 10.0.0.0 255.248.0.0 as the summary route.
- C. Configure the summary address in the EIGRP process.
- D. Use 10.0.0.0 255.252.0.0 as the summary route.
- E. Configure a route map to permit the route.
- F. Configure a distribute list in.

**Correct Answer: AB**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 359**

Which three statements about RIP timers are true? (Choose three.)

- A. The default update timer is 30 seconds.
- B. The default invalid timer is 180 seconds.
- C. The default holddown timer is 180 seconds.
- D. The default flush timer is 60 seconds.
- E. The default scan timer is 60 seconds.
- F. The default hello timer is 5 seconds.

**Correct Answer:** ABC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 360**

Which timer expiration can lead to an EIGRP route becoming stuck in active?

- A. hello
- B. active
- C. query
- D. hold

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 361**

Which three values can be used to tag external EIGRP routes? (Choose three.)

- A. The router ID of the router that redistributed the route
- B. The administrative distance of the external protocol
- C. The protocol ID of the external protocol
- D. The cost to reach the router that redistributed the route

- E. The metric from the external protocol
- F. The router ID of the router from which the external protocol route was learned

**Correct Answer:** ACE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 362**

Which data plane protocol does EIGRP Over the Top use?

- A. MPLS
- B. GRE
- C. LISP
- D. IP-in-IP

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 363**

Which statement about the feasible distance in EIGRP is true?

- A. It is the maximum metric that should feasibly be considered for installation in the RIB.
- B. It is the minimum metric to reach the destination as stored in the topology table.
- C. It is the metric that is supplied by the best next hop toward the destination.
- D. It is the maximum metric possible based on the maximum hop count that is allowed.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 364**

Which statement about the EIGRP RTO is true?

- A. It is six times the SRTT.
- B. It is the time that it normally takes for an update to be received by a peer.
- C. It is the time that it normally takes to receive a reply to a query.
- D. It is the average time that it takes for a reliable packet to be acknowledged.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 365**

Which option describes the purpose of the leak-map keyword in the command `eigrp stub connected leak-map EigrpLeak`?

- A. It allows the specified static routes to be advertised.
- B. It allows exceptions to the route summarization that is configured.
- C. It allows specified EIGRP-learned routes to be advertised.
- D. It restricts specified connected routes from being advertised.

**Correct Answer:** C

**Section:** (none)

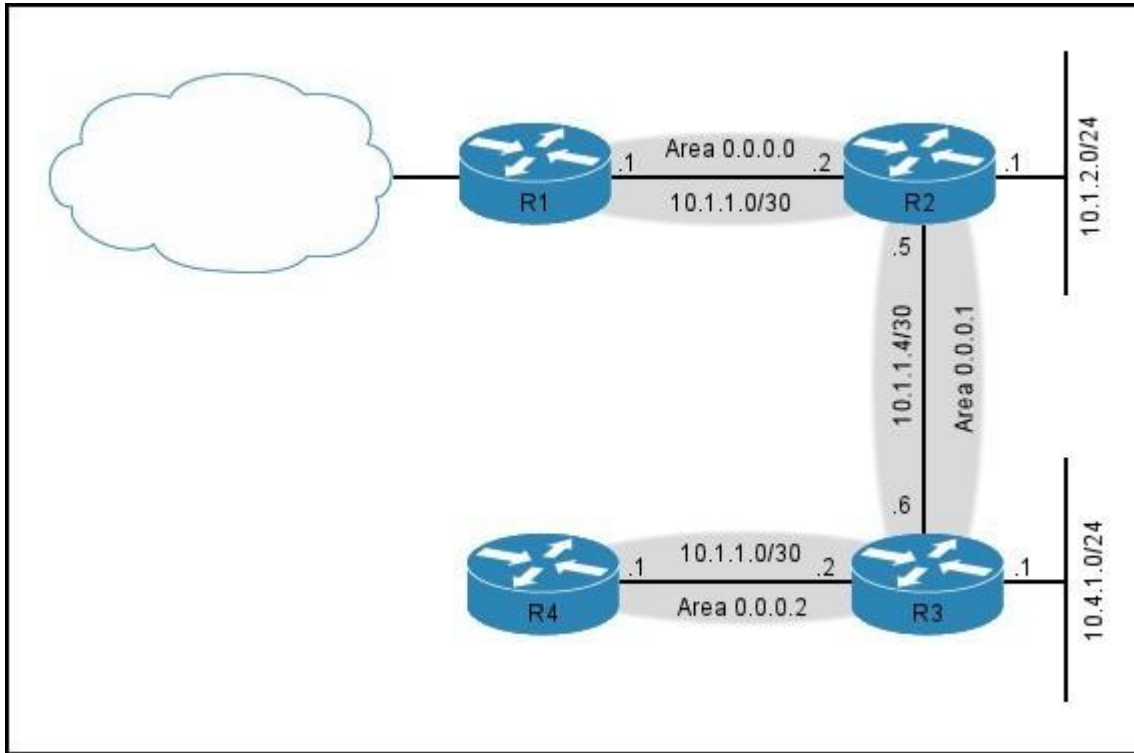
**Explanation**

**Explanation/Reference:**

sophisticated answer.

**QUESTION 366**

Refer to the exhibit.



If OSPF is implemented on the network, which additional configuration is needed to allow traffic from host 10.4.1.15/24 to host 10.1.2.20/24?

- A. A virtual link between router 2 and router 4
- B. A virtual link between router 3 and router 4
- C. A virtual link between router 2 and router 3
- D. The current design allows traffic between the two hosts.

**Correct Answer:** D

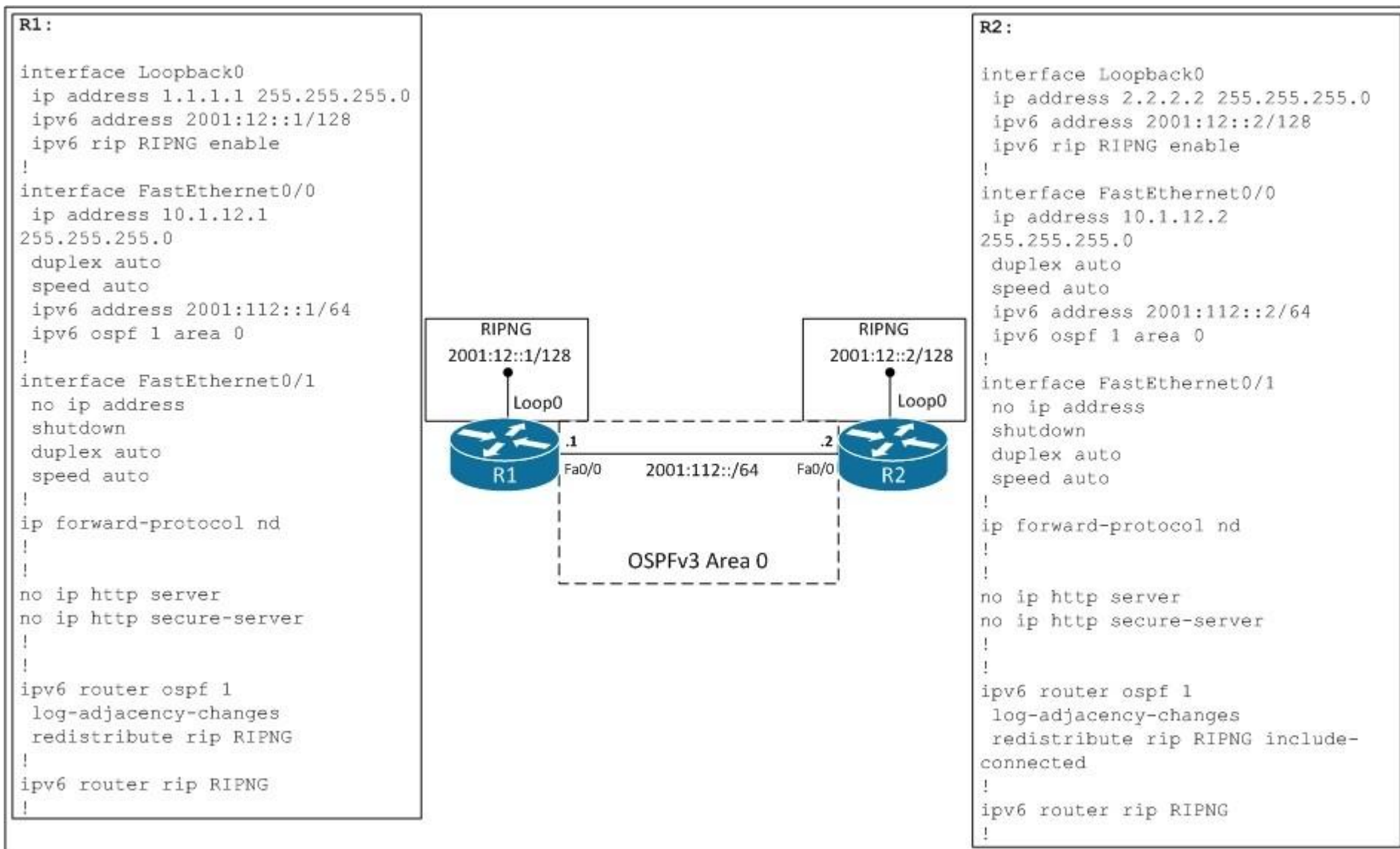
**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 367**

Refer to the exhibit.



Which OSPFv3 routes will be visible in the routing table of R2?

A. 2001:12::1/128

- B. 2001:12::1/128, 2001:112::1/128
- C. 2001:12::2/128
- D. No OSPFv3 routes will be visible.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 368**

Refer to the exhibit.

R1 is configured as shown. R1 is able to establish a neighbor adjacency only with R2. Which addition must you make to the R1 configuration to allow it to establish an adjacency with R3?

- A. interface gigabitethernet 0/1  
ip address 10.1.0.1 255.255.255.0  
ip ospf network point-to-point
- B. interface gigabitethernet 0/1  
ip address 10.1.0.1 255.255.255.0  
ip ospf 1 area 0
- C. router ospf 1  
network 10.1.0.0 0.0.0.255 area 1  
router ospf 1  
area 0 stub

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 369**

Which option describes how a router responds if LSA throttling is configured and it receives the identical LSA before the interval is set?

- A. The LSA is added to the OSPF database and a notification is sent to the sending router to slow down its LSA packet updates.
- B. The LSA is added to the OSPF database.
- C. The LSA is ignored.
- D. The LSA is ignored and a notification is sent to the sending router to slow down its LSA packet updates.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

## **QUESTION 370**

Which two options are valid for the number of bytes in a BGP AS number? (Choose two.)

- A. 2 bytes
- B. 4 bytes
- C. 6 bytes
- D. 8 bytes
- E. 16 bytes

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

sophisticated answer.

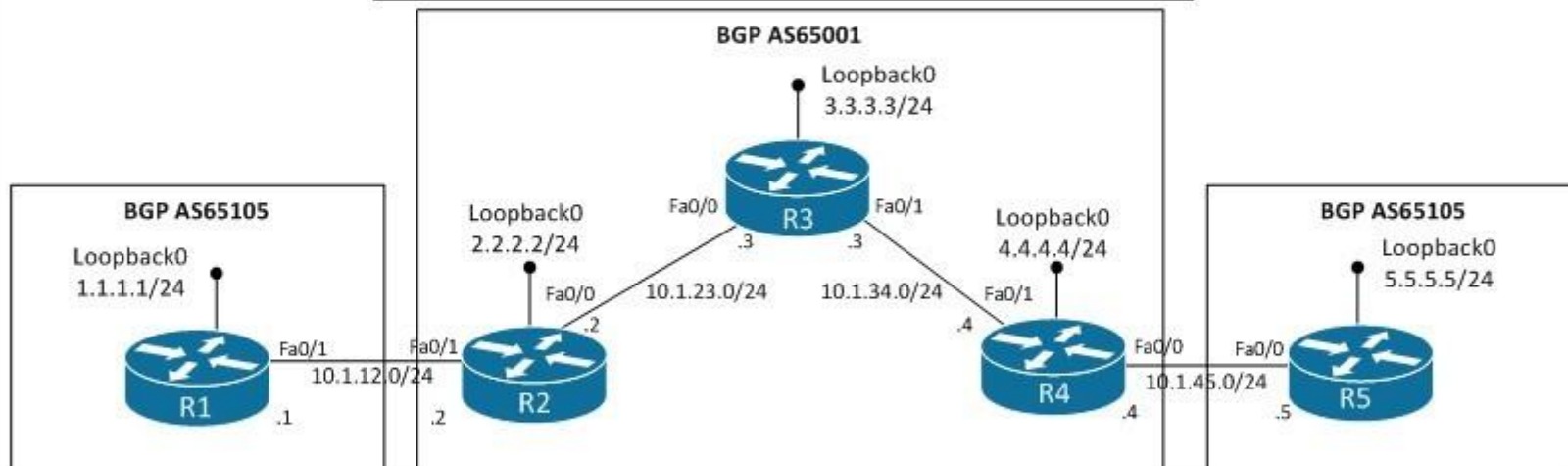
## **QUESTION 371**

Refer to the exhibit.

```

hostname R3
!
router ospf 1
 network 0.0.0.0 255.255.255.255 area 0
!
router bgp 65001
 network 3.3.3.0 mask 255.255.255.0
 neighbor 10.1.23.2 remote-as 65001
 neighbor 10.1.23.2 route-reflector-client
 neighbor 10.1.34.4 remote-as 65001
 neighbor 10.1.34.4 route-reflector-client
 no auto-summary

```



```

R2#sh ip bgp
BGP table version is 1, local router ID is 3.3.3.3
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
               r RIB-failure, S Stale
Origin codes: i - IGP, e - EGP, ? - incomplete

```

Network	Next Hop	Metric	LocPrf	Weight	Path
* 1.1.1.0/24	10.1.12.1	0	0	65105	i
* 2.2.2.0/24	0.0.0.0	0		32768	i

Why is the loopback 0 interface of R4 missing in the routing table of R2?

- A. R2 is configured as a route reflector client.
- B. There is no peering between R2 and R3.
- C. The next hop is not reachable from R2.
- D. The route originated within the same AS.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 372**

Which bit should be set in the link-state PDU of an IS-IS L1/L2 router to indicate that it is a potential exit point of the area?

- A. the ABR bit
- B. the ATT bit
- C. the down bit
- D. the P bit

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 373**

MPLS LDP IGP synchronization is configured on a link. The OSPF adjacency on that link is UP but MPLS LDP synchronization is not achieved. Which statement about this scenario is true?

- A. The router excludes the link from its OSPF LSA type 1.
- B. The router flushes its own router LSA.
- C. The router advertises the link in its router LSA with max-metric.
- D. The router advertises an LSA type 2 for this link, with the metric set to max-metric.
- E. The router advertises the link and OSPF adjacency as it would when the synchronization is achieved.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 374**

What is the new designation for the MPLS EXP (experimental) bits?

- A. QoS bits
- B. traffic class bits
- C. flow bits
- D. precedence bits

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 375**

Which two options are signaling protocols that are used in MPLS? (Choose two.)

- A. LDP
- B. RSVP
- C. BFD
- D. LISP
- E. CLNS
- F. CDP

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 376**

Which option is an incorrect design consideration when deploying OSPF areas?

- A. area 1 - area 0 - MPLS VPN backbone - area 0 - area 2



- B. area 1 - MPLS VPN backbone - area 2
- C. area 1 - MPLS VPN backbone - area 1
- D. area 2 - area 0 - MPLS VPN backbone - area 1
- E. area 0 - area 2 - MPLS VPN superbackbone - area 1

**Correct Answer:** E

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 377**

Refer to the exhibit.

```
ip vrf 10051
  rd 10.1.1.1:10051
  route-target export 64512:100010051
  route-target import 64512:100010051

ip access-list standard mgmt1-10051
  permit 192.168.1.0 0.0.0.255

route-map 10051-export permit 10
  match ip address mgmt1-10051
  set extcommunity rt 64512:3002300

route-map 10051-export permit 20
  match ip address mgmt1-10051
  set extcommunity rt 64512:2002250 64512:3002300 additive
```

Which statement about the route target for 192.168.1.0/24 is true?

- A. Its route target is 64512:100010051.
- B. Its route targets are 64512:100010051, 64512:2002250, and 64512:3002300.
- C. Its route target is 64512:3002300.
- D. Its route targets are 64512:100010051 and 64512:3002300.
- E. Its route targets are 64512:2002250 and 64512:3002300.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 378**

Which two options are benefits of EIGRP OTP? (Choose two.)

- A. It allows EIGRP routers to peer across a service provider without the service provider involvement.
- B. It allows the customer EIGRP domain to remain contiguous.
- C. It requires only minimal support from the service provider.
- D. It allows EIGRP neighbors to be discovered dynamically.
- E. It fully supports multicast traffic.
- F. It allows the administrator to use different autonomous system numbers per EIGRP domain.

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 379**

Which three options are best practices for implementing a DMVPN? (Choose three.)

- A. Use IPsec in tunnel mode.
- B. Implement Dead Peer Detection to detect communication loss.
- C. Configure AES for encryption of transported data.
- D. Configure SHA-1 for encryption of transported data.
- E. Deploy IPsec hardware acceleration to minimize router memory overhead.
- F. Configure QoS services only on the head-end router.

**Correct Answer:** ABC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 380**

Which IPv6 tunneling type establishes a permanent link between IPv6 domains over IPv4?

- A. IPv4-compatible tunneling
- B. ISATAP tunneling
- C. 6to4 tunneling
- D. manual tunneling

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 381**

Which three components comprise the structure of a pseudowire FEC element? (Choose three.)

- A. pseudowire ID
- B. pseudowire type
- C. control word
- D. Layer 3 PDU
- E. header checksum
- F. type of service

**Correct Answer:** ABC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

sophisticated answer.

**QUESTION 382**

In which two modes do IPv6-in-IPv4 tunnels operate? (Choose two.)

- A. tunnel mode
- B. transport mode
- C. 6to4 mode
- D. 4to6 mode

E. ISATAP mode

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 383**

Which VPN technology requires the use of an external key server?

- A. GETVPN
- B. GDOI
- C. SSL
- D. DMVPN
- E. IPsec
- F. L2TPv3

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 384**

Which three roles does a key server perform when used with GETVPN? (Choose three.)

- A. It authenticates group members.
- B. It manages security policies.
- C. It creates group keys.
- D. It distributes multicast replication policies.
- E. It distributes multicast replication keys.
- F. It configures and routes the GDOI protocol.

**Correct Answer:** ABC

**Section:** (none)

**Explanation**

## Explanation/Reference:

### QUESTION 385

Which two Cisco IOS AAA features are available with the local database? (Choose two.)

- A. command authorization
- B. network access authorization
- C. network accounting
- D. network access authentication

**Correct Answer:** AD

**Section:** (none)

**Explanation**

## Explanation/Reference:

### QUESTION 386

What is the most secure way to store ISAKMP/IPSec preshared keys in Cisco IOS?

- A. Use the service password-encryption command.
- B. Encrypt the ISAKMP preshared key in secure type 5 format.
- C. Encrypt the ISAKMP preshared key in secure type 7 format.
- D. Encrypt the ISAKMP preshared key in secure type 6 format.

**Correct Answer:** D

**Section:** (none)

**Explanation**

## Explanation/Reference:

### QUESTION 387

Which two statements about the protected ports feature and the private VLAN feature are true? (Choose two.)

- A. The protected ports feature is limited to the local switch.
- B. The protected ports feature can isolate traffic between two "protected" ports on different switches.
- C. The private VLAN feature is limited to the local switch.
- D. The private VLAN feature prevents interhost communication within a VLAN across one or more switches.

**Correct Answer:** AD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 388**

Which two features are used for inspection when IPv6 address glean is enabled? (Choose two.)

- A. DHCP messages
- B. ND messages
- C. ICMPv6 messages
- D. UDP messages
- E. TCP messages

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 389**

Refer to the exhibit.

```
R1#show run

ip ssh time-out 30
ip ssh authentication-retries 2

access-list 10 permit 10.1.1.2
no cdp log mismatch duplex

control-plane

line con 0
  exec-timeout 5 30
  logging synchronous
line aux 0
line vty 0 4
  access-class 10 in
  login
  transport input ssh
```

Which statement about the R1 configuration is true?

- A. It permits host 10.1.1.2 to establish a Telnet connection to R1.
- B. It limits remote hosts to two SSH connection attempts.
- C. SSH connections to R1 will log out after a 5-minute idle interval.
- D. Hosts that reside on network 10.0.0.0/8 can SSH to R1.
- E. The R1 timeout for outgoing SSH connection attempts is 30 seconds.

**Correct Answer:** E

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 390

Which two statements about the default SNMP configuration are true? (Choose two.)

- A. The SNMP agent is enabled.
- B. The SNMP trap receiver is configured.

- C. All SNMP notification types are sent.
- D. SNMPv1 is the default version.
- E. SNMPv3 is the default version.

**Correct Answer:** CD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 391**

Which two statements about logging are true? (Choose two.)

- A. Log messages are sent to the console port by default.
- B. Log messages are displayed in a Telnet session by default.
- C. Interface status changes are logged at the Notification level.
- D. Interface status changes are logged at the Informational level.
- E. System restart messages are logged at the Critical level.
- F. Reload requests are logged at the Notification level.

**Correct Answer:** AC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 392**

Refer to the exhibit.



```

access-switch-1#show interface fastethernet0/9
FastEthernet0/9 is up, line protocol is up (connected)
  Hardware is Fast Ethernet, address is 04da.d237.9f09 (bia 04da.d237.9f09)
  Auto-duplex, Auto-speed, media type is 10/100BaseTX
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 59137853

access-switch-1#show mls qos interface fastethernet0/9 statistics
Queueset: 1
output queues dropped:
  queue:      threshold1    threshold2    threshold3
  -----
queue 0:         0          0          48252
queue 1:    23164955    35924645         1
queue 2:         0          0          0
queue 3:         0          0          0

```

Your network is suffering excessive output drops. Which two actions can you take to resolve the problem? (Choose two.)

- A. Install a switch with larger buffers.
- B. Configure a different queue set.
- C. Reconfigure the switch buffers.
- D. Configure the server application to use TCP.
- E. Update the server operating system.

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 393

Refer to the exhibit.

```

mls qos queue-set output 1 threshold 2 80 90 100 100
mls qos queue-set output 1 threshold 3 400 400 100 800
mls qos queue-set output 1 threshold 4 60 100 100 100

```

If the remaining configuration uses default values, what is the expected output of the show mls qos queue-set command?

A.

```

Queueset: 1
Queue      :      1      2      3      4
-----
buffers    :      25      25      25      25
threshold1:     100      80     400      60
threshold2:     100      90     400     100
reserved   :       50     100     100     100
maximum    :     400     100     800     100

```

B.

```

Queueset: 1
Queue      :      1      2      3      4
-----
buffers    :      25      25      25      25
threshold1:     100      80     400      60
threshold2:     100      90     400     100
reserved   :       50     100     100     100
maximum    :     100     100     800     100

```

C.

```
Queueset: 1
Queue      :      1      2      3      4
-----
buffers    :      25      25      25      25
threshold1:      50      80     400      60
threshold2:      50      90     400     100
reserved   :      50     100     100     100
maximum    :     400     100     800     100
```

D.

```
Queueset: 1
Queue      :      1      2      3      4
-----
buffers    :      25      25      25      25
threshold1:     100      80     400      60
threshold2:     100      90     400     100
reserved   :     100     100     100     100
maximum    :     400     100     800     100
```

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

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 394

Which two statements about HSRP are true? (Choose two.)

- A. Its virtual MAC is 0000.0C07.Acxx.
- B. Its multicast virtual MAC is 0000.5E00.01xx.

- C. Its default configuration allows for pre-emption.
- D. It supports tracking.
- E. It supports unique virtual MAC addresses.

**Correct Answer:** AD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 395**

Which two statements about the client-identifier in a DHCP pool are true? (Choose two.)

- A. It specifies a unique identifier that is used only for DHCP requests.
- B. It is specified by appending 01 to the MAC address of a DHCP client.
- C. It specifies a hardware address for the client.
- D. It specifies a unique identifier that is used only for BOOTP requests.
- E. It requires that you specify the hardware protocol.

**Correct Answer:** AB

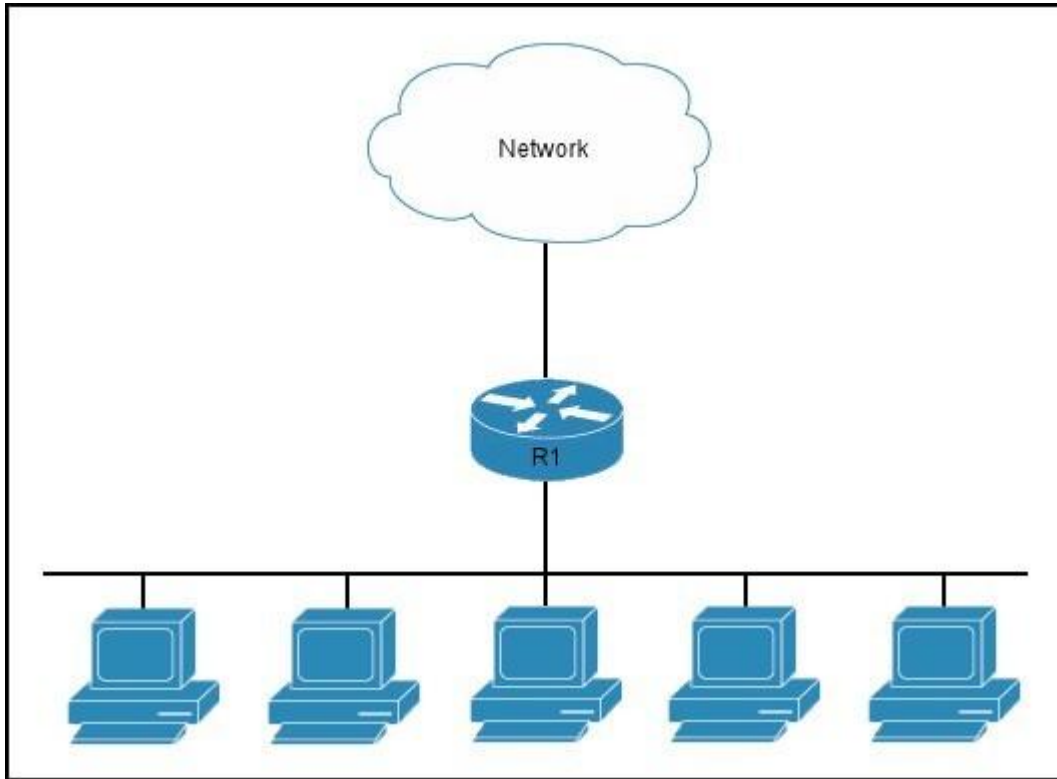
**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 396**

Refer to the exhibit.



If router R1 is functioning as a DHCPv6 server and you enter the command `show ipv6 dhcp binding`, which two options are pieces of information in the output? (Choose two.)

- A. The IA PD
- B. The DUID
- C. The prefix pool
- D. The DNS server
- E. The Rapid-Commit setting

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 397**

Which two statements about NPTv6 are true? (Choose two.)

- A. The translation is invisible to applications that hard code IP information within the application logic.
- B. It is a one-way stateful translation for the IPv6 address.
- C. Translation is 1:1 at the network layer.
- D. It is a two-way stateless translation for the network prefix.

**Correct Answer:** CD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 398**

Which three protocols can use enhanced object tracking? (Choose three.)

- A. HSRP
- B. Proxy-ARP
- C. VRRP
- D. GLBP
- E. NTP
- F. DHCP

**Correct Answer:** ACD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 399**

What are the three primary components of NetFlow? (Choose three.)

- A. Flow caching
- B. A flow collector
- C. The data analyzer
- D. Flow sequence numbers

- E. Cisco Express Forwarding
- F. Multicast

**Correct Answer:** ABC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 400**

Which two options are actions that EEM can perform after detecting an event? (Choose two.)

- A. Place a port in err-disabled.
- B. Generate an SNMP trap.
- C. Reload the Cisco IOS Software.
- D. Send an SMS.

**Correct Answer:** BC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 401**

On which three options can Cisco PfR base its traffic routing? (Choose three.)

- A. Time of day
- B. An access list with permit or deny statements
- C. Load-balancing requirements
- D. Network performance
- E. User-defined link capacity thresholds
- F. Router IOS version

**Correct Answer:** CDE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 402**

Which two routing protocols are not directly supported by Cisco PfR route control, and rely on the Cisco PfR subfeature PIRO? (Choose two.)

- A. BGP
- B. EIGRP
- C. Static routing
- D. OSPF
- E. IS-IS

**Correct Answer:** DE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 403**

Which two statements about NPTv6 are true? (Choose two.)

- A. The translation is invisible to applications that hard code IP information within the application logic.
- B. It is a one-way stateful translation for the IPv6 address.
- C. Translation is 1:1 at the network layer.
- D. It is a two-way stateless translation for the network prefix.

**Correct Answer:** CD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 404**

Which three protocols can use enhanced object tracking? (Choose three.)

- A. HSRP
- B. Proxy-ARP
- C. VRRP
- D. GLBP



- E. NTP
- F. DHCP

**Correct Answer:** ACD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 405**

What are the three primary components of NetFlow? (Choose three.)

- A. Flow caching
- B. A flow collector
- C. The data analyzer
- D. Flow sequence numbers
- E. Cisco Express Forwarding
- F. Multicast

**Correct Answer:** ABC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 406**

Which two options are actions that EEM can perform after detecting an event? (Choose two.)

- A. Place a port in err-disabled.
- B. Generate an SNMP trap.
- C. Reload the Cisco IOS Software.
- D. Send an SMS.

**Correct Answer:** BC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 407**

On which three options can Cisco PfR base its traffic routing? (Choose three.)

- A. Time of day
- B. An access list with permit or deny statements
- C. Load-balancing requirements
- D. Network performance
- E. User-defined link capacity thresholds
- F. Router IOS version

**Correct Answer:** CDE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 408**

Which two routing protocols are not directly supported by Cisco PfR route control, and rely on the Cisco PfR subfeature PIRO? (Choose two.)

- A. BGP
- B. EIGRP
- C. Static routing
- D. OSPF
- E. IS-IS

**Correct Answer:** DE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 409**

Which two events occur when a packet is decapsulated in a GRE tunnel? (Choose two.)

- A. The destination IPv4 address in the IPv4 payload is used to forward the packet.
- B. The TTL of the payload packet is decremented.

- C. The source IPv4 address in the IPv4 payload is used to forward the packet.
- D. The TTL of the payload packet is incremented.
- E. The version field in the GRE header is incremented.
- F. The GRE keepalive mechanism is reset.

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 410

**Select and Place:**

What is the correct order of the VSS initialization process? Drag the actions on the left to the correct initialization step on the right.	
bring up VSL links	initialization step 1
run VSLP	initialization step 2
preparse config	initialization step 3
run RRP	initialization step 4
continue system bootup	initialization step 5
interchassis SSO	initialization step 6

**Correct Answer:**

What is the correct order of the VSS initialization process? Drag the actions on the left to the correct initialization step on the right.

	preparse config
	bring up VSL links
	run VSLP
	run RRP
	interchassis SSO
	continue system bootup

Section: (none)

Explanation

Explanation/Reference:

QUESTION 411

Select and Place:

Drag and drop the IPv6 address on the left to the correct IPv6 address type on the right.

FF01::2	Link Local Unicast
FE80:2a5b::5	Global Unicast
FDF8:E5F3:83E4:FEAA::53	Multicast
2005:CA75:D095::5	Unique Local Unicast
F880:E6F4:B665::44	

## Correct Answer:

Drag and drop the IPv6 address on the left to the correct IPv6 address type on the right.

	FE80:2a5b::5
	2005:CA75:D095::5
	FF01::2
	FDF8:E5F3:83E4:FEAA::53
F880:E6F4:B665::44	

Section: (none)

Explanation

Explanation/Reference:

## QUESTION 412

### Select and Place:

Drag and drop the BGP attribute on the left to the correct category on the right.

Originator ID	BGP Well-Known Mandatory Attribute
Community	Target
Local-Pref	Target
AS_path	BGP Well-Known Discretionary Attribute
Aggregator	Target
Next-Hop	BGP Optional Nontransitive Attribute
	Target

### Correct Answer:

Drag and drop the BGP attribute on the left to the correct category on the right.

Community

Aggregator

BGP Well-Known Mandatory Attribute

AS\_path

Next-Hop

BGP Well-Known Discretionary Attribute

Local-Pref

BGP Optional Nontransitive Attribute

Originator ID

Section: (none)
Explanation

Explanation/Reference:

QUESTION 413

Select and Place:

Encrypts the entire session
Uses less memory and CPU on a router
Combines authentication and authorization
Can limit router commands based on user groups

RADIUS
TACACS+

**Correct Answer:**


RADIUS
Uses less memory and CPU on a router
Combines authentication and authorization
TACACS+
Encrypts the entire session
Can limit router commands based on user groups

**Section: (none)**

**Explanation**

**Explanation/Reference:**



## QUESTION 414

## Select and Place:

Drag and drop the events on the left to display the correct sequence on the right when CoPP is enabled.	
The packet gets forwarded to the switch CPU.	1
A packet enters the switch that is configured with CoPP on the ingress port.	2
The switch makes a routing or a switching decision, which determines whether or not the packet is destined for the control plane.	3
The port performs any applicable input port and QoS services.	4
Packets that are destined for the control plane are processed by CoPP and are dropped or delivered to the control plane according to each traffic class policy. Packets that have other destinations are forwarded normally.	5

## Correct Answer:

Drag and drop the events on the left to display the correct sequence on the right when CoPP is enabled.

A packet enters the switch that is configured with CoPP on the ingress port.

The port performs any applicable input port and QoS services.

The packet gets forwarded to the switch CPU.

The switch makes a routing or a switching decision, which determines whether or not the packet is destined for the control plane.

Packets that are destined for the control plane are processed by CoPP and are dropped or delivered to the control plane according to each traffic class policy. Packets that are destined for other destinations are forwarded normally.

Section: (none)

Explanation

Explanation/Reference:

QUESTION 415

Select and Place:

Drag and drop the QoS requirement on the left to the correct QoS technology on the right.	
Guarantees an amount of bandwidth	Police
Is an application classification	CBWFQ
Prioritizes real-time voice traffic	Shaping
Buffers bursting traffic	LLQ
Limits an amount of bandwidth	NBAR

**Correct Answer:**

Drag and drop the QoS requirement on the left to the correct QoS technology on the right.	
	Limits an amount of bandwidth
	Guarantees an amount of bandwidth
	Buffers bursting traffic
	Prioritizes real-time voice traffic
	Is an application classification

**Section: (none)**  
**Explanation**

**Explanation/Reference:**

## QUESTION 416

### Select and Place:

Drag and drop the IPv6 multicast feature or protocol on the left to the correct address space on the right.	
All nodes	FF02::D
All routers	FF02::6
EIGRP	FF02::2
PIM routers	FF02::A
RIP routers	FF02::1
OSPFv3 all DR routers	FF02::9

### Correct Answer:

Drag and drop the IPv6 multicast feature or protocol on the left to the correct address space on the right.


PIM routers
OSPFv3 all DR routers
All routers
EIGRP
All nodes
RIP routers

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 417**

**Select and Place:**

Drag and drop the multicast protocol or feature on the left to the correct address space on the right.	
Auto-RP announcement	224.0.0.13
PIMv2	232.0.0.0/8
GLBP	224.0.1.40
Auto-RP discovery	224.0.0.102
Source Specific Multicast (SSM)	224.0.1.39

**Correct Answer:**

Drag and drop the multicast protocol or feature on the left to the correct address space on the right.	
	PIMv2
	Source Specific Multicast (SSM)
	Auto-RP discovery
	GLBP
	Auto-RP announcement

**Section: (none)**

**Explanation**

**Explanation/Reference:**

### QUESTION 418

#### Select and Place:

Drag and drop the router preference on the left to the correct routing sequence (from most preferred to least preferred) on the right.	
EBGP route	1
Static route	2
Most specific prefix	3
Directly connected route	4

#### Correct Answer:

Drag and drop the router preference on the left to the correct routing sequence (from most preferred to least preferred) on the right.	
	Most specific prefix
	Directly connected route
	Static route
	EBGP route

Section: (none)

Explanation

Explanation/Reference:

### QUESTION 419

**Select and Place:**

Drag and drop the multicast protocol definition on the left to the correct default time interval on the right.

IGMPv2 query interval

30 seconds

IGMPv2 querier timeout

IGMPv1 query interval

60 seconds

PIMv1 query interval

IGMPv3 query interval

120 seconds

**Correct Answer:**



Drag and drop the multicast protocol definition on the left to the correct default time interval on the right.


30 seconds

PIMv1 query interval

60 seconds

IGMPv2 query interval

IGMPv1 query interval

IGMPv3 query interval

120 seconds

IGMPv2 querier timeout

Section: (none)

Explanation

Explanation/Reference:

QUESTION 420

Select and Place:

Drag and drop the OSPF network type on the left to the correct traffic type category on the right.

Broadcast

Nonbroadcast

Point-to-Point

Loopback

Point-to-Multipoint

Point-to-Multipoint Nonbroadcast

Unicast

Multicast

Stub

**Correct Answer:**

Drag and drop the OSPF network type on the left to the correct traffic type category on the right.


Unicast

Nonbroadcast

Point-to-Multipoint Nonbroadcast

Multicast

Broadcast

Point-to-Point

Point-to-Multipoint

Stub

Loopback

Section: (none)

Explanation

Explanation/Reference:

QUESTION 421

Select and Place:

Drag and drop the IPv6 prefix on the left to the correct address type on the right.

FF00::/8
FEC0::/10
2000::/3
FE80::/10
FC00::/7
FE00::/9

Unique Local Unicast
Global Unicast
Link Local Unicast
Multicast

**Correct Answer:**

Drag and drop the IPv6 prefix on the left to the correct address type on the right.

FE80::/10
FE00::/9

FC00::/7
2000::/3
FEC0::/10
FF00::/8

Section: (none)  
Explanation

Explanation/Reference:

#### QUESTION 422

Select and Place:

Drag and drop the BGP attribute on the left to the correct category on the right.	
Community	BGP Well-Known Mandatory Attribute
Atomic-Aggregate	Target
Aggregator	BGP Well-Known Discretionary Attribute
Cluster List	Target
Next-Hop	BGP Optional Nontransitive Attribute
MED	Target
	Target

Correct Answer:

Drag and drop the BGP attribute on the left to the correct category on the right.

Community

BGP Well-Known Mandatory Attribute

Next-Hop

Aggregator

BGP Well-Known Discretionary Attribute

Atomic-Aggregate

BGP Optional Nontransitive Attribute

Cluster List

MED

Section: (none)

Explanation

Explanation/Reference:

QUESTION 423

Select and Place:

Uses UDP
Separates authentication, authorization, and accountability
Is proprietary to Cisco
Encrypts only the password

TACACS+
RADIUS

**Correct Answer:**


TACACS+
Is proprietary to Cisco
Separates authentication, authorization, and accountability
RADIUS
Uses UDP
Encrypts only the password

**Section: (none)**  
**Explanation**

**Explanation/Reference:**

#### QUESTION 424

##### Select and Place:

Drag and drop the protocol on the left to the corresponding administrative distance on the right.

ODR	0
connected	1
external EIGRP	160
static	115
IS-IS	200
iBGP	170

##### Correct Answer:



Drag and drop the protocol on the left to the corresponding administrative distance on the right.

	connected
	static
	ODR
	IS-IS
	iBGP
	external EICRP

**Section: (none)**  
**Explanation**

**Explanation/Reference:**

**QUESTION 425**

**Select and Place:**

Drag and drop the PPPoE packet type on the left to the corresponding description on the right.

PADR

A packet that is sent with the destination\_addr set to the broadcast address. The p indicates the type of service requested.

PADT

A packet that is sent with the destination\_addr set to the unicast address of the PP client. The packet contains an offer for the client.

PADO

A packet that is sent from the PPPoE client with the destination\_addr set to the ch access concentrator.  
The packet contains a session request from the client.

PADI

A packet that is sent as confirmation to the client.  
The packet contains the unique PPPoE session ID.

PADS

A packet that is sent to terminate the PPPoE session.

**Correct Answer:**

Drag and drop the PPPoE packet type on the left to the corresponding description on the right.

PADI

PADR

PADO

PADS

PADT

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 426**

**Select and Place:**

Drag and drop the BGP state on the left to the action that defines it on the right.

OpenConfirm

The BGP routing process detects that a peer is trying to establish a TCP session with the local BGP speaker.

Idle

The BGP routing process tries to establish a TCP session with a peer device.

Active

The TCP connection is established.

Connect

The BGP routing process waits to receive an initial keepalive message from the peer.

Established

The initial BGP state.

OpenSent

The router exchanges update messages with the peer.

**Correct Answer:**

Drag and drop the BGP state on the left to the action that defines it on the right.

	Connect
	Active
	OpenSent
	OpenConfirm
	Idle
	Established

**Section: (none)**  
**Explanation**

**Explanation/Reference:**

**QUESTION 427**

**Select and Place:**

Drag and drop the extended ping command field on the left to its usage on the right.	
type of service	discovering framing issues on serial lines
sweep range of sizes	adjusting delay, throughput, and reliability preferences for the ping
data pattern	configuring the IP header options of the ping
loose, strict, record, timestamp, verbose	determining the minimum MTU in a path

**Correct Answer:**

Drag and drop the extended ping command field on the left to its usage on the right.	
	data pattern
	type of service
	loose, strict, record, timestamp, verbose
	sweep range of sizes

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 428**

**Select and Place:**

Drag and drop the argument of the **mls ip cef load-sharing** command on the left to the function it performs on the right.

simple	configures CEF load balancing to use Layer 3 and Layer 4 information, excluding multiple adjacencies
full	configures CEF load balancing to use only destination Layer 4 ports
full simple	configures CEF load balancing to use only Layer 3 information, excluding multiple adjacencies
exclude-port source	configures CEF load balancing to use only source Layer 4 ports
exclude-port destination	configures CEF load balancing to use source and destination Layer 3 and Layer 4 information, including multiple adjacencies

**Correct Answer:**

Drag and drop the argument of the **mls ip cef load-sharing** command on the left to the function it performs on the right.

	full simple
	exclude-port source
	simple
	exclude-port destination
	full

Section: (none)

Explanation

Explanation/Reference:

QUESTION 429

Select and Place:



Drag and drop the method for refreshing BGP prefixes on the left to the corresponding description on the right.

hard reset

requests a complete refresh of the Adj-RIB-Out

soft reset

tears down the peering session and deletes prefixes from the peer

dynamic inbound soft reset

uses extra prefix information stored locally

Enhanced Route Refresh

finds route inconsistencies and synchronizes with the peer

**Correct Answer:**

Drag and drop the method for refreshing BGP prefixes on the left to the corresponding description on the right.

dynamic inbound soft reset

hard reset

soft reset

Enhanced Route Refresh

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 430**

**Select and Place:**

Drag and drop the IS-IS component on the left to the function that it performs on the right.

attached bits	instructs other devices to route around the sending device until its LSDB is fully converged
overload bit	discovers neighboring IS-IS systems
TLV	carries additional data within an IS-IS packet
IIH	synchronizes the LSDB within an IS-IS domain
PNSP	indicates to a Level 1 device that the sending device has reachability to other areas
CNSP	requests retransmission of the latest version of an LSP

**Correct Answer:**

Drag and drop the IS-IS component on the left to the function that it performs on the right.

overload bit

IIH

TLV

CNSP

attached bits

PNSP

Section: (none)

Explanation

Explanation/Reference:

QUESTION 431

Select and Place:

Drag and drop the NHRP flag on the left to the corresponding meaning on the right.	
authoritative	NHRP information was learned from a forwarded NHRP packet.
implicit	The NHRP mapping entry is active and process-switched.
negative	NHRP information was obtained from the next hop server that maintains the NBMA mapping.
used	The requested NBMA mapping failed.

**Correct Answer:**

Drag and drop the NHRP flag on the left to the corresponding meaning on the right.	
	implicit
	used
	authoritative
	negative

**Section: (none)**

**Explanation**

**Explanation/Reference:**

### QUESTION 432

#### Select and Place:

Drag and drop the RIP configuration command on the left to the function it performs on the right.

ip rip triggered	configures the router to verify the IP address of routers that send updates
output-delay	configures the router to send information only when the routing database is updated
validate-update-source	configures the router to modify routing metrics
offset-list	configures the router to throttle RIP updates

#### Correct Answer:

Drag and drop the RIP configuration command on the left to the function it performs on the right.

	validate-update-source
	ip rip triggered
	offset-list
	output-delay

Section: (none)

Explanation

Explanation/Reference:

QUESTION 433

Select and Place:

Drag and drop the NetFlow Export feature on the left to the NetFlow version that first supported it on the right.

exports data from the aggregation cache only

exports data from the main and aggregation caches

exports data from the main cache only

supports BGP next-hop

supports BGP AS information

supports IPv6

Version 5

Version 8

Version 9

**Correct Answer:**

Drag and drop the NetFlow Export feature on the left to the NetFlow version that first supported it on the right.

Version 5

exports data from the main cache only

supports BGP next-hop

Version 8

exports data from the aggregation cache only

Version 9

supports IPv6

exports data from the main and aggregation caches

supports BCP AS information

Section: (none)  
Explanation

Explanation/Reference:

QUESTION 434

Select and Place:



Drag and drop the BGP attribute on the left to the correct category on the right.

Local-Pref

Community

Atomic-Aggregate

AS\_path

Cluster List

Originator ID

BGP Well-Known Mandatory Attribute

Target

BGP Optional Nontransitive Attribute

Target

Target

BGP Optional Transitive Attribute

Target

**Correct Answer:**

Drag and drop the BGP attribute on the left to the correct category on the right.

Local-Pref

BGP Well-Known Mandatory Attribute

AS\_path

Atomic-Aggregate

BGP Optional Nontransitive Attribute

Originator ID

Cluster List

BGP Optional Transitive Attribute

Community

Section: (none)

Explanation

Explanation/Reference:

QUESTION 435

Select and Place:

Drag and drop the NAT operations on the left into the correct sequential order on the right.	
Check the IP routing table.	step 1
Check the outbound access list.	step 2
Check the inbound access list.	step 3
Inspect CBAC.	step 4
Translate inside local to outside global.	step 5
Check the policy routing	step 6

**Correct Answer:**

Drag and drop the NAT operations on the left into the correct sequential order on the right.	
	Check the inbound access list.
	Check the policy routing
	Check the IP routing table.
	Translate inside local to outside global.
	Check the outbound access list.
	Inspect CBAC.

Section: (none)

Explanation

Explanation/Reference:

#### QUESTION 436

Select and Place:

Drag and drop the argument of the <b>ip cef load-sharing algorithm</b> command on the left to the function it performs on the right.	
original	sets the load-balancing algorithm to use a source, a destination, and an ID hash
universal	sets the load-balancing algorithm for environments with a small number of source destination IP address pairs
tunnel	sets the load-balancing algorithm to use Layer 4 information
include-ports source destination	sets the load-balancing algorithm to use a source and destination hash

Correct Answer:

Drag and drop the argument of the **ip cef load-sharing algorithm** command on the left to the function it performs on the right.

universal

tunnel

include-ports source destination

original

Section: (none)

Explanation

Explanation/Reference:

QUESTION 437

Select and Place:

Drag and drop the Cisco IOX XE subpackage on the left to the function it performs on the right.	
RPIOS	provisions the Cisco IOS Software kernel from which the IOS software features are housed and run
ESPBase	produces the ESP software, ESP operating system, and control processes
SIPBase	manages the Cisco IOS Software and the rest of the platform via the control plane
RPCControl	manages the Session Initiation Protocol carrier card operating system and control processes

**Correct Answer:**

Drag and drop the Cisco IOX XE subpackage on the left to the function it performs on the right.	
	RPIOS
	ESPBase
	RPCControl
	SIPBase

**Section: (none)**  
**Explanation**

Explanation/Reference:

### QUESTION 438

Select and Place:

Drag and drop the LACP elements on the left into the correct priority order in the hot-standby port-selection process on the right.	
switch MAC address	1
port number	2
LACP system priority	3
LACP port priority	4

Correct Answer:

Drag and drop the LACP elements on the left into the correct priority order in the hot-standby port-selection process on the right.	
	LACP system priority
	switch MAC address
	LACP port priority
	port number

Section: (none)

Explanation

Explanation/Reference:

### QUESTION 439

#### Select and Place:

Drag and drop the RIP configuration command on the left to the function it performs on the right.	
ip rip triggered	controls the advertisement of routes on an interface
default-information originate	divides traffic among routes with the lowest cost
ip split-horizon	configures the router to send information only when the routing database is updated
traffic-share min	configures the router to source the network with RIP

#### Correct Answer:

Drag and drop the RIP configuration command on the left to the function it performs on the right.	
	ip split-horizon
	traffic-share min
	ip rip triggered
	default-information originate



Section: (none)

Explanation

Explanation/Reference:

#### QUESTION 440

Select and Place:

Drag and drop each step in the performance-monitoring configuration process on the left into the correct order on the right.	
Configure a policy with at least one performance-monitor type flow monitor.	1
Configure a flow record.	2
Configure a class that describes the filtering criteria.	3
Associate a performance-monitor type policy with its corresponding interface.	4
Configure a flow monitor that includes the flow record and flow exporter.	5

Correct Answer:

Drag and drop each step in the performance-monitoring configuration process on the left into the correct order on the right.

Configure a flow record.

Configure a flow monitor that includes the flow record and flow exporter.

Configure a class that describes the filtering criteria.

Configure a policy with at least one performance-monitor type flow monitor.

Associate a performance-monitor type policy with its corresponding interface.

**Section: (none)**  
**Explanation**

**Explanation/Reference:**

**QUESTION 441**

**Select and Place:**

Drag and drop each EIGRP element on the left to the corresponding definition on the right.

Feasibility Condition	the metric for a route advertised by EIGRP
Feasible Distance	the lowest sum of the EIGRP metric and the metric used to reach the next hop
Feasible Successor	a route that could become the best path
Neighbor Table	the route currently in use as the best path
Reported Distance	a list of EIGRP devices that have a direct physical connection
Successor	the requirement that the RD of a new route is lower than the FD of the current route

**Correct Answer:**

Drag and drop each EIGRP element on the left to the corresponding definition on the right.

Reported Distance

Feasible Distance

Feasible Successor

Successor

Neighbor Table

Feasibility Condition

**Section: (none)**  
**Explanation**

**Explanation/Reference:**

**QUESTION 442**

**Select and Place:**

Drag and drop each BGP attribute on the left to the matching description on the right.

AS_PATH	sets the value used to reach the advertising router
community	an attribute whose value can affect the preferred path for eBGP peers
LOCAL_PREF	an attribute whose value is shared within iBGP
MED	supports values of IGP, EGP, and INCOMPLETE
NEXT_HOP	a Cisco proprietary attribute that is local to the individual router
origin	allows the administrator to customize path selection by grouping routes
weight	a list that shows the path through which a route has passed

**Correct Answer:**

Drag and drop each BGP attribute on the left to the matching description on the right.

NEXT\_HOP

MED

LOCAL\_PREF

origin

weight

community

AS\_PATH

Section: (none)

Explanation

Explanation/Reference:

QUESTION 443

Select and Place:

Drag and drop each GET VPN feature on the left to the corresponding function it performs on the right.

GDOI	uses pseudotime to prevent replay
KEK	encrypts the rekey message
SAR	encrypts data between group members
TEK	handles communication between group members and a group controller or key server

**Correct Answer:**

Drag and drop each GET VPN feature on the left to the corresponding function it performs on the right.

	SAR
	KEK
	TEK
	GDOI

**Section: (none)**

**Explanation**

**Explanation/Reference:**

#### QUESTION 444

##### Select and Place:

Drag and drop each SNMP security model and level on the left to the corresponding mode of authentication on the right.	
SNMPv2c-noAuthNoPriv	provides HMAC-MD5 or HMAC-SHA authentication with DES 56-bit encryption
SNMPv3-authNoPriv	authenticates with a user name match
SNMPv3-authPriv	provides HMAC-MD5 or HMAC-SHA authentication without encryption
SNMPv3-noAuthNoPriv	authenticates with a community string match

##### Correct Answer:



Drag and drop each SNMP security model and level on the left to the corresponding mode of authentication on the right.

SNMPv3-authPriv

SNMPv3-noAuthNoPriv

SNMPv3-authNoPriv

SNMPv2c-noAuthNoPriv

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 445**

**Select and Place:**

Drag and drop each description of IPv6 transition technology on the left to the matching IPv6 transition technology category on the right.

encapsulates IPv6 packets within IPv4 packets

supports translation between IPv4 and IPv6 by using algorithms to map addresses

supports stateful translation between IPv4 and IPv6 with static and manual mappings

requires IPv6-capable infrastructure

uses routing protocols to maintain IPv4 and IPv6 routing adjacencies

encapsulates IPv4 packets within IPv6 packets

Dual-Stack Network

Tunneling

NAT64

**Correct Answer:**

Drag and drop each description of IPv6 transition technology on the left to the matching IPv6 transition technology category on the right.


#### Dual-Stack Network

requires IPv6-capable infrastructure

uses routing protocols to maintain IPv4 and IPv6 routing adjacencies

#### Tunneling

encapsulates IPv6 packets within IPv4 packets

encapsulates IPv4 packets within IPv6 packets

#### NAT64

supports translation between IPv4 and IPv6 by using algorithms to map addresses

supports stateful translation between IPv4 and IPv6 with static and manual mappings

Section: (none)

Explanation

Explanation/Reference:

QUESTION 446

Drag and drop each STP port role on the left to the matching statement on the right.

**Select and Place:**

alternate port	the port whose path cost deems it closest to the root bridge
backup port	the port that sends the best BPDUs on its segment
designated port	a blocked port that receives more useful BPDUs from a different bridge
root port	a blocked port that receives more useful BPDUs from its own bridge

**Correct Answer:**

	root port
	designated port
	alternate port
	backup port

**Section: (none)**  
**Explanation**

**Explanation/Reference:**

**QUESTION 447**

Drag and drop the Cisco IOS XE subpackage on the left to the function it performs on the right.

Select and Place:

RPBase	administers the shared port adaptor driver and related field-programmable device images
RPControl	provisions the software needed to access the router
SIPSPA	manages the Cisco IOS Software and the rest of the platform via the control plane
RPAccess	provisions the operating system software route processor

Correct Answer:

	SIPSPA
	RPAccess
	RPControl
	RPBase

Section: (none)

### Explanation

### Explanation/Reference:

#### QUESTION 448

Drag and drop the VLAN number on the left to the corresponding default VLAN name on the right.

#### Select and Place:

1001	fddi-default
1002	fddinet-default
1003	trnet-default
1004	ethernet
1005	token-ring-default

#### Correct Answer:

	1002
	1004
	1005
	1001
	1003

Section: (none)  
Explanation

Explanation/Reference:

**QUESTION 449**

Drag and drop the StackWise stack master election rule on the left into the correct priority order on the right.

**Select and Place:**

the switch with the highest software priority	1
the switch with the lowest MAC address	2
the current stack master	3
the switch with a defined interface-level configuration	4
the switch with the highest priority value	5
the switch with the longest up time	6

**Correct Answer:**



	the current stack master
	the switch with the highest priority value
	the switch with a defined interface-level configuration
	the switch with the highest software priority
	the switch with the longest up time
	the switch with the lowest MAC address

**Section: (none)**

**Explanation**

**Explanation/Reference:**

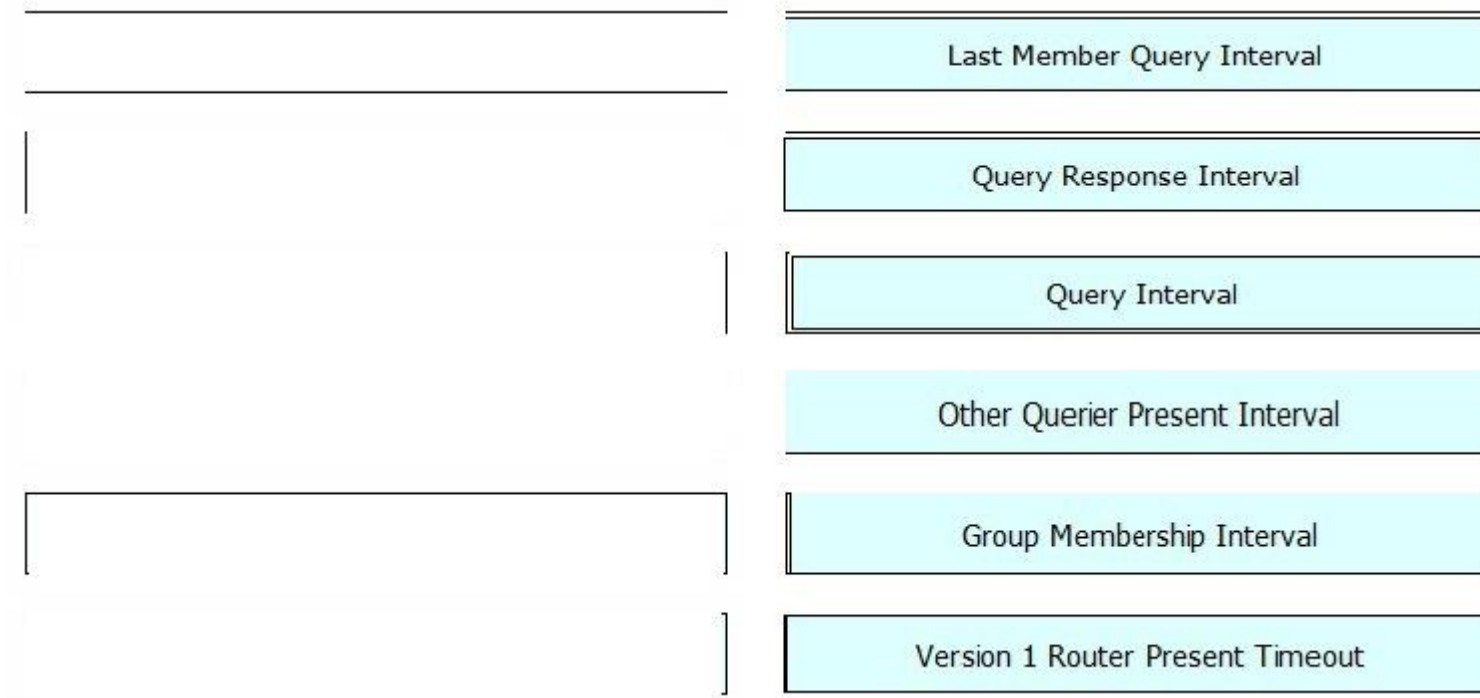
**QUESTION 450**

Drag and drop the IGMPv2 timer on the left to its default value on the right.

**Select and Place:**

Group Membership Interval	1 second
Last Member Query Interval	10 seconds
Query Interval	60 seconds
Query Response Interval	255 seconds
Other Querier Present Interval	260 seconds
Version 1 Router Present Timeout	400 seconds

**Correct Answer:**



**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 451**

Drag and drop the Metro Ethernet circuit on the left to the corresponding Service Type category on the right.

**Select and Place:**

- Ethernet Virtual Private Line
- Ethernet Private Tree
- Ethernet Private LAN
- Ethernet Virtual Private LAN
- Ethernet Private Line

Port Based

1

2

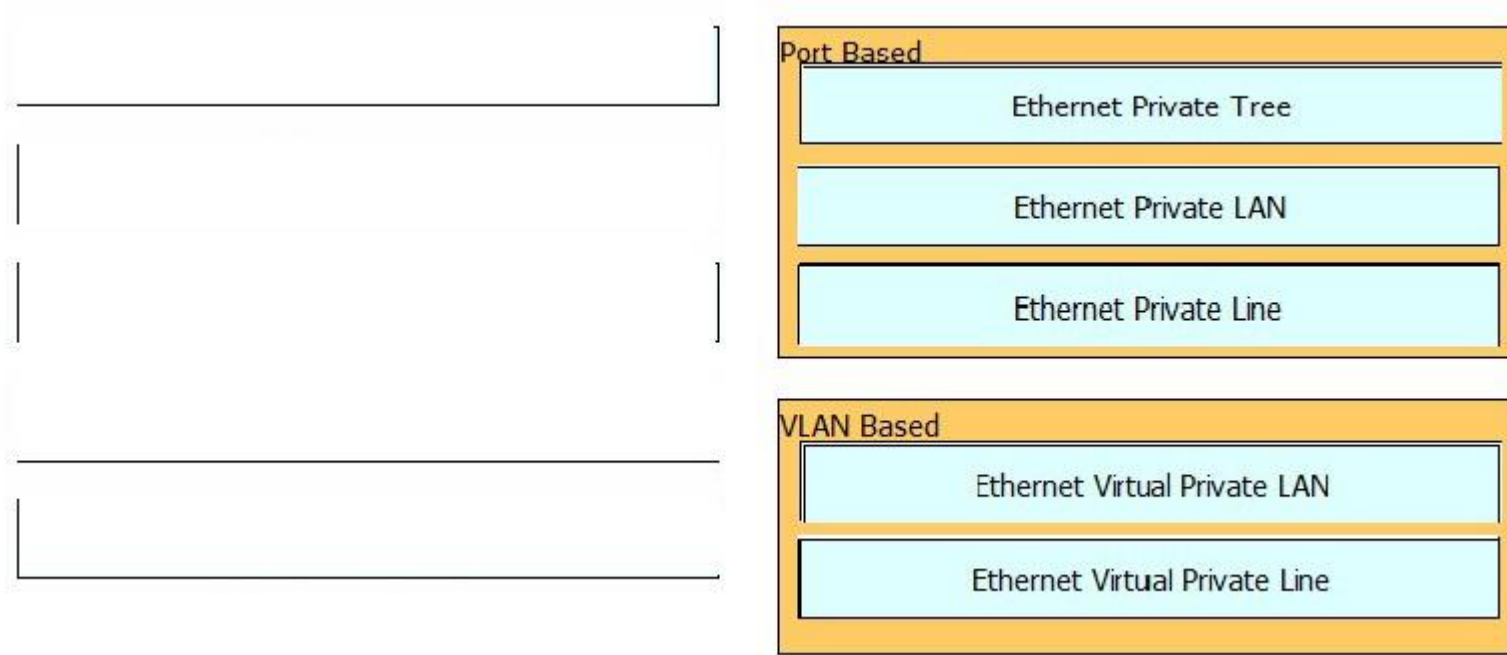
3

VLAN Based

1

2

Correct Answer:



**Section: (none)**  
**Explanation**

**Explanation/Reference:**

**QUESTION 452**

Drag and drop the OSPFv3 LSA type on the left to the functionality it provides on the right.

**Select and Place:**

Router LSA (Type 1)	advertises an internal network or set of networks to routers in other areas
Network LSA (Type 2)	associates a group of prefixes for transit networks or stub networks
Interarea-prefix LSA for ABRs (Type 3)	indicates whether the router is part of a virtual link
Interarea-router LSA for ASBRs (Type 4)	collects link-state information and cost information for the
Autonomous system external LSA (Type 5)	provides the link-local address of a router to other routers on
Link LSA (Type 8)	redistributes external routes
Intra-Area-Prefix LSAs (Type 9)	enables routers to determine the best path to an external network

**Correct Answer:**

	Interarea-prefix LSA for ABRs (Type 3)
	Intra-Area-Prefix LSAs (Type 9)
	Router LSA (Type 1)
	Network LSA (Type 2)
	Link LSA (Type 8)
	Autonomous system external LSA (Type 5)
	Interarea-router LSA for ASBRs (Type 4)

**Section: (none)**

**Explanation**

**Explanation/Reference:**

#### **QUESTION 453**

Drag and drop the OSPF network type on the left to the correct category of timers on the right.

**Select and Place:**

Point-to-Point
Loopback
Point-to-Multipoint Nonbroadcast
Broadcast
Point-to-Multipoint
Nonbroadcast

Hello 10, Dead 40, Wait 40
1
2

None
1

Hello 30, Dead 120, Wait 120
1
2
3

Correct Answer:



The diagram illustrates the mapping of IP address ranges to specific network address types. It is organized into three main sections, each with a header bar and a list of address types in light blue boxes.

- Section 1: Hello 10, Dead 40, Wait 40**
  - Point-to-Point
  - Broadcast
- Section 2: None**
  - Loopback
- Section 3: Hello 30, Dead 120, Wait 120**
  - Point-to-Multipoint Nonbroadcast
  - Point-to-Multipoint
  - Nonbroadcast

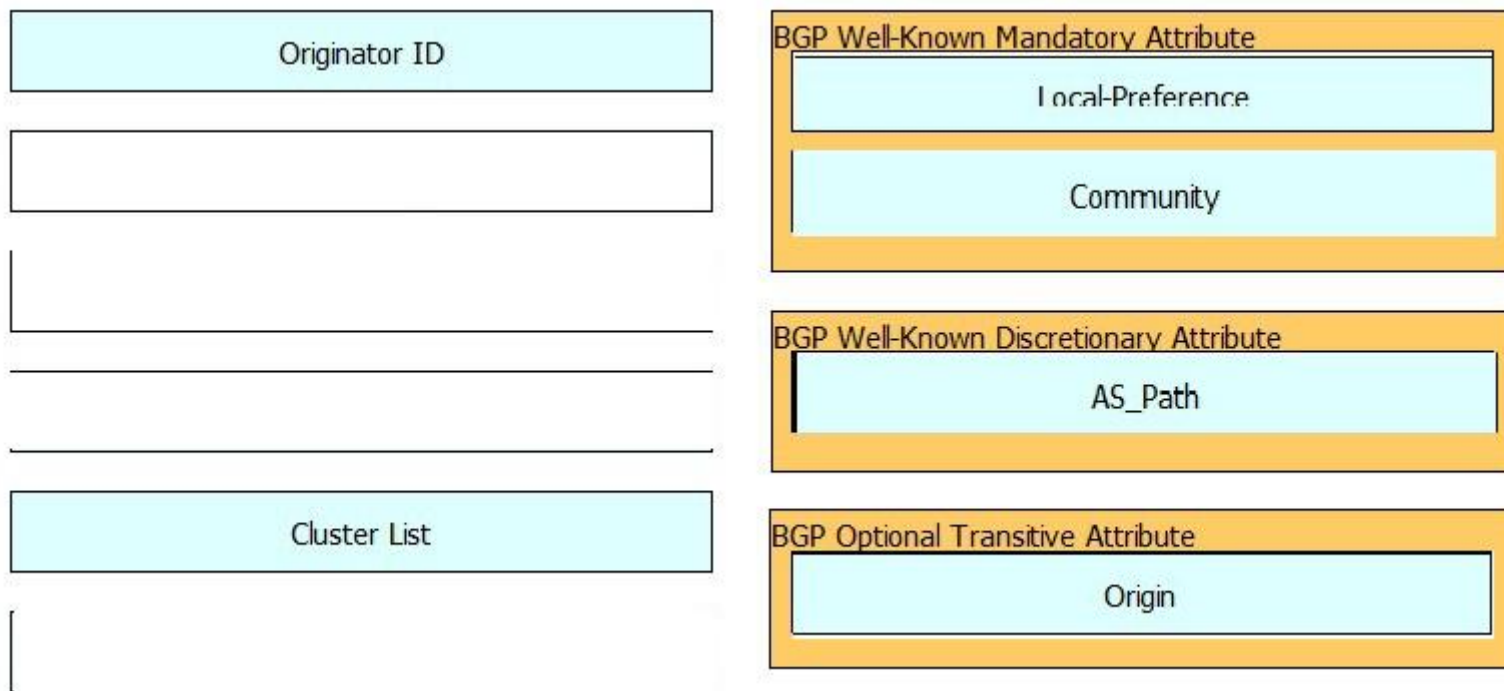
Originator ID
Community
Local-Preference
AS_Path
Cluster List
Origin

BGP Well-Known Mandatory Attribute
1
2

BGP Well-Known Discretionary Attribute
1

BGP Optional Transitive Attribute
1

Correct Answer:



**Section: (none)**  
**Explanation**

**Explanation/Reference:**

#### QUESTION 455

Drag and drop the DMVPN command on the left to the corresponding function on the right.

**Select and Place:**

ip nhrp map group	configures mapping from an ip adress to an NBMA mapping
ip nhrp group	associates an NHRP group to a QoS policy
ip nhrp map	allows broadcast packets to be sent over a tunnel
ip nhrp map multicast	configured an NHRP group
ip nhrp nhs	designates the IP to use for communication to the next hop server
ip nhrp responder	specifies the next hop server

**Correct Answer:**

	ip nhrp map
	ip nhrp map group
	ip nhrp map multicast
	ip nhrp group
	ip nhrp nhs
	ip nhrp responder

**Section: (none)**

**Explanation**

**Explanation/Reference:**

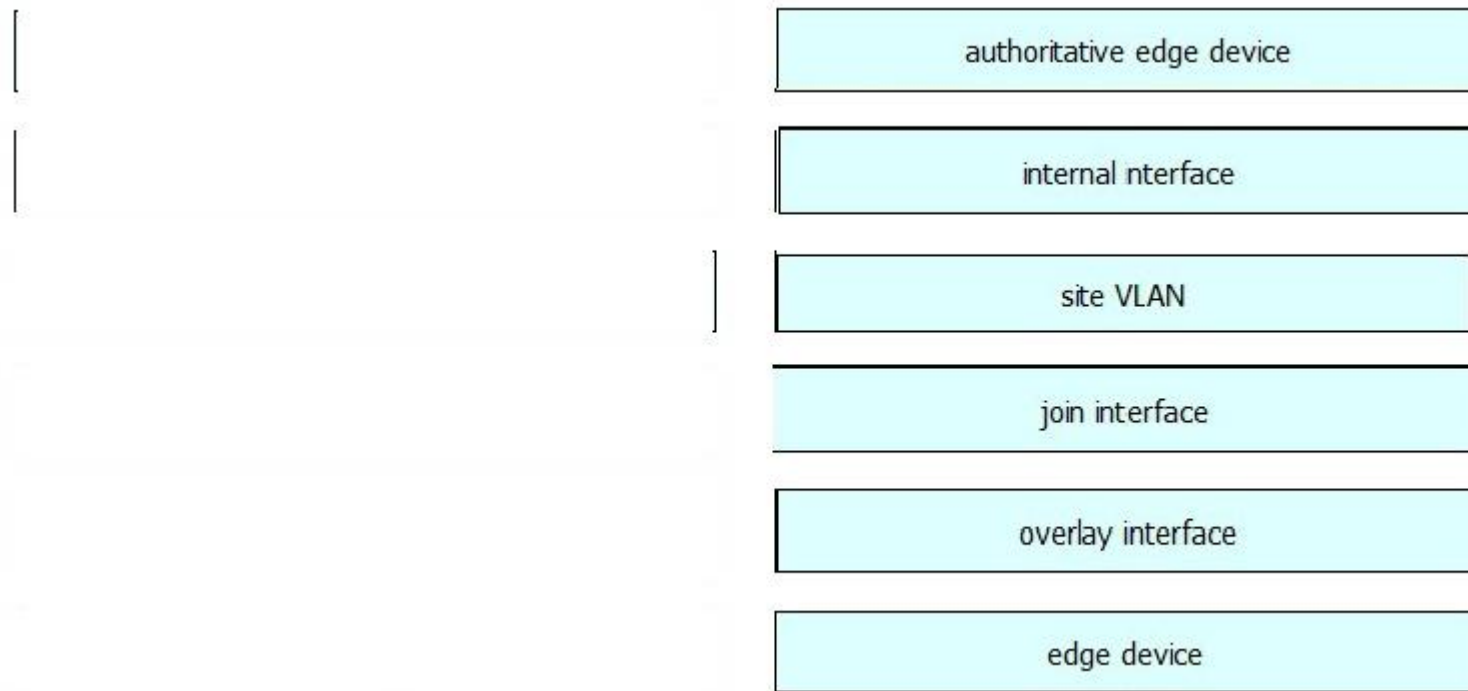
**QUESTION 456**

Drag and drop the OTV component on the left to the function it performs on the right.

**Select and Place:**

edge device	elected by the OTV to provide loop-free multihoming
join interface	connects VLANs to be extended
internal interface	receives local OTV hello messages
overlay interface	provides an uplink to the overlay network
site VLAN	encapsulates layer 2 frames within an IP header
authoritative edge device	connects a site to an overlay network

**Correct Answer:**



**Section: (none)**  
**Explanation**

**Explanation/Reference:**

**QUESTION 457**

Drag and drop the TACACS+ configuration command on the left to the correct function it performs on the right.

**Select and Place:**

tacacs-server host 192.168.1.250	globally configures a pre-shared TACACS+ key
tacacs-server host 10.1.1.93 key CISCO	configures a device to send only a portion of the username
tacacs-server key CISCO	configures the device to send TACACS+ requests to a
tacacs-server directed-request	maintains a single open connection between the device and
tacacs-server packet 12000	configures the device to securely send TACACS+ requests to a TACACS+ server
tacacs-server host 172.16.16.25 single-connection	configured the maximum TACACS+ packet size

**Correct Answer:**



	tacacs-server key CISCO
	tacacs-server directed-request
	tacacs-server host 192.168.1.250
	tacacs-server host 172.16.16.25 single-connection
	tacacs-server host 10.1.1.93 key CISCO
	tacacs-server packet 12000

**Section: (none)**

**Explanation**

**Explanation/Reference:**

#### **QUESTION 458**

Drag and drop the DSCP PHB on the left to the corresponding binary representation on the right.

**Select and Place:**

AF31	10111000
AF43	01010000
AF22	1110000
AF13	01101000
EF	00111000
CS7	10011000

**Correct Answer:**

	EF
	AF22
	CS7
	AF31
	AF13
	AF43

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 459**

Refer to the exhibit.

```

Switch#show spanning-tree

VLAN0001

Spanning tree enabled protocol ieee

Root ID    Priority    32769
  Address    001a.6d4b.c500
  This bridge is the root
  Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec

Bridge ID  Priority    32769 (priority 32768 sys-id-ext 1)
  Address    001a.6d4b.c500
  Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
  Aging Time 15

Interface        Role Sts Cost      Prio.Nbr Type
-----
Fa0/1            Desg FWD 19        128.1    P2p

```

If you change the Spanning Tree Protocol from pvst to rapid-pvst, what is the effect on the interface Fa0/1 port state?

- A. It transitions to the listening state, and then the forwarding state.
- B. It transitions to the learning state and then the forwarding state.
- C. It transitions to the blocking state, then the learning state, and then the forwarding state.
- D. It transitions to the blocking state and then the forwarding state.

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 460**

Refer to the exhibit.

```
interface GigabitEthernet0/0/0
 ip address 192.168.1.1 255.255.255.0
 !
 ip ssh version 2
 !
 ip access-list extended protect-ssh
  permit ip any any eq 22
 !
 line vty 0 4
  access-class protect-ssh in
  transport input ssh
```

Which configuration is missing that would enable SSH access on a router that is running Cisco IOS XE Software?

- A. int Gig0/0/0  
management-interface
- B. class-map ssh-class  
match access-group protect-ssh  
policy-map control-plane-in  
class ssh-class  
police 80000 conform transmit exceed drop  
control-plane  
service-policy input control-plane-in
- C. control-plane host  
management-interface GigabitEthernet0/0/0 allow ssh
- D. interface Gig0/0/0  
ip access-group protect-ssh in

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

#### **QUESTION 461**

Which two options are causes of out-of-order packets? (Choose two.)

- A. a routing loop

- B. a router in the packet flow path that is intermittently dropping packets
- C. high latency
- D. packets in a flow traversing multiple paths through the network
- E. some packets in a flow being process-switched and others being interrupt-switched on a transit router

**Correct Answer:** DE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 462**

A TCP/IP host is able to transmit small amounts of data (typically less than 1500 bytes), but attempts to transmit larger amounts of data hang and then time out. What is the cause of this problem?

- A. A link is flapping between two intermediate devices.
- B. The processor of an intermediate router is averaging 90 percent utilization.
- C. A port on the switch that is connected to the TCP/IP host is duplicating traffic and sending it to a port that has a sniffer attached.
- D. There is a PMTUD failure in the network path.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 463**

Refer to the exhibit.

```

Internet Protocol Version 4, Src: 10.149.4.110 (10.149.4.110), Dst: 192.168.3.1 (192.168.3.1)
  Version: 4
  Header length: 20 bytes
  Differentiated Services Field: 0x00 (DSCP 0x00: Default; ECN: 0x00: Not-ECT (Not ECN-Capable Transport))
  Total Length: 60
  Identification: 0x64ac (25772)
  Flags: 0x00
  Fragment offset: 0
  Time to live: 1
  Protocol: ICMP (1)
  Header checksum: 0x8269 [correct]
  Source: 10.149.4.110 (10.149.4.110)
  Destination: 192.168.3.1 (192.168.3.1)
Internet Control Message Protocol
  Type: 8 (Echo (ping) request)
  Code: 0
  Checksum: 0x4d3d [correct]
  Identifier (BE): 1 (0x0001)
  Identifier (LE): 256 (0x0100)
  Sequence number (BE): 30 (0x001e)
  Sequence number (LE): 7680 (0x1e00)
  Data (32 bytes)

0000  61 62 63 64 65 66 67 68 69 6a 6b 6c 6d 6e 6f 70  abcdefghijklmnop
0010  71 72 73 74 75 76 77 61 62 63 64 65 66 67 68 69  qrstuvwabcdefghi
      Data: 6162636465666768696a6b6c6d6e6f707172737475767761...
      [Length: 32]

```

ICMP Echo requests from host A are not reaching the intended destination on host B. What is the problem?

- A. The ICMP payload is malformed.
- B. The ICMP Identifier (BE) is invalid.
- C. The negotiation of the connection failed.
- D. The packet is dropped at the next hop.
- E. The link is congested.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 464**

Refer to the exhibit.

```
R101#show ip cache flow
[...]
```

SrcIf	SrcIPaddress	DstIf	DstIPaddress	Pr	SrcP	DstP	Pkts
Et0/0	10.0.0.1	Et0/0	15.0.0.2	01	0000	0800	2603

Which statement is true?

- A. It is impossible for the destination interface to equal the source interface.
- B. NAT on a stick is performed on interface Et0/0.
- C. There is a potential routing loop.
- D. This output represents a UDP flow or a TCP flow.

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 465**

Which three conditions can cause excessive unicast flooding? (Choose three.)

- A. Asymmetric routing
- B. Repeated TCNs
- C. The use of HSRP
- D. Frames sent to FFFF.FFFF.FFFF
- E. MAC forwarding table overflow
- F. The use of Unicast Reverse Path Forwarding

**Correct Answer: ABE**

**Section: (none)**

**Explanation**



**Explanation/Reference:**

**QUESTION 466**

Which congestion-avoidance or congestion-management technique can cause global synchronization?

- A. Tail drop
- B. Random early detection
- C. Weighted random early detection
- D. Weighted fair queuing

**Correct Answer: A**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 467**

Which two options are reasons for TCP starvation? (Choose two.)

- A. The use of tail drop
- B. The use of WRED
- C. Mixing TCP and UDP traffic in the same traffic class
- D. The use of TCP congestion control

**Correct Answer: CD**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

absolute.

**QUESTION 468**

Which type of port would have root guard enabled on it?

- A. A root port
- B. An alternate port
- C. A blocked port

D. A designated port

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 469**

Refer to the exhibit.

```
DOT1X-SP-5-SECURITY_VIOLATION: Security violation on interface GigabitEthernet4/8,  
New MAC address 0080.ad00.c2e4 is seen on the interface in Single host mode  
%PM-SP-4-ERR_DISABLE: security-violation error detected on Gi4/8, putting Gi4/8 in  
err-disable state
```

Which action will solve the error state of this interface when connecting a host behind a Cisco IP phone?

- A. Configure dot1x-port control auto on this interface
- B. Enable errdisable recovery for security violation errors
- C. Enable port security on this interface
- D. Configure multidomain authentication on this interface

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 470**

Refer to the exhibit.

```
switch#show spanning-tree detail
```

```
MST0 is executing the mstp compatible Spanning Tree protocol
Bridge Identifier has priority 32768, sysid 0, address f4ac.c1c4.2b80
Configured hello time 2, max age 20, forward delay 15, transmit hold-count 6
Current root has priority 24576, address 0019.07aa.9ac0
Root port is 56 (Port-channell), cost of root path is 0
Topology change flag not set, detected flag not set
Number of topology changes 296 last change occurred 00:01:17 ago
from GigabitEthernet0/15
```

While troubleshooting high CPU utilization on one of your Cisco Catalyst switches, you find that the issue is due to excessive flooding that is caused by STP. What can you do to prevent this issue from happening again?

- A. Disable STP completely on the switch.
- B. Change the STP version to RSTP.
- C. Configure PortFast on port-channel 1.
- D. Configure UplinkFast on the switch.
- E. Configure PortFast on interface Gi0/15.

**Correct Answer:** E

**Section:** (none)

**Explanation**

**Explanation/Reference:**

rightful.

#### QUESTION 471

Refer to the exhibit.

```
%C4K_L3HWFORWARDING-2-FWDCAMFULL: L3 routing table is full. Switching to software forwarding
```

While troubleshooting high CPU utilization of a Cisco Catalyst 4500 Series Switch, you notice the error message that is shown in the exhibit in the log file. What can be the cause of this issue, and how can it be prevented?

- A. The hardware routing table is full. Redistribute from BGP into IGP.
- B. The software routing table is full. Redistribute from BGP into IGP.

- C. The hardware routing table is full. Reduce the number of routes in the routing table.
- D. The software routing table is full. Reduce the number of routes in the routing table.

**Correct Answer:** C

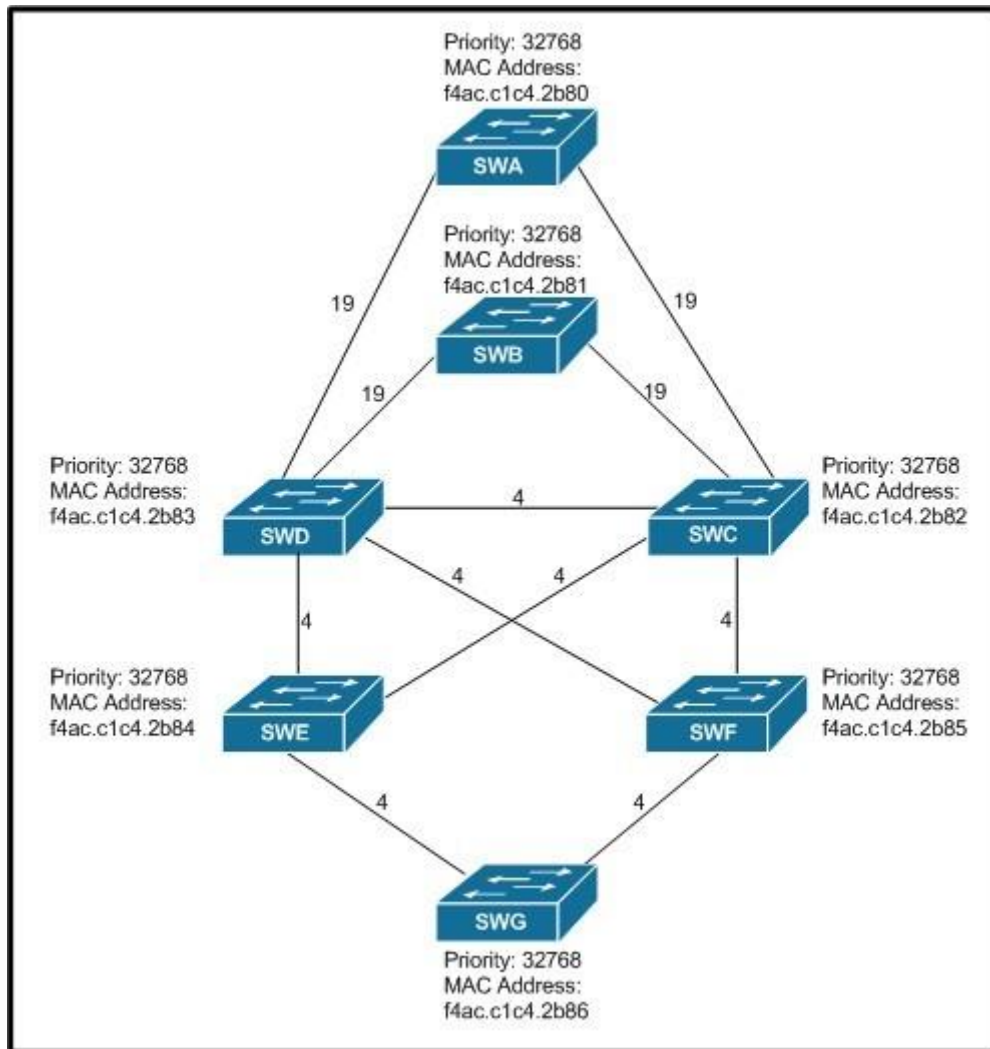
**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 472**

Refer to the exhibit.



All switches have default bridge priorities, and originate BPDUs with MAC addresses as indicated. The numbers shown are STP link metrics. Which two ports are forwarding traffic after STP converges? (Choose two.)

- A. The port connecting switch SWD with switch SWE
- B. The port connecting switch SWG with switch SWF
- C. The port connecting switch SWC with switch SWE

D. The port connecting switch SWB with switch SWC

**Correct Answer:** CD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 473**

Which statement is true regarding UDLD and STP timers?

- A. The UDLD message timer should be two times the STP forward delay to prevent loops.
- B. UDLD and STP are unrelated features, and there is no relation between the timers.
- C. The timers need to be synced by using the spanning-tree udd-sync command.
- D. The timers should be set in such a way that UDLD is detected before the STP forward delay expires.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

agreed with the given answer.

#### **QUESTION 474**

Which switching technology can be used to solve reliability problems in a switched network?

- A. fragment-free mode
- B. cut-through mode
- C. check mode
- D. store-and-forward mode

**Correct Answer:** D

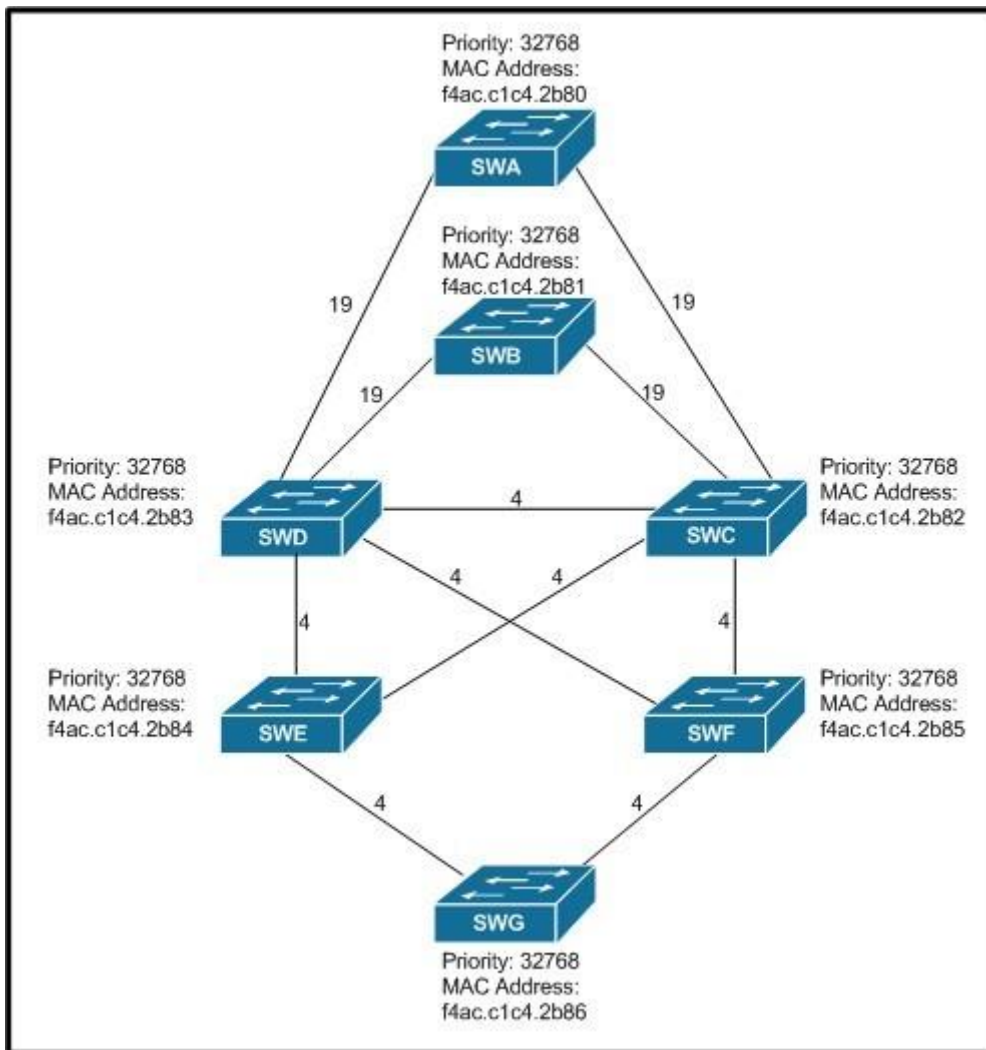
**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 475**

Refer to the exhibit.



All switches have default bridge priorities, and originate BPDUs with MAC addresses as indicated. The numbers shown are STP link metrics. Which two ports are in blocking state after STP converges? (Choose two.)

- A. the port on switch SWD that connects to switch SWE
- B. the port on switch SWF that connects to switch SWG

- C. the port on switch SWD that connects to switch SWC
- D. the port on switch SWB that connects to switch SWD

**Correct Answer:** CD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 476**

What is the most efficient way to confirm whether microbursts of traffic are occurring?

- A. Monitor the output traffic rate using the show interface command.
- B. Monitor the output traffic rate using the show controllers command.
- C. Check the CPU utilization of the router.
- D. Sniff the traffic and plot the packet rate over time.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 477**

What is a cause for unicast flooding?

- A. Unicast flooding occurs when multicast traffic arrives on a Layer 2 switch that has directly connected multicast receivers.
- B. When PIM snooping is not enabled, unicast flooding occurs on the switch that interconnects the PIM-enabled routers.
- C. A man-in-the-middle attack can cause the ARP cache of an end host to have the wrong MAC address. Instead of having the MAC address of the default gateway, it has a MAC address of the man-in-the-middle. This causes all traffic to be unicast flooded through the man-in-the-middle, which can then sniff all packets.
- D. Forwarding table overflow prevents new MAC addresses from being learned, and packets destined to those MAC addresses are flooded until space becomes available in the forwarding table.

**Correct Answer:** D

**Section:** (none)

**Explanation**



**Explanation/Reference:**

**QUESTION 478**

Which statement is true about IGMP?

- A. Multicast sources send IGMP messages to their first-hop router, which then generates a PIM join message that is then sent to the RP.
- B. Multicast receivers send IGMP messages to their first-hop router, which then forwards the IGMP messages to the RP.
- C. IGMP messages are encapsulated in PIM register messages and sent to the RP.
- D. Multicast receivers send IGMP messages to signal their interest to receive traffic for specific multicast groups.

**Correct Answer: D**

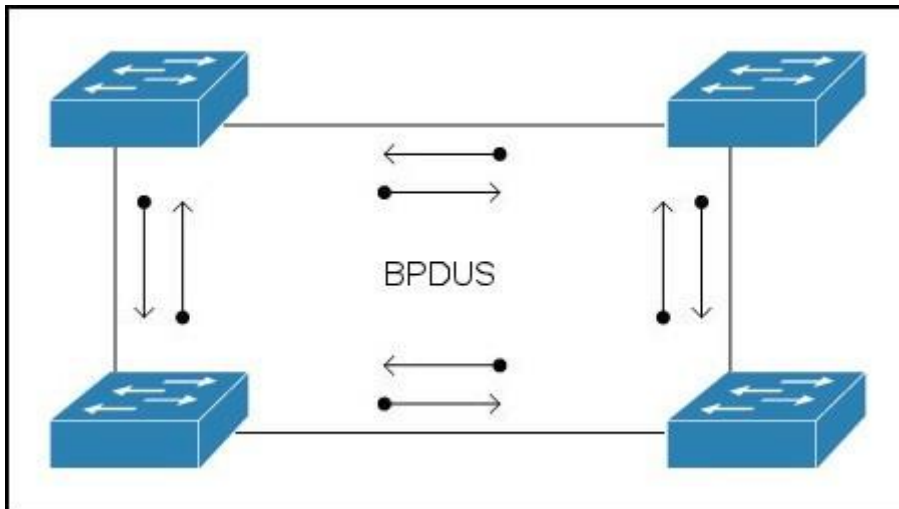
**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 479**

Refer to the exhibit.



Which technology does the use of bi-directional BPDUs on all ports in the topology support?

- A. RSTP

- B. MST
- C. Bridge Assurance
- D. Loop Guard
- E. Root Guard
- F. UDLD

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 480**

Which three statements are true about PPP CHAP authentication? (Choose three.)

- A. PPP encapsulation must be enabled globally.
- B. The LCP phase must be complete and in closed state.
- C. The hostname used by a router for CHAP authentication cannot be changed.
- D. PPP encapsulation must be enabled on the interface.
- E. The LCP phase must be complete and in open state.
- F. By default, the router uses its hostname to identify itself to the peer.

**Correct Answer:** DEF

**Section:** (none)

**Explanation**

**Explanation/Reference:**

true.

**QUESTION 481**

Which two statements are true about an EPL? (Choose two.)

- A. It is a point-to-point Ethernet connection between a pair of NNIs.
- B. It allows for service multiplexing.
- C. It has a high degree of transparency.
- D. The EPL service is also referred to as E-line.

**Correct Answer:** CD

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 482**

Which two statements describe characteristics of HDLC on Cisco routers? (Choose two.)

- A. It supports multiple Layer 3 protocols.
- B. It supports multiplexing.
- C. It supports only synchronous interfaces.
- D. It supports authentication.

**Correct Answer: AC**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

answer is right.

**QUESTION 483**

Refer to the exhibit.

```
R1#show ip mroute 232.1.1.1
IP Multicast Routing Table
Flags: D - Dense, S - Sparse, B - Bidir Group, s - SSM Group, C - Connected,
       L - Local, P - Pruned, R - RP-bit set, F - Register flag,
       T - SPT-bit set, J - Join SPT, M - MSDP created entry,
       X - Proxy Join Timer Running, A - Candidate for MSDP Advertisement,
       U - URD, I - Received Source Specific Host Report,
       Z - Multicast Tunnel, z - MDT-data group sender,
       Y - Joined MDT-data group, y - Sending to MDT-data group
Outgoing interface flags: H - Hardware switched, A - Assert winner
Timers: Uptime/Expires
Interface state: Interface, Next-Hop or VCD, State/Mode

(10.1.4.7, 232.1.1.1), 00:17:24/00:02:53, flags: sTI
  Incoming interface: Ethernet1/0, RPF nbr 10.1.5.6*
  Outgoing interface list:
    Loopback0, Forward/Sparse, 00:14:42/00:01:21
```

What is the meaning of the asterisk (\*) in the output?

- A. PIM neighbor 10.1.5.6 is the RPF neighbor for the group 232.1.1.1 for the shared tree.
- B. PIM neighbor 10.1.5.6 is the one that is seen as the RPF neighbor when performing the command show ip rpf 10.1.4.7.
- C. PIM neighbor 10.1.5.6 is the winner of an assert mechanism.
- D. The RPF neighbor 10.1.5.6 is invalid.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 484

Refer to the exhibit.

```
Router#show ip pim tunnel
Tunnel0
  Type   : PIM Encap
  RP     : 10.1.100.2*
  Source: 10.1.100.2
Tunnel1*
  Type   : PIM Decap
  RP     : 10.1.100.2*
  Source: -
```

What is the role of this multicast router?

- A. a first-hop PIM router
- B. a last-hop PIM router
- C. a PIM rendezvous point
- D. a PIM inter-AS router

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 485**

Refer to the exhibit.

```
interface Ethernet0/1
 ip address 110.100.1.4 255.255.255.0
 !
router ospf 100
 router-id 4.4.4.4
 redistribute static metric-type 1 subnets tag 704
 network 110.110.0.0 0.0.255.255 area 110
 !
ip route 192.168.10.0 255.255.255.0 Ethernet0/1 110.100.1.1
 !
```

External LSA:

OSPF Router with ID (4.4.4.4) (Process ID 100)

Type-5 AS External Link States

LS age: 101  
Options: (No TOS-capability, DC, Upward)  
LS Type: AS External Link  
Link State ID: 192.168.10.0 (External Network Number )  
Advertising Router: 4.4.4.4  
LS Seq Number: 80000084  
Checksum: 0x74E2  
Length: 36  
Network Mask: /24  
Metric Type: 1 (Comparable directly to link state metric)  
MTID: 0  
Metric: 20  
Forward Address: 0.0.0.0  
External Route Tag: 704

Which option explains why the forwarding address is set to 0.0.0.0 instead of 110.100.1.1?

- A. The interface Ethernet0/1 is in down state.
- B. The next-hop ip address 110.100.1.1 is not directly attached to the redistributing router.
- C. The next-hop interface (Ethernet0/1) is specified as part of the static route command; therefore, the forwarding address is always set to 0.0.0.0.

D. OSPF is not enabled on the interface Ethernet0/1.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 486

Refer to the exhibit.

```
Hub2#sh ip eigrp neighbors
EIGRP-IPv4 Neighbors for AS(123)
H   Address                Interface      Hold Uptime    SRTT   RTO  Q  Seq
                               (sec)          (ms)                Cnt  Num
0   192.168.0.2             Et0/3         11 01:49:56    1    3000  0   1
Hub2#sh ip ospf neighbor

Neighbor ID    Pri   State           Dead Time   Address        Interface
192.168.0.2    1     FULL/DR         00:00:31    192.168.0.2    Ethernet0/3
```

You have configured two routing protocols across this point-to-point link. How many BFD sessions will be established across this link?

- A. three per interface
- B. one per multicast address
- C. one per routing protocol
- D. one per interface

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 487

Which statement about the BGP scope of the cost community is true?

- A. It is shared with IBGP neighbors only.
- B. It is shared with IBGP neighbors and route reflectors.
- C. It is shared with EBGP neighbors only.
- D. It is shared with IBGP and EBGP neighbors.
- E. It is shared with IBGP and confederation peers.

**Correct Answer:** E

**Section:** (none)

**Explanation**

**Explanation/Reference:**

sophisticated answer.

#### **QUESTION 488**

Which statement is true about conditional advertisements?

- A. Conditional advertisements create routes when a predefined condition is met.
- B. Conditional advertisements create routes when a predefined condition is not met.
- C. Conditional advertisements delete routes when a predefined condition is met.
- D. Conditional advertisements create routes and withhold them until a predefined condition is met.
- E. Conditional advertisements do not create routes, they only withhold them until a predefined condition is met.

**Correct Answer:** E

**Section:** (none)

**Explanation**

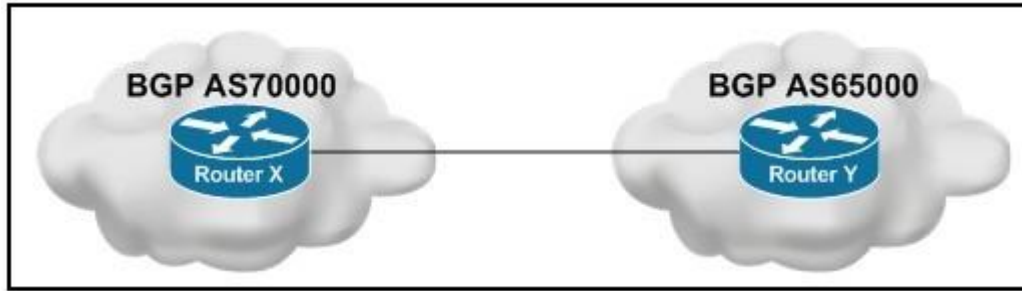
**Explanation/Reference:**

sophisticated answer.

#### **QUESTION 489**

Refer to the exhibit.





How can Router X in AS70000 peer with Router Y in AS65000, in case Router Y supports only 2-byte ASNs?

- A. Router X should be configured with a `remove-private-as` command, because this will establish the peering session with a random private 2-byte ASN.
- B. It is not possible. Router Y must be upgraded to an image that supports 4-byte ASN.
- C. Router Y should be configured with a 4-byte AS using the `local-as` command.
- D. Router X should be configured with a 2-byte AS using the `local-as` command.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

exact answer.

#### QUESTION 490

Which statement about BGP and diverse path advertisement is true?

- A. The BGP best-path selection must be disabled.
- B. The BGP best-path selection algorithm has been changed to always ignore the IGP metric.
- C. The BGP best-path selection algorithm has been changed so that two BGP paths can be flagged as best in the BGP table.
- D. The BGP best-path selection algorithm has not been changed.
- E. The BGP best-path selection is disabled for BGP routes for which the feature is enabled.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

absolute answer.

**QUESTION 491**

For which two conditions is Cisco Express Forwarding recursion disabled by default when the BGP Prefix Independent Convergence functionality is enabled? (Choose two.)

- A. next hops learned with a /24 mask
- B. next hops learned with any mask shorter than /32
- C. next hops learned with a /32 mask
- D. next hops that are directly connected

**Correct Answer:** CD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 492**

How many bytes comprise the system ID within an IS-IS NET?

- A. 4 bytes
- B. 6 bytes
- C. 8 bytes
- D. 16 bytes
- E. 20 bytes

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

answer is straight.

**QUESTION 493**

Which two statements about IS-IS are true? (Choose two.)

- A. The default hello interval is 10 seconds and the default hold timer is 30 seconds.
- B. The hello interval can be changed on a per-interface basis with the command `isis hello- multiplier`.
- C. Both routers need to have the same hello intervals and hold timers in order to form IS-IS neighbors.
- D. Both IS-IS routers need to have the same capabilities in the hello packet in order to form neighbors.

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

valid answer.