



Which statement about spanning-tree root-bridge election is true?

- A. Every root bridge must reside on the same root switch.
- B. Every VLAN must use the same root bridge.
- C. It is always performed automatically.
- D. Each VLAN must have its own root bridge.

Answer is **D**

Which three functions are major components of a network virtualization architecture? (Choose three.)

- A. virtual network services
- B. policy enforcement
- C. network access control
- D. network resilience
- E. authentication services
- F. path isolation

Answer is **A,C,F**

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How is EIGRP for ipv6 configuration done? (Choose two.)

- A. uses process number
- B. neighbor configured directly
- C. configured directly on interface
- D. configured globally interface
- E. have shutdown feature

Answer is **C, E**

Which of the following are benefits of VLANs? (Choose three.)

- A. They increase the size of collision domains.
- B. They allow logical grouping of users by function.
- C. They can enhance network security.
- D. They increase the size of broadcast domains while decreasing the number of collision domains.
- E. They increase the number of broadcast domains while decreasing the size of the broadcast domains.
- F. They simplify switch administration.

Answer is **B,C, E**

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```
SwitchA# show spanning-tree vlan 20

VLAN0020
  Spanning tree enabled protocol rstp
  Root ID      Priority      24596
                Addresses    0017.596d.2a00
                Cost          38
                Port          11 (FastEthernet0/11)
                Hello Time    2 sec Max Age 20 sec Forward Delay 15 sec
  Bridge ID    Priority      28692 (priority 28672 sys-id-ext 20)
                Address       0017.596d.1580
                Hello Time    2 sec Max Age 20 sec Forward delay 15 sec
                Aging Time    300

Interface                Role Sts Cost      Prio.Nbr  Type
-----
Fa0/11                    Root FWD 19        128.11    P2p
Fa0/12                    Altn BLK 19        128.12    P2p
```

- A. The Fa0/11 role confirms that SwitchA is the root bridge for VLAN 20.
- B. VLAN 20 is running the Per VLAN Spanning Tree Protocol.
- C. The MAC address of the root bridge is 0017.596d.1580.
- D. SwitchA is not the root bridge, because not all of the interface roles are designated.

Answer is **D**

What to do when the router password was forgotten?

- A. use default password cisco to reset
- B. access router physically
- C. use ssl/vpn
- D. Type confreg 0x2142 at the rommon 1



Answer is **D**

What is the danger of the permit any entry in a NAT access list?

- A. It can lead to overloaded resources on the router
- B. It can cause too many addresses to be assigned to the same interface.
- C. It can disable the overload command.
- D. It prevents the correct translation of IP addresses on the inside network.

Answer is **A**

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

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

Answer is **C, D**

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If two OSPF neighbors have formed complete adjacency and are exchanging link-state advertisements, which state have they reached?

- A. Exstart
- B. 2-Way
- C. FULL
- D. Exchange

Answer is **C**

The OSPF Hello protocol performs which of the following tasks? (Choose two.)

- A. It provides dynamic neighbor discovery.
- B. It detects unreachable neighbors in 90 second intervals.
- C. It maintains neighbor relationships.
- D. It negotiates correctness parameters between neighboring interfaces.
- E. It uses timers to elect the router with the fastest links as the designated router.
- F. It broadcasts hello packets throughout the internetwork to discover all routers that are running OSPF.

Answer is **A, C**

Which three options are switchport configurations that can always avoid duplex mismatch errors between two switches? (Choose three.)

- A. Set both sides of the connection to auto-negotiate.
- B. Set both sides of the connection to half duplex.
- C. Set one of the connection to auto-negotiate and the other side to half duplex.
- D. Set one of the connection to auto-negotiate and the other side to full duplex.
- E. Set one of the connection to full duplex and the other side to half duplex.
- F. Set both sides of the connection to full duplex.

Answer is **A,B,F**

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Stack the Protocols under correct traffic type namely TCP and UDP

DHCP

HTTP

SMTP

SNMP

TELNET

VOIP

Answer is TCP- HTTP,SMTP, TELNET

UDP- DHCP, SNMP, VoIP

Instructions

Enter IOS commands on the device to verify network operation and answer the multiple-choice questions.

THIS TASK DOES NOT REQUIRE DEVICE CONFIGURATION.

Click the device icon to gain access to the console of the device. No console or enable passwords are required.

To access the multiple-choice questions, click the numbered boxes on the left of the top panel.

There are four multiple-choice questions with this task. Be sure to answer all four questions before clicking Next button.

Scenario

You are a junior network engineer for a financial company, and the main office network is experiencing network issues. Troubleshoot the network issues.

Router R1 connects the main office to the Internet, and routers R2 and R3 are internal routers.

NAT is enabled on router R1.

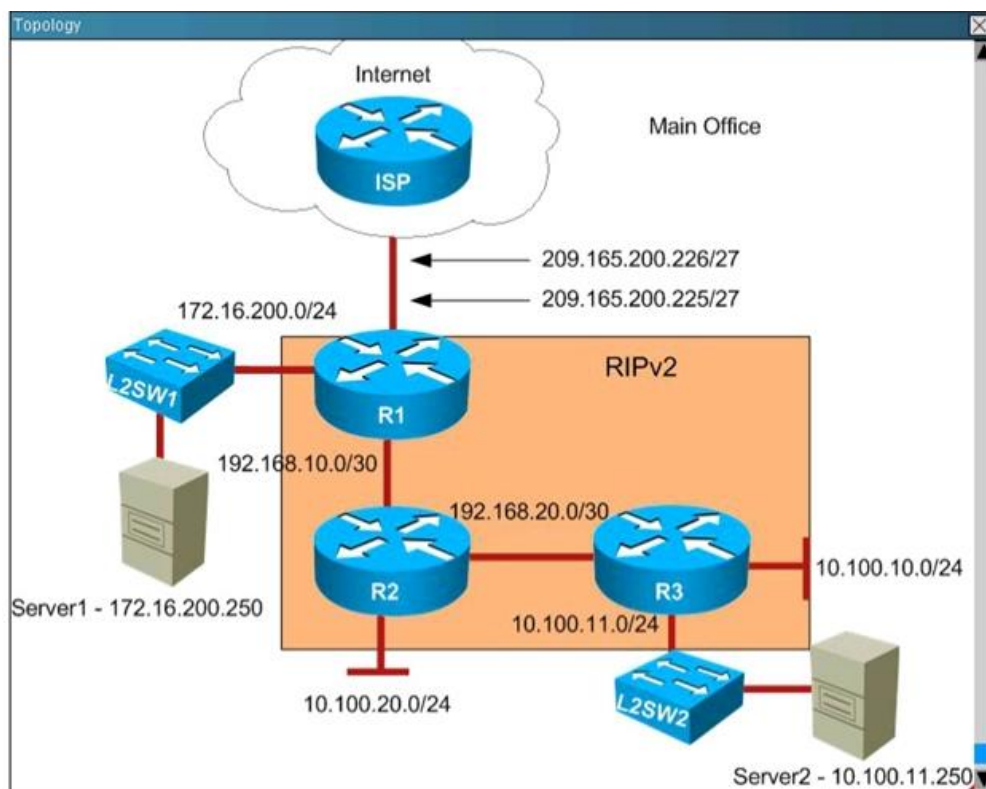
The routing protocol that is enabled between routers R1, R2 and R3 is RIPv2.

R1 sends the default route into RIPv2 for the internal routers to forward Internet traffic to R1.

You have console access on R1, R2 and R3 devices. Use only show commands to troubleshoot the issues.

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The R1 clock is synchronized with the ISP router. R2 is supposed to receive NTP updates from R1. But you observe that the R2 clock is not synchronized with R1. What is the reason R2 is not receiving NTP updates from R1?

- A. The IP address that is used in the NTP configuration on R2 router is incorrect.
- B. The NTP server command not configured on R2.
- C. The R2 router Ethernet interface that is connected to R1 is placed in shutdown condition.
- D. The R1 router Ethernet interface that is connected to R2 is placed in shutdown condition.

Answer is **A**

Match the following

Multi-latency	One or more clients can be hosted with the same physical or virtual infrastructure
On-demand	Resources can be added and removed as needed to support current workload and tasks
resiliency	Tasks can be migrated to different physical



	locations to increase efficiency or reduce cost
scalability	Resources are dedicated only when necessary instead of permanent
Workload movement	Tasks and data residing on a failed server can be seamlessly migrated to other physical resources

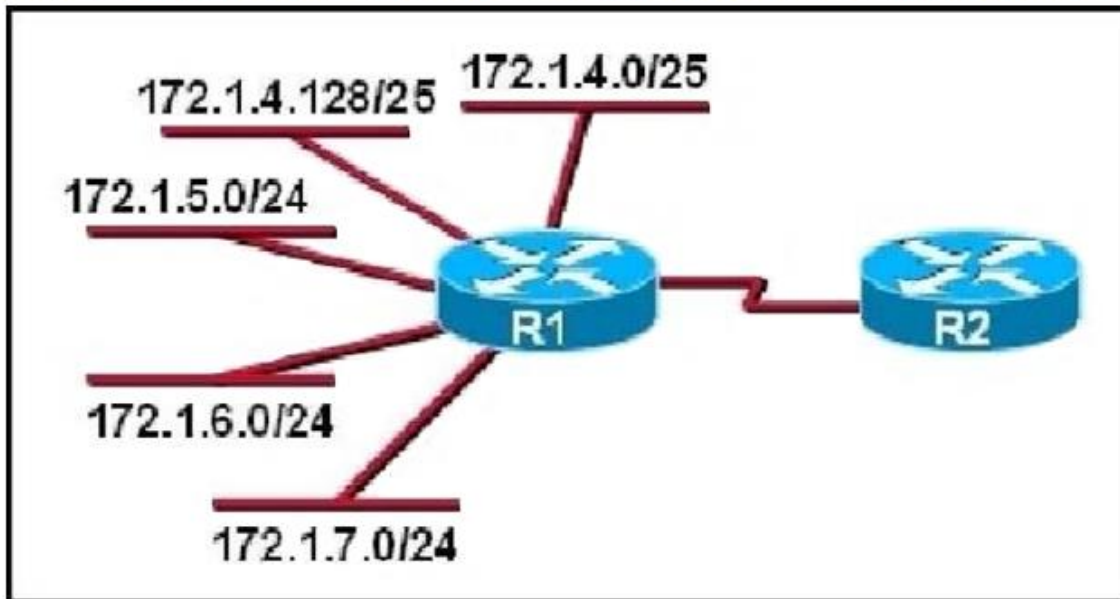
Answer is

Multi-latency	One or more clients can be hosted with the same physical or virtual infrastructure
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Refer to the exhibit. What is the most efficient summarization that R1 can use to advertise its networks to R2?



- A. 172.1.0.0/24
- B. 172.1.2.0/21
- C. 172.1.4.0/22
- D. 172.1.4.0/24
172.1.5.0/24
172.1.6.0/24
172.1.7.0/24
- E. 172.1.4.0/25
172.1.4.128/25
172.1.5.0/24
172.1.6.0/24
172.1.7.0/24

Answer is C



If host Z needs to send data through router R1 to a storage server, which destination MAC address does host Z use to transmit packets?

- A. the host Z MAC address
- B. the MAC address of the interface on R1 that connects to the storage server
- C. the MAC address of the interface on R1 that connects to host Z
- D. the MAC address of the storage server interface

Answer is **C**

Which two statements about stacking Cisco switches are true? (Choose two)

- A. The administrator can create only one stack of switches in a network which is under the same administrative domain.
- B. Each switch manages its own MAC address table.
- C. When a new master switch is elected, it queries the previous master for its running configuration.
- D. The administrator can add additional switches to the stack as demand increases.
- E. It enables the administrator to manage multiple switches from a single management interface.

Answer is **D, E**

Which two options are benefits of DHCP snooping? (Choose two.)

- A. It simplifies the process of adding DHCP servers to the network.
- B. It prevents the deployment of rogue DHCP servers.
- C. It prevents DHCP reservations.
- D. It tracks the location of hosts in the network.
- E. It prevents static reservations.

Answer is **B,D**

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Which RFC was created to alleviate the depletion of IPv4 public addresses?

- A. RFC 4193
- B. RFC 1519
- C. RFC 1518
- D. RFC 1918

Answer is D

What are the requirements to configure DHCP binding? (Choose two.)

- A. DHCP pool
- B. ip address
- C. Hardware address
- D. other option

Answer is B, C

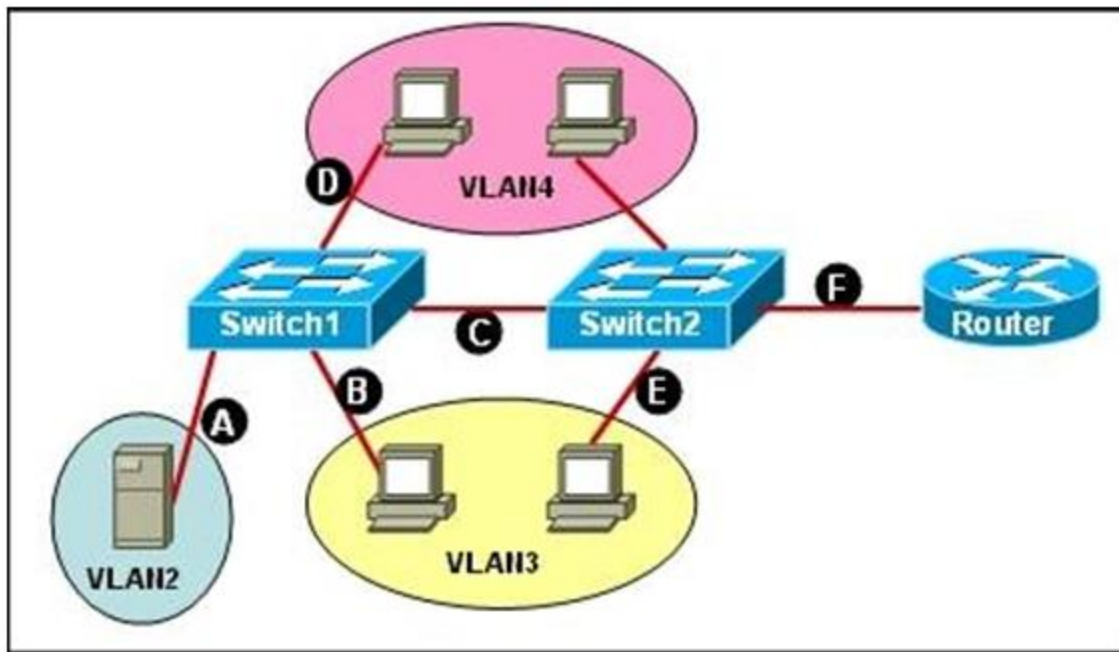
A default Frame Relay WAN is classified as what type of physical network?

- A. point-to-point
- B. broadcast multi-access
- C. nonbroadcast multi-access
- D. nonbroadcast multipoint
- E. broadcast point-to-multipoint

Answer is C

Refer to the exhibit

A network associate needs to configure the switches and router in the graphic so that the hosts in VLAN3 and VLAN4 can communicate with the enterprise server in VLAN2. Which two Ethernet segments would need to be configured as trunk lines? (Choose 2)





- A. A
- B. B
- C. C
- D. D
- E. E
- F. F

Answer is C,F

Which two statements about stateful firewalls in an enterprise network are true?

- A. They can use information about previous packets to make decisions about future packets.
- B. They are most effective when placed in front of the router connected to the Internet.
- C. they are more susceptible to DoS attacks than stateless firewalls.
- D. they can track the number of active TCP connections.
- E. They can filter HTTP and HTTPS traffic in the inbound direction only.

Answer is A,D

Which technology supports the stateless assignment of IPv6 addresses? (Choose two)

- A. DNS
- B. DHCPv6
- C. DHCP
- D. autoconfiguration

Answer is B,D

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Which statement about slow inter VLAN forwarding is true?

- A. The VLAN is experiencing slowness in the point-to-point collision less connection.
- B. The VLANs are experiencing slowness because multiple devices are connected to the same hub.
- C. The local VLAN is working normally, but traffic to the alternate VLAN is forwarded slower than expected.
- D. The entire VLAN is experiencing slowness.
- E. The VLANs are experiencing slowness due to a duplex mismatch.

Answer is E

Match the following

Accepts incoming connections over vty lines	Buffered logging
Displays logging info during a terminal session	Console
Provides local access to a device	Syslog server logging
Stores log messages externally	Terminal
Stores log messages in RAM	Terminal monitor

Answer.

Stores log messages externally	Buffered logging
---------------------------------------	-------------------------

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Provides local access to a device	Console
Stores log messages in RAM	Syslog server logging
Accepts incoming connections over vty lines	Terminal
Displays logging info during a terminal session	Terminal monitor

How does a DHCP server dynamically assign IP addresses to hosts?

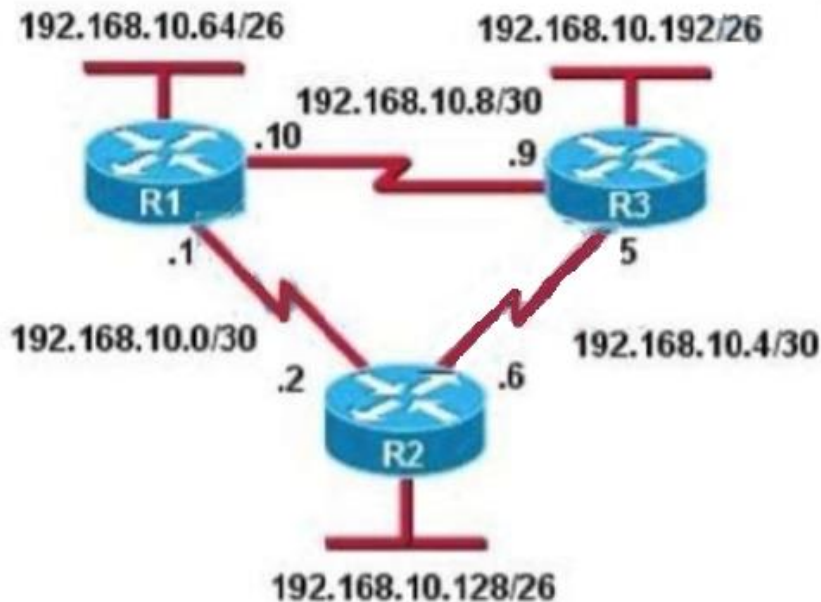
- A. Addresses are permanently assigned so that the host uses the same address at all times
- B. Addresses are assigned for a fixed period of time. At the end of the period, a new request for an address must be made, and another address is then assigned.
- C. Addresses are leased to hosts. A host will usually keep the same address by periodically contacting the DHCP server to renew the lease.
- D. Addresses are allocated after a negotiation between the server and the host to determine the length of the agreement.

Answer is C

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Refer to the exhibit.



R3# show ip route

Gateway of last resort is not set

```

192.168.10.0/24 is variably subnetted, 6 subnets, 2 masks
D    192.168.10.64/26 [90/2195456] via 192.168.10.9, 00:03:31, Serial0/0
D    192.168.10.0/30 [90/2681856] via 192.168.10.9, 00:03:31, Serial0/0
      [90/2681856] via 192.168.10.5, 00:03:31, Serial0/1
C    192.168.10.4/30 is directly connected, Serial0/1
C    192.168.10.8/30 is directly connected, Serial0/0
C    192.168.10.192/26 is directly connected, FastEthernet0/0
D    192.168.10.128/26 [90/2195456] via 192.168.10.5, 00:03:31, Serial0/1
  
```

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

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

Answer is C

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Which value can you modify to configure a specific interface as the preferred forwarding interface?

- A. The interface number
- B. The port priority
- C. The VLAN priority
- D. The hello time

Answer is B

Under which circumstance should a network administrator implement one-way NAT?

- A. when the network must route UDP traffic
- B. when traffic that originates outside the network must be routed to internal hosts
- C. when traffic that originates inside the network must be routed to internal hosts
- D. when the network has few public IP addresses and many private IP addresses require outside access

Answer is B

What does traffic shaping do to reduce congestion in a network?

- A. buffers and queues packets
- B. buffers without queuing packets
- C. queues without buffering packets
- D. drops packets

Answer is A

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Which command would you configure globally on a Cisco router that would allow you to view directly connected Cisco devices?

- A. `cdp run`
- B. `enable cdp`
- C. `cdp enable`
- D. `run cdp`

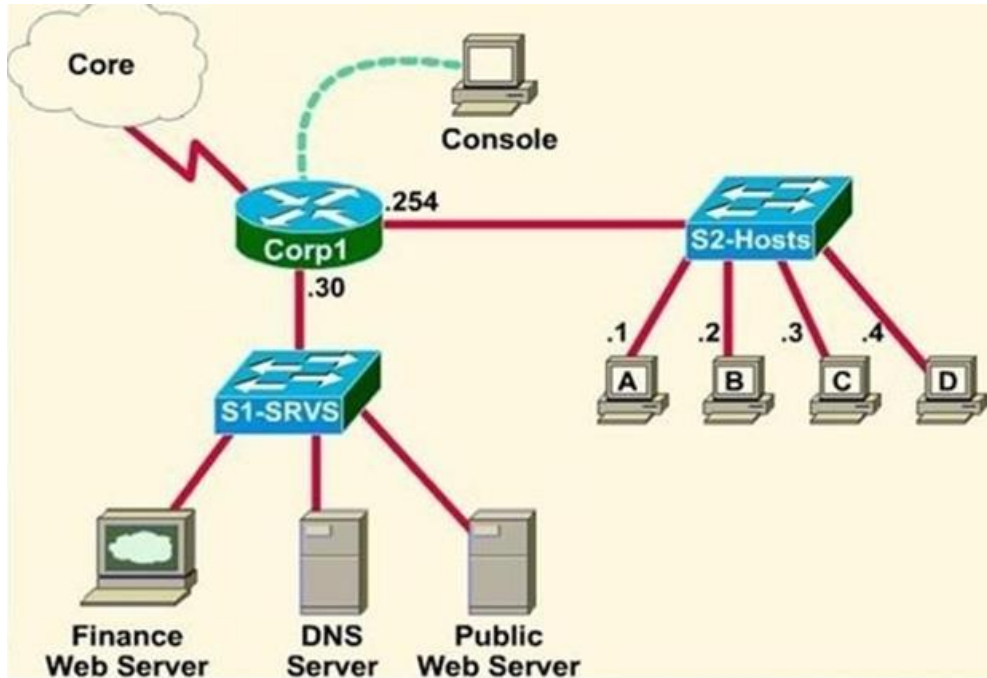
Answer is A

A network associate is adding security to the configuration of the Corp 1 router. The user on C should be able to use the browser to access financial information from the finance web server. No other hosts from the LAN nor the core should be able to use a web-browser to access this server. Since there are multiple resources for the corporation at this location including other resources on the finance web server , all other traffic should be allowed.

The task is to create an apply and ACL with no more than three statements that will allow ONLY host C web access to the Finance web server .All other traffic is permitted.

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All passwords have been temporarily set to "cisco".
 The Core connection uses an IP address of 198.18.247.65
 The computers in the Hosts LAN have been assigned addresses of 192.168.240.1-192.168.240.254
 host A 192.168.240.1
 host B 192.168.240.2
 host C 192.168.240.3

Answer - CLI steps

```
Corp1#conf t
Corp1(config)# access-list 128 permit tcp host 192.168.240.1 host
172.22.141.26 eq www
Corp1(config)# access-list 128 deny tcp any host 172.22.141.26 eq www
Corp1(config)# access-list 128 permit ip any any
Corp1(config)#int fa0/1
Corp1(config-if)#ip access-group 128 out
Corp1(config-if)#end
Corp1#copy run startup-config
```

Which value must a device send as its username when using CHAP to authenticate with a remote peer site id:17604704 over a PPP link?

- A. the username defined by the administrator
- B. the local hostname
- C. the automatically-generated username
- D. the hostname of the remote device

Answer is B

Refer to the exhibit. What is the result of setting the no login command?

```
Router#config 1
Router(config)#line vty 0 4
Router(config-line)#password c1sc0
Router(config-line)#no login
```

- A. Telnet access is denied.
- B. Telnet access requires a new password at the first login.
- C. Telnet access requires a new password.
- D. no password is required for telnet access.

Answer is D



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

Router(config)# router ospf 1

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

Answer is C,D

Which IP configuration does the CIDR notation 192.168.1.1/25 refer?

- A. 192.168.1.1 255.255.255.64
- B. 192.168.1.1 255.255.255.1
- C. 192.168.1.1 255.255.255.32
- D. 192.168.1.1 255.255.255.128
- E. 192.168.1.1 255.255.255.256

Answer is D

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What command sequence will configure a router to run OSPF and add network 10.1.1.0 /24 to area 0?

- A. `router ospf area 0`
`network 10.1.1.0 255.255.255.0 area 0`
- B. `router ospf`
`network 10.1.1.0 0.0.0.255`
- C. `router ospf 1`
`network 10.1.1.0 0.0.0.255 area 0`
- D. `router ospf area 0`
`network 10.1.1.0 0.0.0.255 area 0`
- E. `router ospf`
`network 10.1.1.0 255.255.255.0 area 0`
- F. `router ospf 1`
`network 10.1.1.0 0.0.0.255`

Answer is C

Refer to the exhibit. According to the routing table, where will the router send a packet destined for 10.1.5.65?

Network	Interface	Next-hop
10.1.1.0/24	e0	directly connected
10.1.2.0/24	e1	directly connected
10.1.3.0/25	s0	directly connected
10.1.4.0/24	s1	directly connected
10.1.5.0/24	e0	10.1.1.2
10.1.5.64/28	e1	10.1.2.2
10.1.5.64/29	s0	10.1.3.3
10.1.5.64/27	s1	10.1.4.4

- A. 10.1.1.2
- B. 10.1.2.2
- C. 10.1.3.3
- D. 10.1.4.4

Answer is C

An admin is unsuccessful in adding VLAN 50 to a switch. While troubleshooting the problem, the admin views the output of the show vtp status command, which is displayed in the graphic. What commands must be issued on this switch to add VLAN 50 to the database?

```
Switch#show vtp status

VTP Version                :2
Configuration Revision     :7
Maximum VLANs supported local :68
Number of existing VLANs   :8
VTP Operating Mode        :Client
VTP Domain Name           :Corp
VTP Pruning Mode          :Disabled
VTP V2 Mode               :Disabled
VTP Traps Generation      :Disabled
MD5 digest                 :0x22x0xF3 0x1A
Configuration last modified by 172.18.22.15 at 5-28-03 11:53:20
```

- A. Switch(config-if)# switchport access vlan 50
- B. Switch(vlan)# vtp server
- C. Switch(config)# config-revision 20
- D. Switch(config)# vlan 50 name Tech
- E. Switch(vlan)# vlan 50
- F. Switch(vlan)# switchport trunk vlan 50

Answer is B,E



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

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

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

Answer is C

Scenario

You are implementing EIGRP between the main office and branch offices. In Phase 1, you must implement and verify EIGRP configurations as mentioned in the topology. In Phase 2, your colleague is expected to do NAT and ISP configurations.

Identify the issues that you are encountering during Phase 1 EIGRP implementation.

Router R1 connects the main office to the Internet and routers R2 and R3 are internal routers.

Routers Branch1 and Branch2 connect to router R2 in the main office.

Users from the Branch1 LAN network 10.20.20.0/24 are expected to perform testing of the application that is hosted on the servers in Server farm1, before servers are available for production.

The GRE tunnel is configured between R3 and Branch1, and traffic between server farm 1 and Branch1 LAN network 10.20.40.0/24 is routed through the GRE tunnel using static routes.

The link between Branch1 and Branch1 is used as a secondary path in the event of failure of the primary path to main office.

You have console access on R1, R2, R3, Branch1, and Branch2 devices. Use only show commands to troubleshoot the issues.

Instructions

Enter IOS commands on the device to verify network operation and answer for multiple-choice questions.

THIS TASK DOES NOT REQUIRE DEVICE CONFIGURATION.

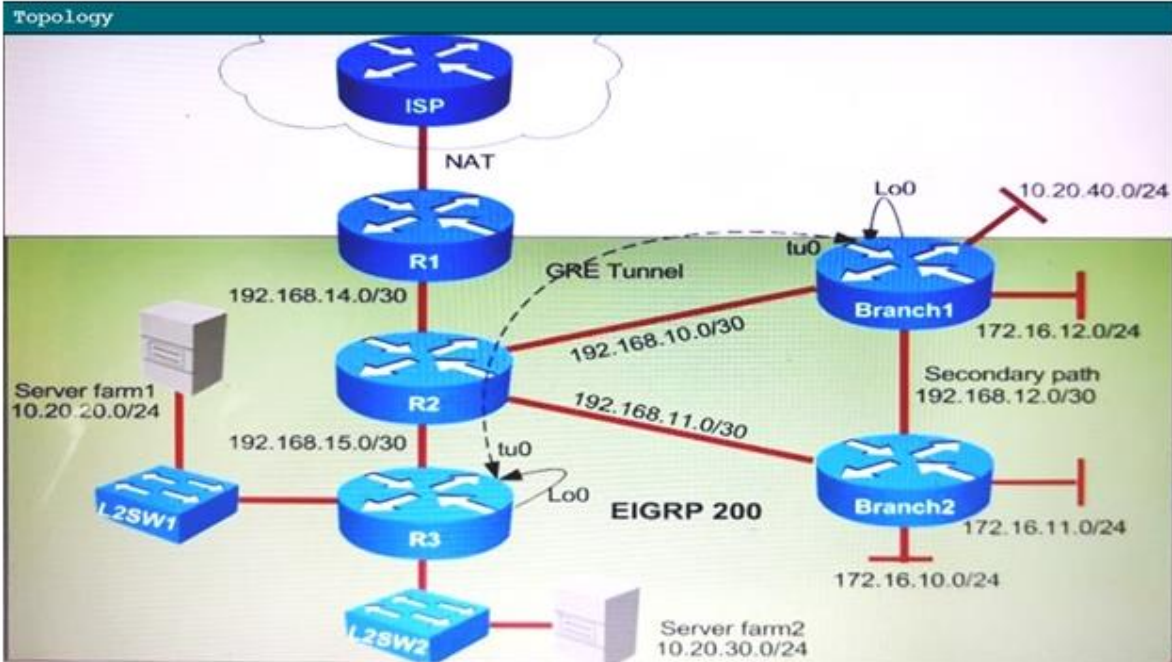
Click on the device icon to gain access to the console of the router. No console or enable passwords are required.

To access the multiple-choice questions, click on the numbered boxes on the left of the top panel.

There are four multiple questions with this task. Be sure to answer all four questions before selecting the Next button.

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R1

```
interface Ethernet0/0
  description ***Link to ISP***
  no ip address
!
interface Ethernet0/1
  description ***Link to R2***
  ip address 192.168.14.250 255.255.255.252
!
interface Ethernet0/2
  no ip address
  shutdown
!
interface Ethernet0/3
  no ip address
  shutdown
!
!
router eigrp 200
  network 192.168.14.0
!
in forward-protocol nd
```

R2

```
interface Ethernet0/0
  description ***Link to R1***
  ip address 192.168.14
  !
interface Ethernet0/1
  description ***Link to R3***
  ip address 192.168.15.1 255.255.255.252
  !
interface Ethernet0/2
  description ***Link to Branch***
  ip address 192.168.10.1 255.255.255.252
  !
interface Ethernet0/3
  description ***Link to Branch2***
  ip address 192.168.11.1 255.255.255.252
  !
  !
router eigrp 200
  network 192.168.10.0
  network 192.168.11.0
  network 192.168.14.0
```

R3

```
ip address 192.168.100.1 255.255.255.252
keepalive 5 3
tunnel source Loopback0
tunnel destination 10.16.200.2
!
interface Ethernet0/0
  description ***Link to Server farm2***
ip address 10.20.30.1 255.255.255.0
!
interface Ethernet0/1
  description ***Link to Server farm1***
  ip address 10.20.20.1 255.255.255.0
!
interface Ethernet0/2
  description ***Link to R2***
  ip address 192.168.15.2 255.255.255.252
ip access-group BLOCKFIGRP in
!
interface Ethernet0/3
  no ip address
  shutdown
!
!
!
router eigrp 200
  network 10.16.200 1 0 0 0 0
```

```
Branch1
!  
!  
router eigrp 200  
  network 10.16.200.2 0.0.0.0  
  network 192.168.10.0  
  network 192.168.12.0  
!  
ip forward-protocol nd  
!  
!  
Branch1#show ip eigrp nei  
Branch1#show ip eigrp neighbors  
EIGRP-IPv4 Neighbors for AS(200)  
H Address          Interface      Hold Uptime    SRTT  RTO  O  
Seq  
                               (sec)          (ms)          Cnt  
Num  
0  192.168.10.1      Et0/1         13  00:21:25     6  100  0  
124  
1  192.168.12.2      Et0/2         11  02:56:31     5  100  0  
16  
Branch# show acc  
Branch#show ace  
Branch#show access-list  
Branch#
```

```
Branch2
description ***Link to Branch2 LAN***
ip address 172.16.11.1 255.255.255.0
!
interface Ethernet0/1
description ***Link to R2***
ip address 192.168.11.2 255.255.255.252
ip access-group BLOCKEIGRP in
!
interface Ethernet0/2
description ***Secondary Path - Link to Branch2***
ip address 192.168.12.2 255.255.255.252
!
interface Ethernet0/3
ip address 172.16.10.1 155.255.255.0
!
!
router eigrp 200
network 172.16.0.0
network 192.168.11.0
network 192.168.12.0
!
ip forward-protocol nd
!
!
```

You are verifying the EIGRP configurations in the topology. Which statement is true?

- A. Branch2 LAN network 172.16.11.0/24 is not advertised into the EIGRP network.
- B. Branch2 LAN network 172.16.10.0/24 is not advertised into the EIGRP network.
- C. R3 server farm2 network 10.20.30.0/24 is not advertised into the EIGRP network.
- D. Branch1 LAN network 172.16.12.0/24 is not advertised into the EIGRP network.

Answer is D



Which two types of information are held in the mac address table? (Choose two.)

- A. destination ip addresses
- B. protocols
- C. port numbers
- D. mac address
- E. source ip address

Answer is C,D

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After you apply the given configuration to R1, you notice that it failed to enable OSPF. Which action can you take to correct the problem?

```
R1
ipv6 cef

interface FastEthernet 0/0
no ip address
ipv6 enable
    ipv6 address 2001:DB8:1::1/64
    ipv6 ospf 1 area 0

ipv6 router ospf 1
    router-id 172.16.1.1
```

- A. Configure a loopback interface on R1
- B. Enable IPv6 unicast routing on R1.
- C. Configure an IPv4 address on interface F0/0.
- D. Configure an autonomous system number on OSPF.

Answer is B



When a DHCP server is configured, which two IP addresses should never be assignable to hosts? (Choose two.)

- A. network or subnetwork IP address
- B. broadcast address on the network
- C. IP address leased to the LAN
- D. IP address used by the interfaces
- E. manually assigned address to the clients
- F. designated IP address to the DHCP server

Answer is A,B

Which three statements about IPv6 address fd14:920b:f83d:4079::/64 are true? (Choose three)

- A. The subnet ID is 14920bf83d
- B. The subnet ID is 4079
- C. The global ID is 14920bf83d
- D. The address is a link-local address
- E. The global ID is 4079
- F. The address is a unique local address

Answer is B,C,F

What field is consisted of 6 bytes in the field identification frame in IEEE 802.1Q?

- A. SA
- B. DA
- C. FCS
- D. SOF

Answer is A

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You are working in a data center environment and are assigned the address range 10.188.31.0/23. You are asked to develop an IP addressing plan to allow the maximum number of subnets with as many as 30 hosts each. What IP address range meets these requirements?

- A. 10.188.31.0/26
- B. 10.188.31.0/25
- C. 10.188.31.0/25
- D. 10.188.31.0/27
- E. 10.188.31.0/29

Answer is D

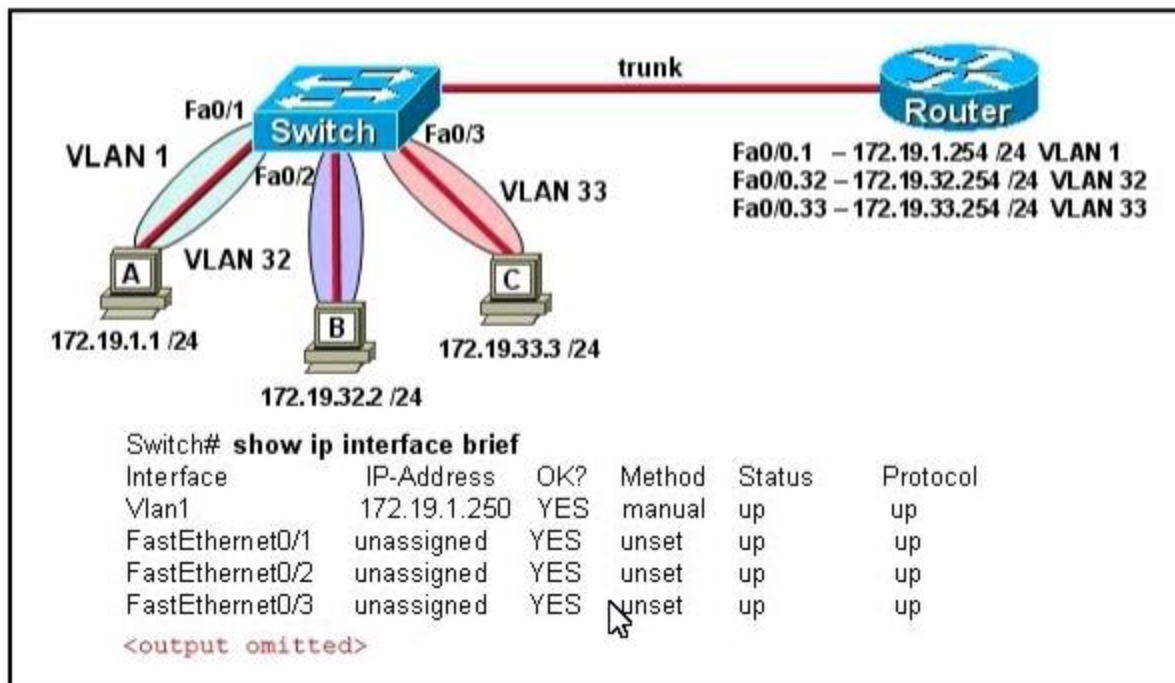
Which two criteria must be met to support the ICMP echo IP SLA? (Choose two.)

- A. The destination device must support the echo protocol.
- B. The source and destination devices must be Cisco devices.
- C. The source device must be a Cisco device, but the destination device can be from any vendor.
- D. A default gateway must be configured for the source and destination devices.
- E. The source device must be running Layer 2 services.

Answer is A,C

Refer to the exhibit. The network admin normally establishes a telnet session with the switch from host A. However, host A is unavailable. The admin's attempt to telnet to the switch from host B fails, but pings to the other two hosts are successful. What is the issue?

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- A. Host B and the switch need to be in the same subnet.
- B. The switch interface connected to the router is down.
- C. Host B needs to be assigned an IP address in VLAN 1.
- D. The switch needs an appropriate default gateway assigned.
- E. The switch interfaces need the appropriate IP addresses assigned.

Answer is D

What does split horizon prevent?

- A. routing loops, link-state
- B. routing loops, distance vector
- C. switching loops, STP
- D. switching loops, VTP

Answer is B



Which option describes a difference between EIGRP for IPv4 and IPv6?

- A. Only EIGRP for IPv6 advertises all connected networks.
- B. Only EIGRP for IPv6 requires a router ID to be configured under the routing process
- C. As numbers are configured in EIGRP but not in EIGRPv3.
- D. Only EIGRP for IPv6 is enabled in the global configuration mode.

Answer is B

A network admin needs to configure a serial link between the main office and branch office. The router at the branch office is a non-cisco router. How should the admin configure the serial interface of the main office router to make the connection?

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- A.

```
Main(config)#interface serial 0/0
Main(config-if)#ip address 172.16.1.1 255.255.255.252
Main(config-if)#no shut
```
- B.

```
Main(config)#interface serial 0/0
Main(config-if)#ip address 172.16.1.1 255.255.255.252
Main(config-if)#encapsulation ietf
Main(config-if)#no shut
```
- C.

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

```
Main(config)#interface serial 0/0
Main(config-if)#ip address 172.16.1.1 255.255.255.252
Main(config-if)#encapsulation ppp
Main(config-if)#no shut
```

Answer is D

Which standards-based First Hop Redundancy Protocol is a Cisco supported alternative to Hot Standby Router Protocol?

- A. VRRP
- B. GLBP
- C. TFTP
- D. DHCP

Answer is A

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Which component of the routing table ranks routing protocols according to their preferences?

- A. administrative distance
- B. next hop
- C. metric
- D. routing protocol code

Answer is A

What 8-bit field exists in IP packet for QoS?

- A. Tos Field
- B. DSCP
- C. IP Precedence
- D. Cos

Answer is A

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What should be part of a comprehensive network security plan?

- A. Allow users to develop their own approach to network security.
- B. Physically secure network equipment from potential access by unauthorized individuals
- C. Encourage users to use personal information in their passwords to minimize the likelihood of passwords being forgotten.
- D. Delay deployment of software patches and updates until their effect on end-user equipment is well known and widely reported
- E. Minimize network overhead by deactivating automatic antivirus client updates.

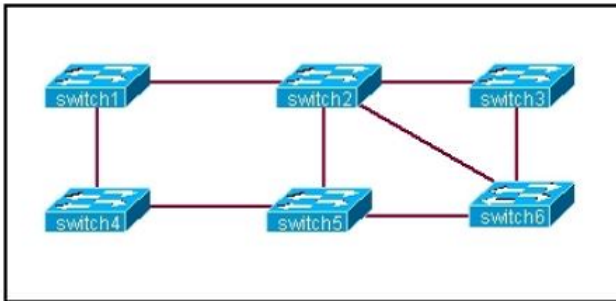
Answer is B

Which two statements about wireless LAN controllers are true? (Choose two.)

- A. They can simplify the management and deployment of wireless LANs.
- B. They rely on external firewalls for WLAN security.
- C. They are best suited to smaller wireless networks.
- D. They must be configured through a GUI over HTTP or HTTPS.
- E. They can manage mobility policies at a systemwide level.

Answer is A,E

Based on the network shown in the graphic. Which option contains both the potential networking problem and the protocol or setting that should be used to prevent the problem?



- A. routing loops, hold down timers
- B. switching loops, split horizon
- C. routing loops, split horizon
- D. switching loops, VTP
- E. routing loops, STP
- F. switching loops, STP

Answer is F

How is provided master redundancy on a stacked switches?

- A. 1:N
- B. N:1
- C. 1:1
- D. 1+N

Answer is A



Which protocol is a Cisco proprietary implementation of STP?

- A. CST
- B. RSTP
- C. MSTP
- D. PVST+

Answer is D

When enabled, which feature prevents routing protocols from sending hello messages on an interface?

- A. virtual links
- B. passive-interface
- C. directed neighbors
- D. OSPF areas

Answer is B

Instructions

Enter IOS commands on the device to verify network operation and answer the multiple-choice questions.

THIS TASK DOES NOT REQUIRE DEVICE CONFIGURATION.

Click the device icon to gain access to the console of the device. No console or enable passwords are required.

To access the multiple-choice questions, click the numbered boxes on the left of the top panel.

There are four multiple-choice questions with this task. Be sure to answer all four questions before clicking Next button.

Scenario

You are a junior network engineer for a financial company, and the main office network is experiencing network issues. Troubleshoot the network issues.

Router R1 connects the main office to the Internet, and routers R2 and R3 are internal routers.

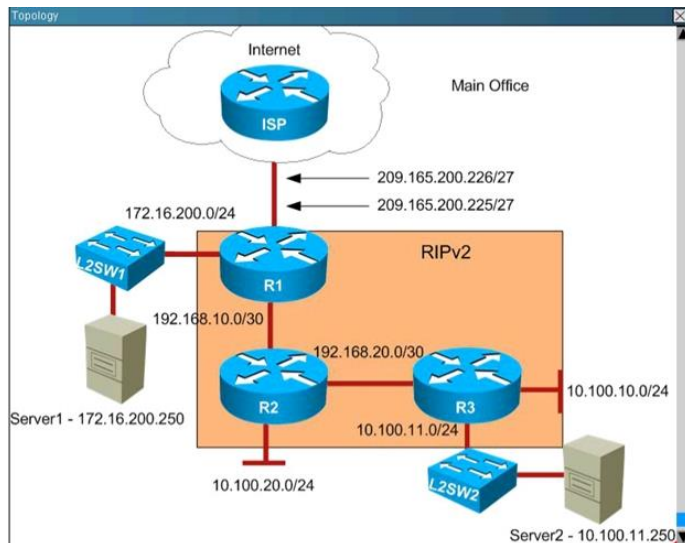
NAT is enabled on router R1.

The routing protocol that is enabled between routers R1, R2 and R3 is RIPv2.

R1 sends the default route into RIPv2 for the internal routers to forward Internet traffic to R1.

You have console access on R1, R2 and R3 devices. Use only show commands to troubleshoot the issues.

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Users complain that they are unable to reach internet sites. You are troubleshooting internet connectivity problem at the main office. Which statement correctly identifies the problem on Router R1?

- A. Interesting traffic for NAT ACL is incorrectly configured.
- B. NAT configurations on the interfaces are incorrectly configured.
- C. The NAT translation statement incorrectly configured.
- D. Only static NAT translation is configured for the server and is missing dynamic NAT for internal networks.

Answer is B

Where does a switch maintain DHCP snooping information?

- A. in the DHCP binding database
- B. in the MAC address table
- C. in the VLAN database
- D. in the CAM table



Answer is A

For what two purposes does the Ethernet protocol use physical addresses? (Choose two.)

- A. to uniquely identify devices at Layer 2
- B. to allow detection of a remote device when its physical address is unknown
- C. to differentiate a Layer 2 frame from a Layer 3 packet
- D. to establish a priority system to determine which device gets to transmit first
- E. to allow communication between different devices on the same network
- F. to allow communication with devices on a different network

Answer is A,E

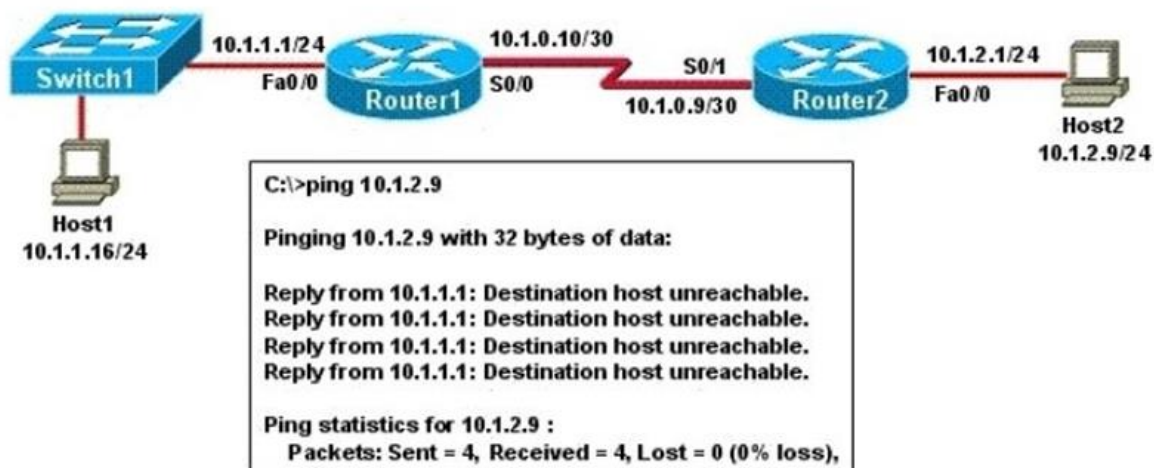
Which option is the primary purpose of traffic shaping?

- A. providing best-effort service
- B. enabling policy-based routing
- C. enabling dynamic flow identification
- D. limiting bandwidth usage

Answer is D

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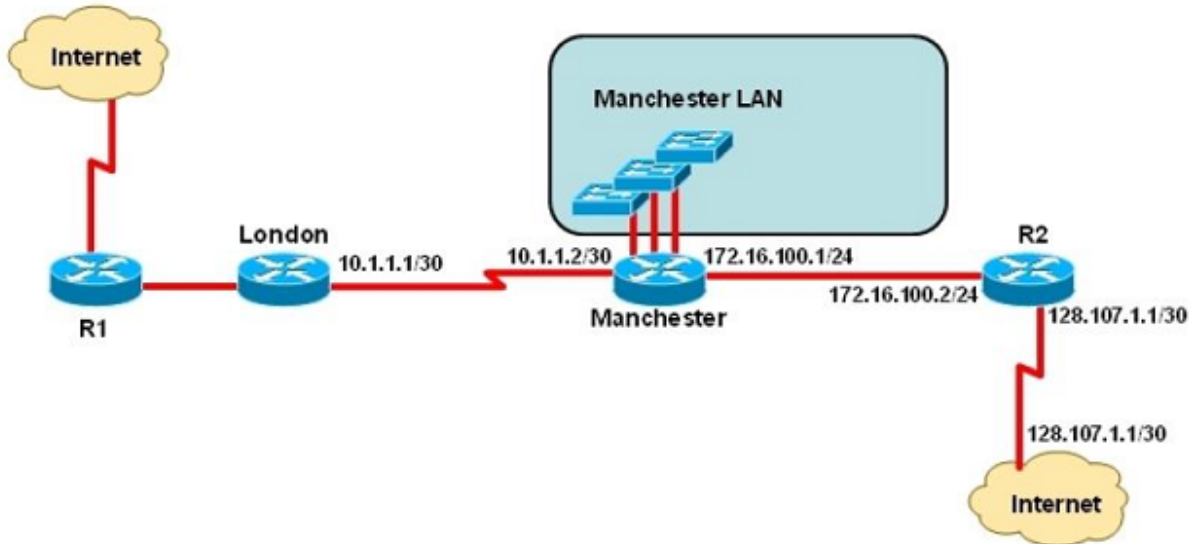
Refer to the exhibit. A network administrator attempts to ping Host2 from Host1 and receives the results that are shown. What is the problem?



- A. The link between Host1 and Switch1 is down.
- B. TCP/IP is not functioning on Host1
- C. The link between Router1 and Router2 is down.
- D. The default gateway on Host1 is incorrect.

Answer is C

Refer to the exhibit. The speed of all serial links is E1 and the speed of all Ethernet links is 100mbps. A static route will be established on the Manchester router to direct traffic toward the internet over the most direct path available. What configuration on the Manchester router will establish a route toward the internet for traffic that originates from workstations on Manchester LAN?



- A. ip route 0.0.0.0 255.255.255.0 172.16.100.2
- B. ip route 0.0.0.0 0.0.0.0 128.107.1.1
- C. ip route 0.0.0.0 255.255.255.252 128.107.1.1
- D. ip route 0.0.0.0 0.0.0.0 172.16.100.1
- E. ip route 0.0.0.0 0.0.0.0 172.16.100.2
- F. ip route 0.0.0.0 255.255.255.255 172.16.100.2

Answer is E



Which router IOS commands can be used to troubleshoot LAN connectivity problems? (Choose three.)

- A. ping
- B. tracet
- C. ipconfig
- D. show ip route
- E. winipcfg
- F. show interfaces

Answer is A,D,F

Which two statements correctly describe steps in the OSI data encapsulation process? (Choose two.)

- A. The transport layer divides a data stream into segments and may add reliability and flow control information.
- B. The data link layer adds physical source and destination addresses and an FCS to the segment.
- C. Packets are created when the network layer encapsulates a frame with source and destination host addresses and protocol-related control information.
- D. Packets are created when the network layer adds Layer 3 addresses and control information to a segment.
- E. The presentation layer translates bits into voltages for transmission across the physical link.

Answer is A,D

Which three options are switch port config that can always avoid duplex mismatch error between the switches? (Choose three.)

- A. set both side on auto-negotiation
- B. set both sides on half-duplex
- C. set one side auto and other side half-duplex
- D. set both side of connection to full-duplex
- E. set one side auto and other side on full-duplex
- F. set one side full-duplex and other side half-duplex

Answer is A,B,D

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Refer to the exhibit. What will Router1 do when it receives the data frame shown? (Choose three.)

```
Router1# show ip arp
```

Protocol	Address	Age(min)	Hardware Addr	Type	Interface
Internet	192.168.20.5	9	0000.0c07.f892	ARPA	FastEthernet0/0
Internet	192.168.60.5	8	0000.0c07.ac00	ARPA	FastEthernet0/1
Internet	192.168.20.1	-	0000.0c63.ae45	ARPA	FastEthernet0/0
Internet	192.168.40.5	9	0000.0c07.4320	ARPA	FastEthernet0/2
Internet	192.168.60.1	-	0000.0c63.1300	ARPA	FastEthernet0/1
Internet	192.168.40.1	-	0000.0c36.6965	ARPA	FastEthernet0/2

Data Frame:

Source MAC	Source IP	Destination MAC	Destination IP
0000.0c07.f892	192.168.20.5	0000.0c63.ae45	192.168.40.5

- A. Router1 will strip off the source MAC address and replace it with the MAC address 0000.0c36.6965.
- B. Router1 will strip off the source IP address and replace it with the IP address 192.168.40.1.
- C. Router1 will strip off the destination MAC address and replace it with the MAC address 0000.0c07.4320.
- D. Router1 will strip off the destination IP address and replace it with the IP address of 192.168.40.1.
- E. Router1 will forward the data packet out interface FastEthernet0/1.
- F. Router1 will forward the data packet out interface FastEthernet0/2.

Answer is A,C,F



Which command can you enter to verify that a BGP connection to a remote device is established?

- A. show ip bgp summary
- B. show ip community-list
- C. show ip bgp paths
- D. show ip route

Answer is A.

Which command can you use to set the hostname on a switch?

- A. switch-mdf-c1(config)#hostname switch-mdf1
- B. switch-mdf-c1>hostname switch-mdf1
- C. switch-mdf-c1#hostname switch-mdf1
- D. switch-mdf-c1(config-if)#hostname switch-mdf1

Answer is A

Which spanning-tree protocol rides on top of another spanning-tree protocol?

- A. MSTP
- B. RSTP
- C. PVST+
- D. Mono Spanning Tree

Answer is A

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Which password types are encrypted?

- A. SSH
- B. Telnet
- C. enable secret
- D. enable password

Answer is C

Which type of EIGRP route entry describes a feasible successor?

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

Answer is C

When you deploy multilink PPP on your network, where must you configure the group IP Address on each device?

- A. in the global configuration
- B. Under the serial interfaces
- C. Under the routing protocol
- D. Under the multilink interface

Answer is D

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Which three technical services support cloud computing? (Choose three.)

- A. network-monitored power sources
- B. Layer 3 network routing
- C. IP localization
- D. redundant connections
- E. VPN connectivity
- F. extended SAN services

Answer is B,C,F

Which three commands must you enter to create a trunk that allows VLAN 20? (Choose three.)

- A. Switch(config-if)#switchport mode trunk
- B. Switch(config-if)#switchport mode dynamic desirable
- C. Switch(config-if)#switchport trunk native vlan 20
- D. Switch(config-if)#switchport trunk encapsulation dot1q
- E. Switch(config-if)#switchport trunk allowed vlan 20
- F. Switch(config-if)#switchport mode dynamic auto

Answer is A,D,E

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How are VTP advertisements delivered to switches across the network?

- A. anycast frames
- B. multicast frames
- C. broadcast frames
- D. unicast frames

Answer is B

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

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

Answer is D

Which networking Technology is currently recognized as the standard for computer networking?

- A. System network architecture
- B. Transmission control protocol/Internet protocol
- C. Open system Interconnect
- D. Open network architecture

Answer is B

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Refer to the exhibit. An admin cannot establish a Telnet session with the indicated router. What's the issue?

```
Router#show running-config
Building configuration...
Current configuration : 659 bytes
!
version 12.4
no service timestamps log datetime msec
no service timestamps debug datetime msec
service password-encryption
!
hostname Router
!
enable secret 5 $1$mERr$hX5rVt7rPNoS4wqbXKX7m0
!
interface FastEthernet0/0
ip address 192.168.1.1 255.255.255.0
ip access-group 101 in
duplex auto
speed auto
!
access-list 101 deny tcp any any eq 22
access-list 101 permit ip any any
!
line con 0
password 7 0822455D0A16
login
line vty 0 4
login
line vty 5 14
login

!

end
```

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- A. A Level 5 password is not set.
- B. An ACL is blocking Telnet access.
- C. The vty password is missing.
- D. The console password is missing.

Answer is C

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

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

Answer is B,D

Which method does a connected trunk port use to tag VLAN traffic?

- A. IEEE 802.1w
- B. IEEE 802.1D
- C. IEEE 802.1Q
- D. IEEE 802.1p

Answer is C

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What is the default Syslog facility level?

- A. local4
- B. local5
- C. local6
- D. local7

Answer is D

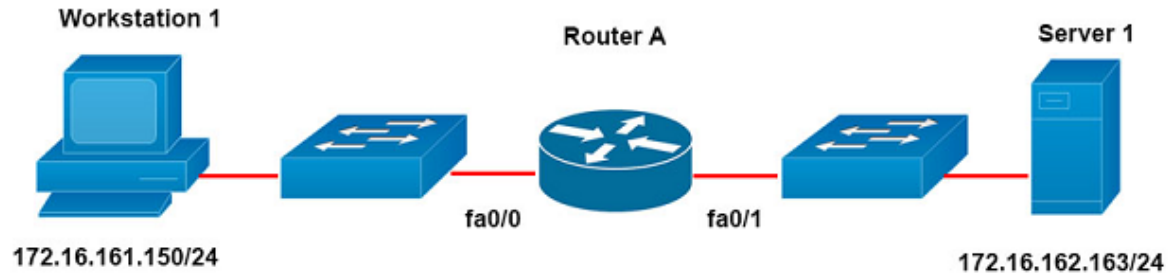
Which protocol does IPv6 use to discover other IPv6 nodes on the same segment?

- A. CLNS
- B. TCPv6
- C. NHRP
- D. NDP
- E. ARP

Answer is D

Refer to the graphic. It has been decided that Workstation 1 should be denied access to server 1. Which of the following commands are required to prevent only Workstation 1 from accessing Server1 while allowing all other traffic to flow normally? (Choose two)

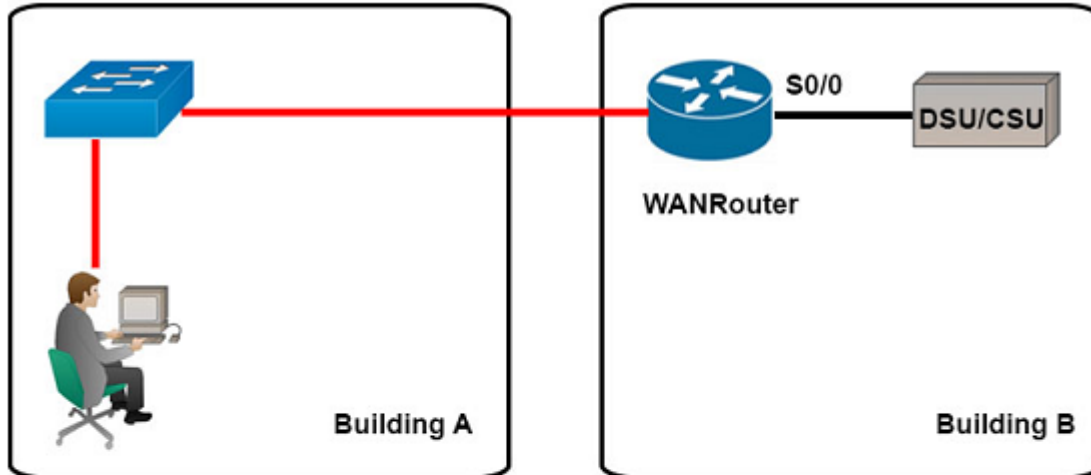
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- A. RouterA(config)# interface fa0/0
RouterA(config-if)# ip access-group 101 out
- B. RouterA(config)# interface fa0/0
RouterA(config-if)# ip access-group 101 in
- C. RouterA(config)# access-list 101 deny ip host 172.16.161.150 host 172.16.162.163
RouterA(config)# access-list 101 permit ip any any
- D. RouterA(config)# access-list 101 deny ip 172.16.161.150 0.0.0.255 172.16.162.163 0.0.0.0
RouterA(config)# access-list 101 permit ip any any

Answer is B,C

Refer to the exhibit. The network admin is in a campus building distant from Building B. WAN Router is hosting a newly installed WAN link on interface S0/0. The new link is not functioning and the admin needs to determine if the correct cable has been attached to the S0/0 interface. How can the admin accurately verify the correct cable type on S0/0 in the most efficient manner?



- A. Telnet to WANRouter and execute the command show interfaces S0/0
- B. Telnet to WANRouter and execute the command show processes S0/0
- C. Telnet to WANRouter and execute the command show running-configuration
- D. Telnet to WANRouter and execute the command show controller S0/0
- E. Physically examine the cable between WANRouter S0/0 and the DCE.
- F. Establish a console session on WANRouter and execute the command show interfaces S0/0

Answer is D

Arrange the IEEE standard cable names under Copper and Fiber respectively

10Base-T

10G BASE-LR

10GBASE-T

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100BASE-TX

1000BASE-LX

100BASE-SC

Answer

Copper- 10BASE-T,10GBASE-T,100BASE-TX

Fiber- 10GBASE-LR, 1000BASE-LX, 1000BASE-SC

Select the type of connectors used for connecting the following devices

1. Switch access Port to Router

- a. Crossover
- b. Null modem
- c. Straight-through
- d. Rollover
- e. 9-25 pin serial

2. Switch to switch

- a. Crossover
- b. Null modem
- c. Straight-through
- d. Rollover
- e. 9-25 pin serial

3. PC COM Port to switch

- a. Crossover
- b. Rollover

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c. Straight-through

Answer is

1. C
2. A
3. B

A Network admin receives an error message while trying to configure the Ethernet interface of the router with an IP 10.24.24.24/29. Which statement explains the reason for this issue?

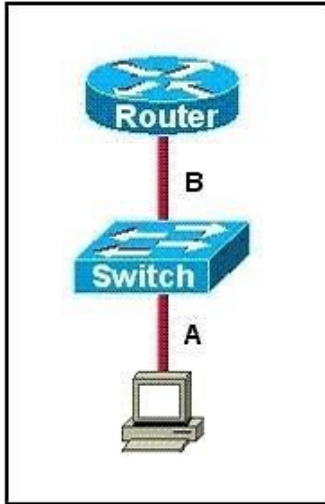
- A. This address is a broadcast address.
- B. VLSM-capable routing protocols must be enabled first on the router.
- C. The Ethernet interface is faulty.
- D. This address is a network address.

Answer is D

Refer to the exhibit. The two connected ports on the switch are not turning Orange or green. What would be the most effective steps to troubleshoot this physical layer problem? (Choose 3)

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- A. Ensure that the Ethernet encapsulations match on the interconnected router and switch ports.
- B. Ensure that cables A and B are straight-through cables.
- C. Ensure cable A is plugged into a trunk port.
- D. Ensure the switch has power.
- E. Reboot all of the devices.
- F. Reseat all cables.

Answer is B,D,F

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

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

Answer is B



If you are configuring syslog messages specifying 'logging trap warning', which log messages will the router send?

- A. 0-4
- B. 0-5
- C. 0-6
- D. 0-2
- E. 0-1

Answer is A

Which two types of NAT addresses are used in a Cisco NAT device? (Choose two.)

- A. inside private
- B. inside local
- C. external local
- D. external global
- E. inside global
- F. outside private

Answer is B,E

Match the following Device and cable connectivity

Crossover	Console to PC
DTF/DCE	Router serial to Router Serial
Rollover	Switch to router
Straight-through	Switch to switch

Answer is

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Rollover	Console to PC
DTF/DCE	Router serial to Router Serial
Straight-through	Switch to router
Crossover	Switch to switch

What SNMP message alerts the manager to a condition on the network?

- A. response
- B. get
- C. trap
- D. capture

Answer is C

Which network topology allows all traffic to flow through a central hub?

- A. bus
- B. star
- C. mesh
- D. ring

Answer is B

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Which NTP command configures the local device as an NTP reference clock source?

- A. ntp peer
- B. ntp broadcast
- C. ntp master
- D. ntp server

Answer is C

This graphic shows the results of an attempt to open a Telnet connection to router ACCESS1 from router Remote27.

```
Remote27#  
Remote27#telnet access1  
Trying ACCESS1 (10.0.0.1)... Open  
  
Password required, but none set  
  
[Connection to access1 closed by foreign host]  
Remote27#
```



Which of the following command sequences will correct this problem?

- A. ACCESS1(config)# line console 0
ACCESS1(config-line)# password cisco
- B. Remote27(config)# line console 0
Remote27(config-line)# login
Remote27(config-line)# password cisco
- C. ACCESS1(config)# line vty 0 4
ACCESS1(config-line)# login
ACCESS1(config-line)# password cisco
- D. Remote27(config)# line vty 0 4
Remote27(config-line)# login
Remote27(config-line)# password cisco
- E. ACCESS1(config)# enable password cisco
- F. Remote27(config)# enable password cisco

Answer is C

Refer to the exhibit. What does the address 192.168.2.167 represent?

```
Router# copy startup-config tftp
Address or name of remote host [ ]? 192.168.2.167
Destination filename [router-config]?
!!!!!!!!
1476 bytes copied in 0.080 secs (5950 bytes/sec)
Router#
```

- A. the TFTP server from which the file startup-config is being transferred
- B. the router from which the file startup-config is being transferred
- C. the TFTP server from which the file router-config is being transferred
- D. the TFTP server to which the file router-config is being transferred
- E. the router to which the file router-config is being transferred
- F. the router to which the file startup-config is being transferred

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Answer is D.

Which identification number is valid for an extended ACL?

- A. 1
- B. 64
- C. 99
- D. 100
- E. 299
- F. 1099

Answer is D

Which statement about access lists that are applied to an interface is true?

- A. You can place as many access lists as you want on any interface.
- B. You can apply only one access list on any interface.
- C. You can configure one access list, per direction, per Layer 3 protocol.
- D. You can apply multiple access lists with the same protocol or in different directions.

Answer is C

For which routes does the **distance bgp 10 50 70** command set the administrative distance?

- A. for BGP internal routes only
- B. for all BGP routes
- C. between BGP routes and IGP routes
- D. for BGP external routes only

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Answer is B

Which additional configuration step is necessary in order to connect to an access point that has SSID broadcasting disabled?

- A. Set the SSID value in the client software to public.
- B. Configure open authentication on the AP and the client.
- C. Set the SSID value on the client to the SSID configured on the AP.
- D. Configured MAC address filtering to permit the client to connect to the AP.

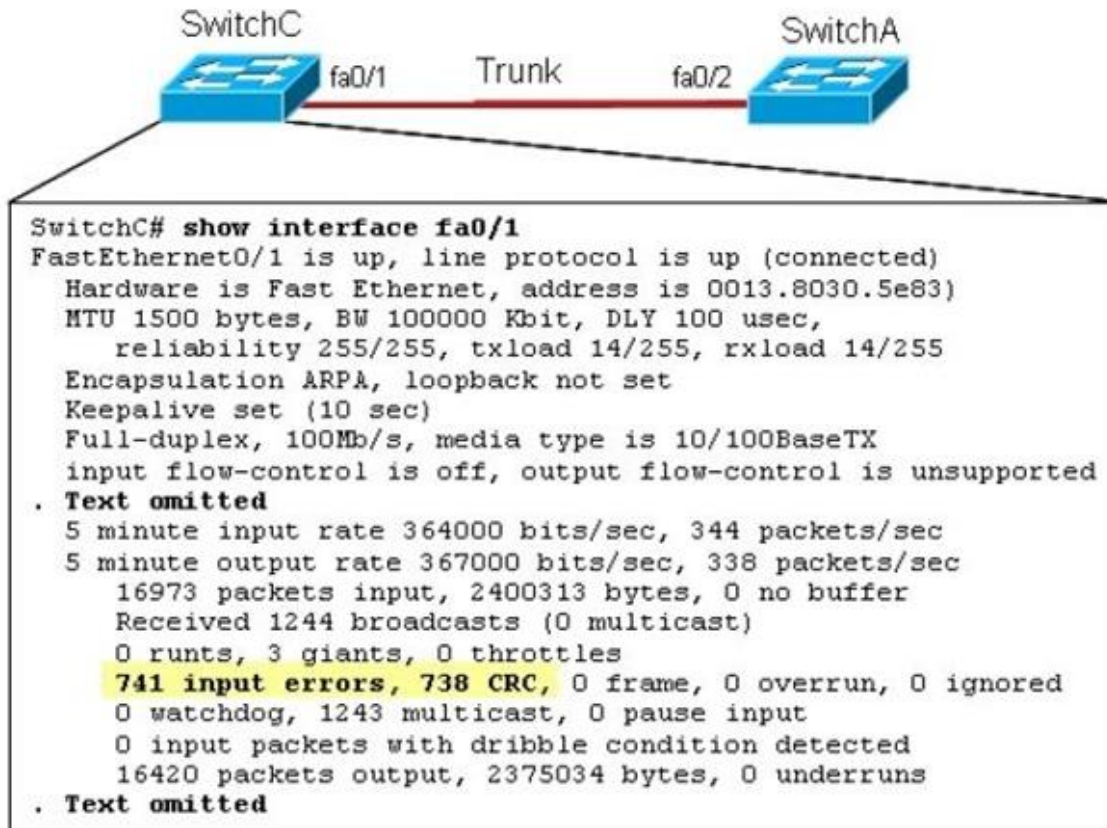
Answer is C

What is one requirement for interfaces to run IPv6?

- A. An IPv6 address must be configured on the interface.
- B. An IPv4 address must be configured.
- C. Stateless autoconfiguration must be enabled after enabling IPv6 on the interface.
- D. IPv6 must be enabled with the `ipv6 enable` command in global configuration mode.

Answer is A

Refer to the exhibit. Given this output for SwitchC, what should the network administrator's next action be?



- A. Check the trunk encapsulation mode for SwitchC's fa0/1 port.
- B. Check the duplex mode for SwitchC's fa0/1 port.
- C. Check the duplex mode for SwitchA's fa0/2 port.
- D. Check the trunk encapsulation mode for SwitchA's fa0/2 port.

Answer is C

Refer to the exhibit. Which subnet mask will place all hosts on Network B in the same subnet with the least amount of wasted addresses?



- A. 255.255.255.0
- B. 255.255.254.0
- C. 255.255.252.0
- D. 255.255.248.0

Answer is B

A network admin is troubleshooting OSPF configuration of routers R1 and R2. The routers cannot establish an adjacency relationship on their common Ethernet link . The graphic shows the output of the show ip ospf interface e0 command for routers R1 and R2. Based on the information in the graphic, what is the cause of this problem?

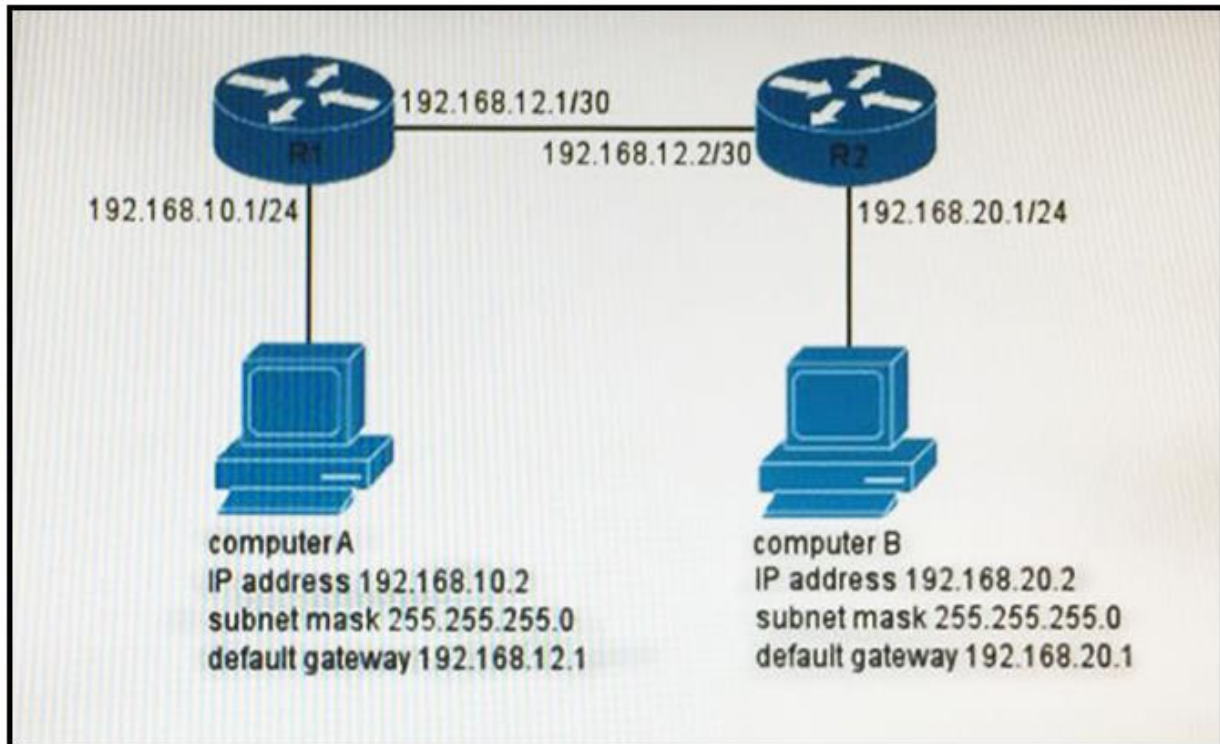


R1: Ethernet0 is up, line protocol is up
Internet address 192.168.1.2/24, Area 0
Process ID 1, Router ID 192.168.31.33, Network Type BROADCAST, Cost: 10
Transmit Delay is 1 sec, State DR, Priority 1
Designated Router (ID) 192.168.31.33, Interface address 192.168.1.2
No backup designated router on this network
Timer intervals configured, Hello 5, Dead 20, Wait 20, Retransmit 5

R2: Ethernet0 is up, line protocol is up
Internet address 192.168.1.1/24, Area 0
Process ID 2, Router ID 192.168.31.11, Network Type BROADCAST, Cost: 10
Transmit Delay is 1 sec, State DR, Priority 1
Designated Router (ID) 192.168.31.11, Interface address 192.168.1.1
No backup designated router on this network
Timer intervals configured, Hello 10, Dead 40, Wait 40, Retransmit 5

- A. The OSPF area is not configured properly.
- B. The priority on R1 should be set higher.
- C. The cost on R1 should be set higher.
- D. The hello and dead timers are not configured properly.
- E. A backup designated router needs to be added to the network.
- F. The OSPF process ID numbers must match.

Answer is D



Refer to the exhibit. You have determined that computer A cannot ping computer B. Which reason for the problem is most likely true?

- A. The computer B default gateway address is incorrect.
- B. The computer B subnet mask is incorrect.
- C. The computer A subnet mask is incorrect.
- D. The computer A default gateway address is incorrect.

Answer is D

Which DTP switch mode allows the port to create a trunk link if the neighboring port is in trunk mode, dynamic desirable mode, or desirable auto mode?



- A. trunk
- B. access
- C. dynamic desirable
- D. dynamic auto

Answer is C

Which two benefits are provided by creating VLANs? (Choose two.)

- A. added security
- B. dedicated bandwidth
- C. provides segmentation
- D. allows switches to route traffic between subinterfaces
- E. contains collisions

Answer is A,C

Which command do use we to see SNMP version

- A. show snmp pending
- B. show snmp engineID
- C. show snmp-server
- D. show snmp version

Answer is A

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Refer to the exhibit. Which statement describes the effect of this configuration?

```
Router# configure terminal
Router(config)# vlan 10
Router(config-vlan)# do show vlan
```

- A. The VLAN 10 VTP configuration is displayed
- B. VLAN 10 spanning-tree output is displayed
- C. The VLAN 10 configuration is saved when the router exits VLAN configuration mode
- D. VLAN 10 is added to the VLAN database

Answer is C

Which two advantages do dynamic routing protocols provide over static routing? (Choose two.)

- A. Dynamic routing requires fewer resources than static routing
- B. Only dynamic routing is supported on all topologies that require multiple routers
- C. Dynamic routing protocols are easier to manage on very large networks
- D. Dynamic routing protocols automatically adapt to reroute traffic if possible
- E. Dynamic routing is more secure than static routing

Answer is C,D

Routing has been configured on the local router with these commands:

```
Local(config)#ip route 0.0.0.0 0.0.0.0 192.168.1.1
Local(config)#ip route 10.1.0.0 255.255.255.0 192.168.2.2
Local(config)#ip route 10.1.0.0 255.255.0.0 192.168.3.3
```

From the list of IP addresses given below, select the next hop for **192.168.1.1** and **192.168.2.2** respectively

- | | |
|-------------------|-----------------|
| 10.1.1.10 | 10.1.4.6 |
| 10.1.0.123 | 10.2.1.3 |

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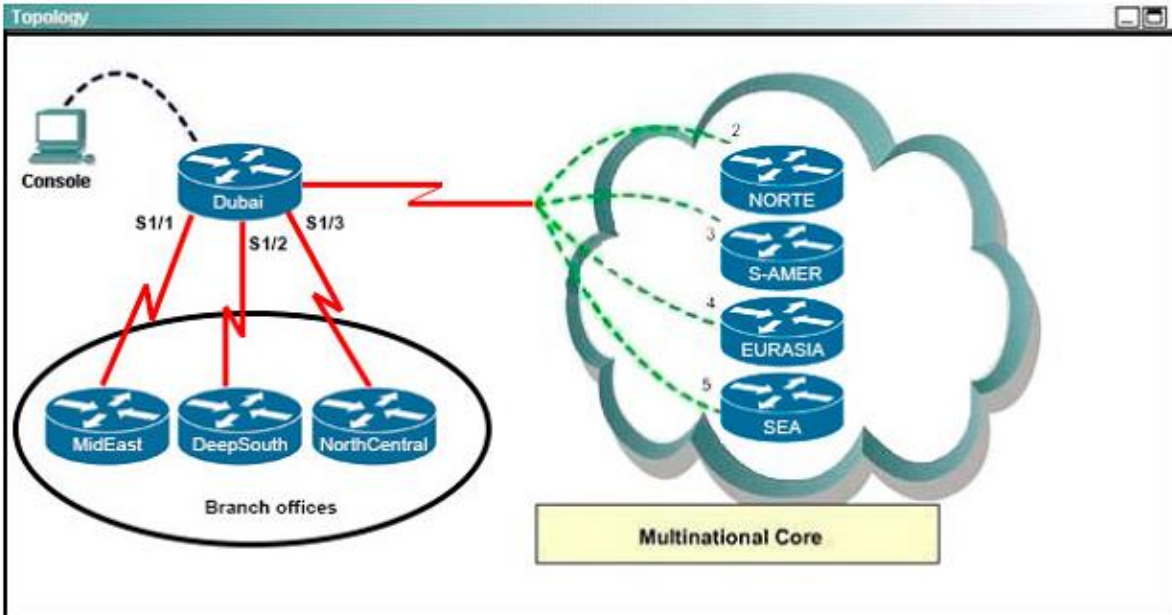
10.1.0.14

10.6.8.4

Next hop for 192.168.1.1	Next hop for 192.168.2.2	Next hop for 192.168.3.3

Answer is

Next hop for 192.168.1.1	Next hop for 192.168.2.2	Next hop for 192.168.3.3
10.2.1.3	10.1.0.14	10.1.1.10
10.6.8.4	10.1.0.123	10.1.4.6



```
Dubai#sh frame-relay map
Serial1/0 (up): ip 172.30.0.2 dlci 704 (0x7B,0x1CB0), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.3 dlci 196 (0xEA,0x38A0), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.4 dlci 702 (0x159,0x5490), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.5 dlci 344 (0x1C8,0x7080), dynamic,
                broadcast,, status defined, active
Dubai#
interface FastEthernet0/0
  no ip address
  shutdown
!
interface Serial1/0
  ip address 172.30.0.1 255.255.255.240
  encapsulation frame-relay
  no fair-queue
!
interface Serial1/1
  ip address 192.168.0.1 255.255.255.252
!
interface Serial1/2
  ip address 192.168.0.5 255.255.255.252
  encapsulation ppp
!
```

```
interface Serial1/3
  ip address 192.168.0.9 255.255.255.252
  encapsulation ppp
  ppp authentication chap
!
router rip
  version 2
  network 172.30.0.0
  network 192.168.0.0
  no auto-summary
!
line con 0
  exec-timeout 0 0
line aux 0
line vty 0 4
  password Tlnet
  login
!
end
```

What destination Layer 2 address will be used in the frame header containing a packet for host 172.30.4.4?

- A. 704
- B. 196
- C. 702
- D. 344

Answer is C

Which major IPv6 address type is supported in IPv4 but rarely used?

- A. Broadcast
- B. Anycast
- C. Unicast
- D. Multicast

Answer is B

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Which command is necessary to permit SSH or Telnet access to a Cisco switch that is otherwise configured for these vty line protocols?

- A. transport type all
- B. transport output all
- C. transport preferred all
- D. transport input all

Answer is D

Assuming the default switch configuration, which VLAN range can be added, modified, and removed on a Cisco switch?

- A. 1 through 1001
- B. 2 through 1001
- C. 1 through 1002
- D. 2 through 1005

Answer is B

Which command can you enter to determine whether a switch is operating in trunking mode?

- A. show ip interface brief
- B. show vlan
- C. show interfaces
- D. show interface switchport

Answer is D

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While Troubleshooting a connection problem on a computer, you determined that the computer can ping a specific web server but it cannot connect to TCP port 80 on that server. Which reason for the problem is more likely true?

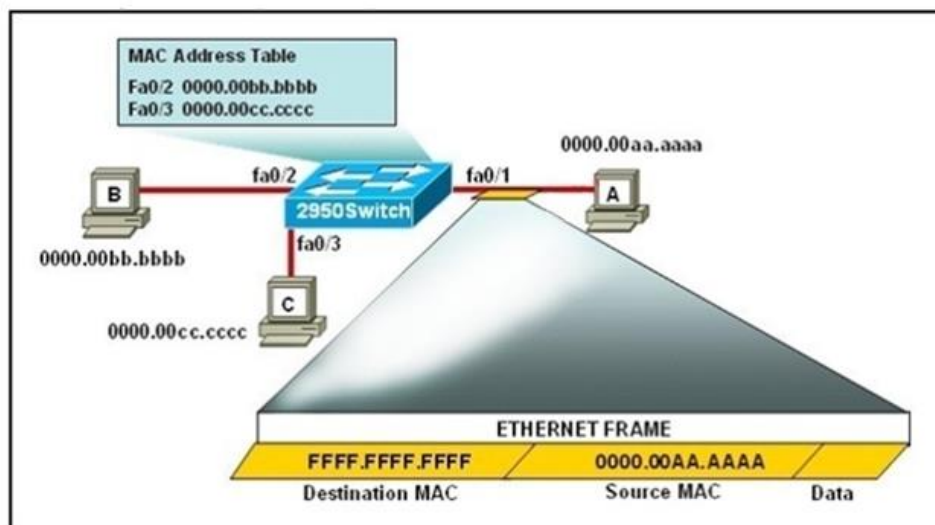
- A. A VLAN number is incorrect
- B. An ARP table entry is missing
- C. A route is missing
- D. An ACL is blocking the TCP port

Answer is D

Refer to the exhibit. The following commands are executed on interface fa0/1 of 2950Switch.

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

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





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

Answer is B,D

What feature uses a random time to re-send a frame?

- A. CSMA/CA
- B. disabled by default
- C. Cisco proprietary
- D. CSMA/CD

Answer is D

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What is the purpose of Inverse ARP?

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

Answer is D

Which destination IP address can a host use to send one message to multiple devices across different subnets?

- A. 172.20.1.0
- B. 127.0.0.1
- C. 192.168.0.119
- D. 239.255.0.1

Answer is D



What is the default administrative distance of OSPF?

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

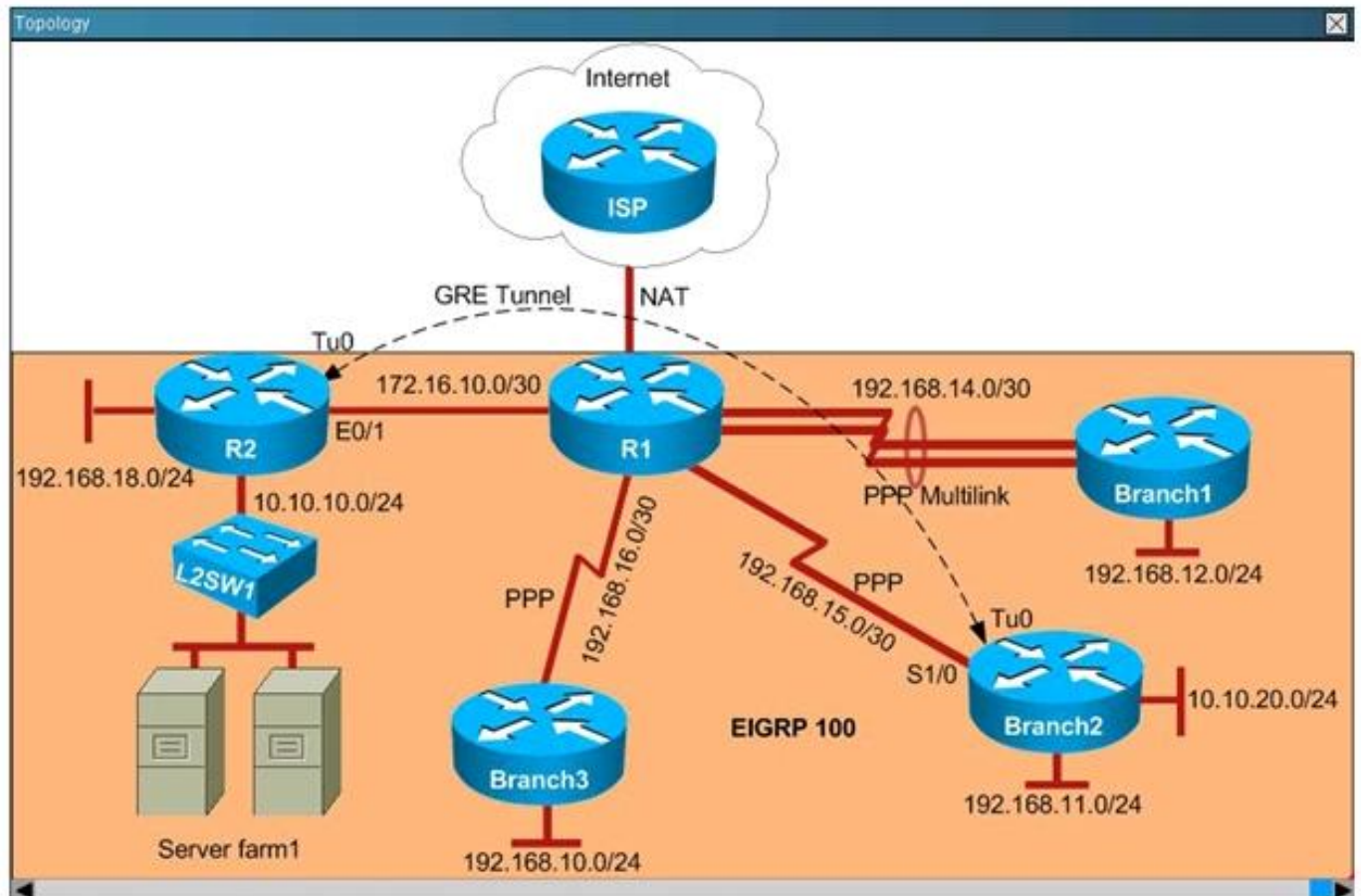
Answer is C

Which configuration command can you apply to a HSRP router so that its local interface becomes active if all other routers in the group fail?

- A. no additional configuration is required
- B. standby 1 track Ethernet
- C. standby 1 preempt
- D. standby 1 priority 250

Answer is A

Refer to the topology below and answer the following question.



Which statement about the router configurations is correct?

- A. The PPP PAP is authentication configured between Branch2 and R1
- B. Tunnel keepalives are not configured for the tunnel0 interface on Branch2 and R2
- C. The Branch 2 LAN network 192.168.11 0/24 is not advertised into the EIGRP network
- D. The Branch3 LAN network 192.168.11 0/24 is not advertised into the EIGRP network
- E. PPP CHAP authentication is configured between Branch1 and R1

Answer is D

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Which command sets and automatically encrypts the privileged enable mode password?

- A. Enable password c1sc0
- B. Secret enable c1sc0
- C. Password enable c1sc0
- D. Enable secret c1sc0

Answer is D

Which condition indicates that service password-encryption is enabled?

- A. The local username password is in clear text in the configuration.
- B. The enable secret is in clear text in the configuration.
- C. The local username password is encrypted in the configuration.
- D. The enable secret is encrypted in the configuration.

Answer is C

Match the following

Use of CSMA to ensure that devices on a shared link can communicate without interfering with one another	Carrier sense
Calculated value that can increase when a new station is added to the network	Collision
Ability of an end device to determine that another	Collision detection

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device is communicating on a shared link	
Link used to transport data between source and a destination	Collision rate
Potential conflict when more than one end device attempts to send traffic over the same link	Medium

Answer is

Use of CSMA to ensure that devices on a shared link can communicate without interfering with one another	Collision detection
Calculated value that can increase when a new station is added to the network	Collision rate
Ability of an end device to determine that another device is communicating on a shared link	Carrier sense
Link used to transport data between source and a destination	Medium
Potential conflict when more than one end device attempts to send traffic over the same link	Collision



Which technology allows a large number of private IP addresses to be represented by a smaller number of public IP addresses?

- A. NAT
- B. NTP
- C. RFC 1631
- D. RFC 1918

Answer is A

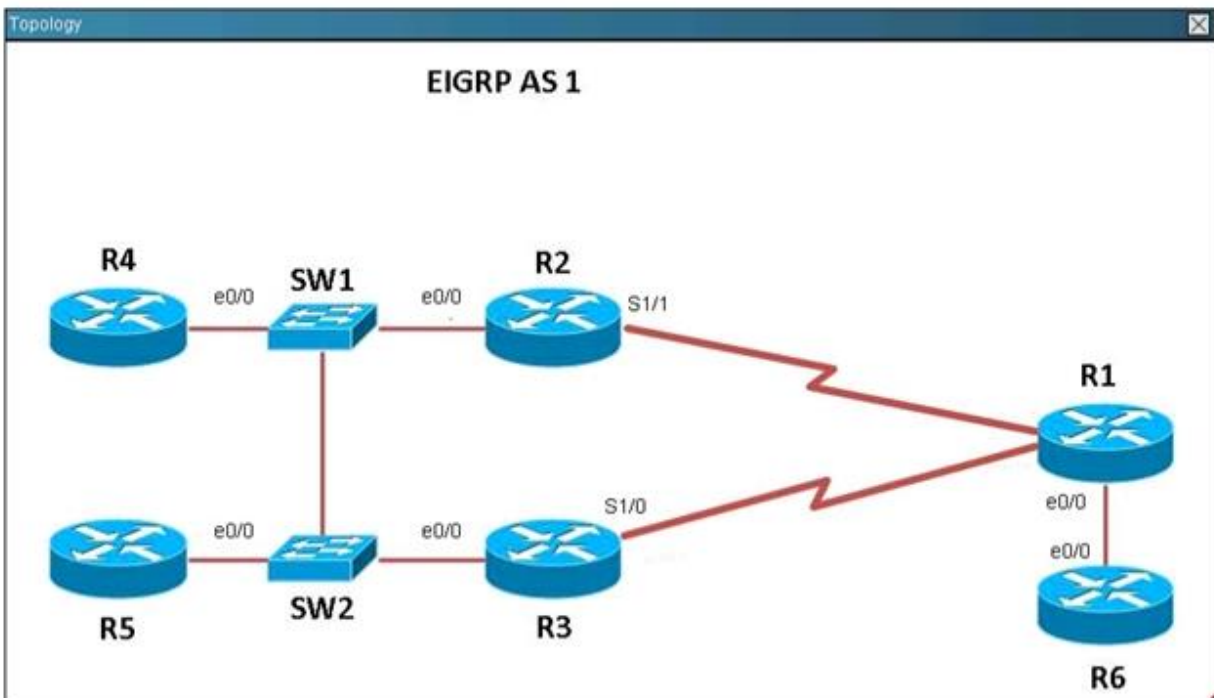
Instructions:

- Enter IOS commands on the device to verify network operation and answer the multiple questions.
- THIS TASK DOES NOT REQUIRE DEVICE CONFIGURATION.
- Click the device icon to gain access to the console device of the router. No console or enable passwords are required.
- To access the multiple-choice questions, click the numbered boxes on the left of the top panel.
- there are four multiple-choice questions with this task. Be sure to answer all four questions before clicking Next button.

Scenario:

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

The EIGRP routing protocol is configured.

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

Use the appropriate **show** commands to troubleshoot the issues.

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

Why are the interfaces missing?

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

Answer is B
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What are three components that comprise the SNMP framework? (Choose three.)

- A. MIB
- B. manager
- C. supervisor
- D. agent
- E. set
- F. AES

Answer is A,B,D.

Arrange the networking features under Control and Data planes on which they operate

- a. Data encapsulation
- b. Device access
- c. Establishes telnet sessions
- d. Filtering
- e. QoS
- f. Routing state exchange

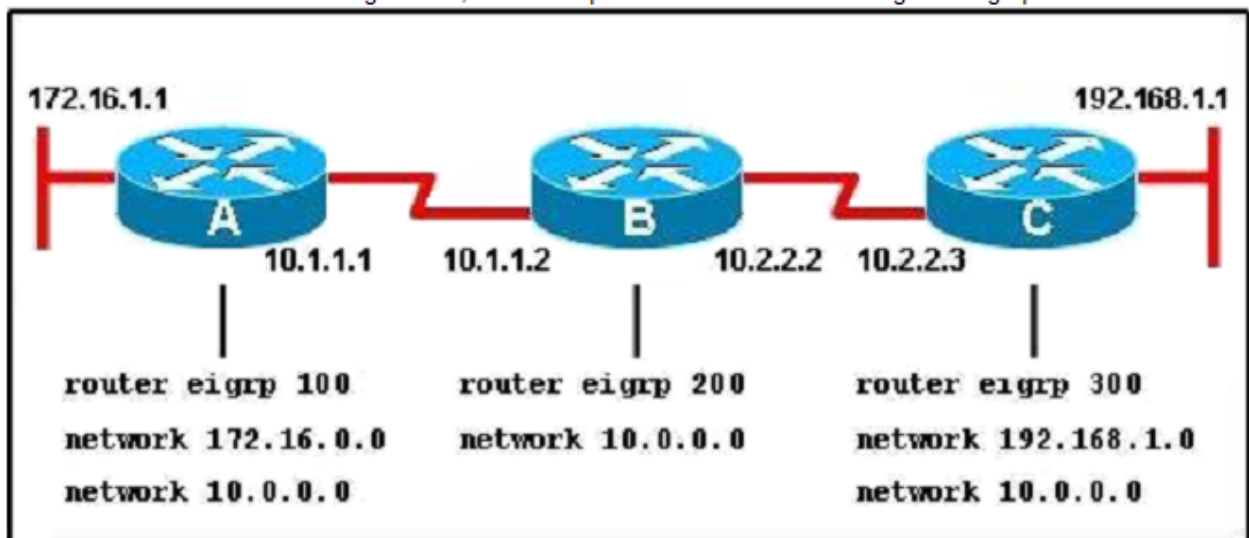
Answer is **Control Plane**- Filtering, Routing state exchange, Device access

Data Plane- Data encapsulation, establishes telnet sessions, QoS

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



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

Answer is A

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What is the cause of the Syslog output messages?

```
*Mar 01, 00:37:57.3737: %SYS-5-CONFIG_I: Configured from console by console
*LINK-5-CHANGED: Interface FastEthernet0/1, changed state to administratively
down
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed
state to down
%DUAL-5-WEBCHANGE: IP-EIGRP 1: Neighbor 10.10.11.2 (FastEthernet0/1) is down:
interface down
```

- A. The EIGRP neighbor on Fa0/1 went down due to a failed link.
- B. The EIGRP neighbor connected to Fa0/1 is participating in a different EIGRP process, causing the adjacency to go down.
- C. A shut command was executed on interface Fa0/1, causing the EIGRP adjacency to go down.
- D. Interface Fa0/1 has become error disabled, causing the EIGRP adjacency to go down.

Answer is C

What command instructs the device to timestamp Syslog debug messages in milliseconds?

- A. service timestamps log datetime localtime
- B. service timestamps debug datetime msec
- C. service timestamps debug datetime localtime
- D. service timestamps log datetime msec

Answer is B

What are the possible trunking modes for a switch port? (Choose three.)

- A. transparent
- B. auto
- C. on
- D. desirable
- E. client
- F. forwarding

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Answer is B,C,D

What is true about Ethernet? (Choose two.)

- A. 802.2 Protocol
- B. 802.3 Protocol
- C. 10BaseT half duplex
- D. CSMA/CD Stops transmitting when congestion occurs
- E. CSMA/CA Stops transmitting when congestion occurs

Answer is B,D

Stack the protocols under TCP and UDP

DHCP
STP
SMTP
SSH
SNMP
TFTP

TCP
UDP

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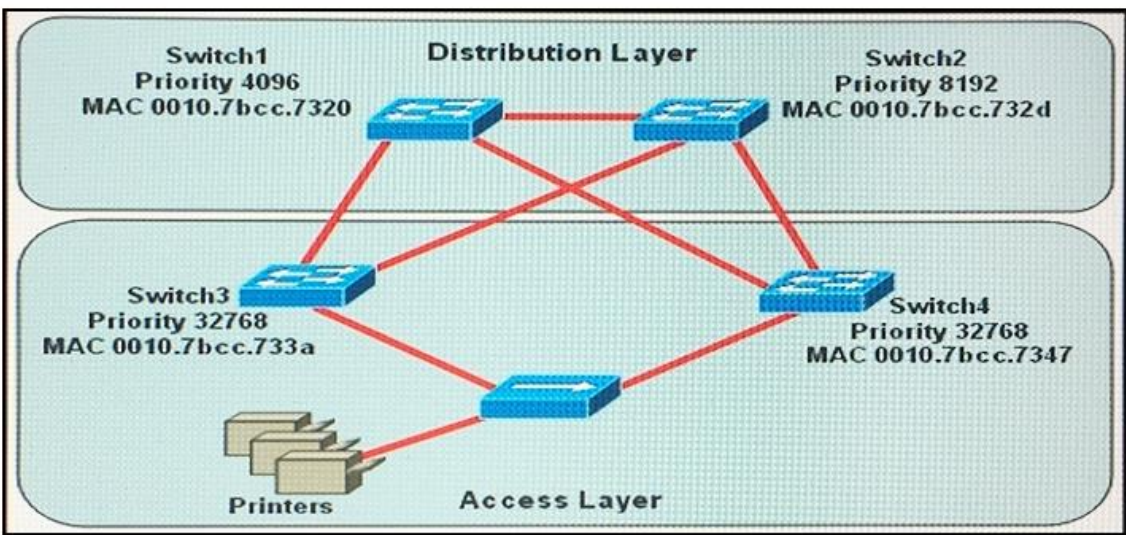


Answer is

TCP
FTP
SMTP
SSH
UDP
DHCP
SNMP
TFTP

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

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

Answer is C

Which three are valid modes for a switch port used as a VLAN trunk? (choose three)

- A. Desirable
- B. Auto
- C. On
- D. Blocking
- E. Transparent
- F. Forwarding



Answer is A,B,C

What are three approaches that are used when migrating from an IPv4 addressing scheme to an IPv6 scheme. (Choose three.)

- A. enable dual-stack routing
- B. configure IPv6 directly
- C. configure IPv4 tunnels between IPv6 islands
- D. use proxying and translation to translate IPv6 packets into IPv4 packets
- E. statically map IPv4 addresses to IPv6 addresses
- F. use DHCPv6 to map IPv4 addresses to IPv6 addresses

Answer is A,C,D

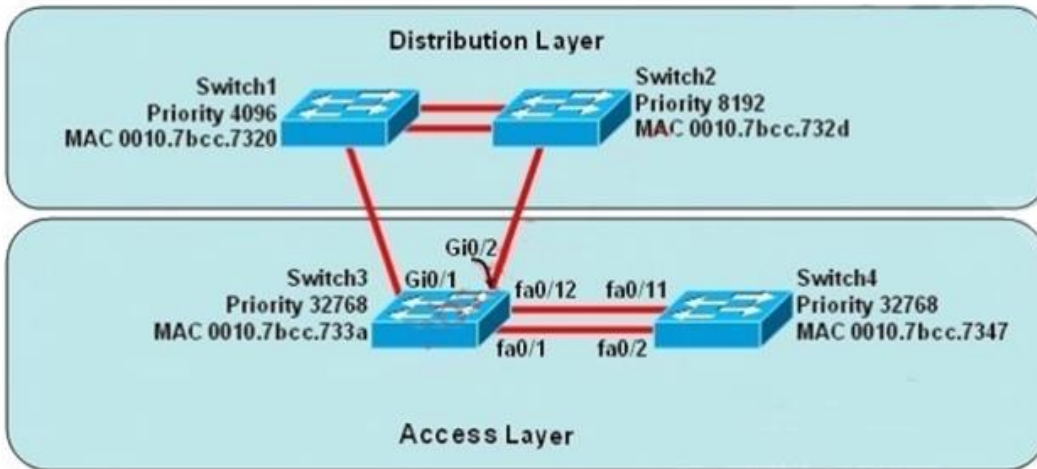
What does a Layer 2 switch use to decide where to forward a received frame?

- A. source MAC address
- B. source IP address
- C. source switch port
- D. destination IP address
- E. destination port address
- F. destination MAC address

Answer is F

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



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

Answer is C

Which WAN topology is most appropriate for a centrally located server farm with several satellite branches?

- A. star
- B. hub and spoke
- C. point-to-point
- D. full mesh

Answer is B



What is the best way to verify that a host has a path to other hosts in different networks?

- A. Ping the loopback address.
- B. Ping the default gateway.
- C. Ping the local interface address.
- D. Ping the remote network.

Answer is D

On which type of port can switches interconnect for multi-VLAN communication?

- A. trunk port
- B. interface port
- C. access port
- D. switch port

Answer is A

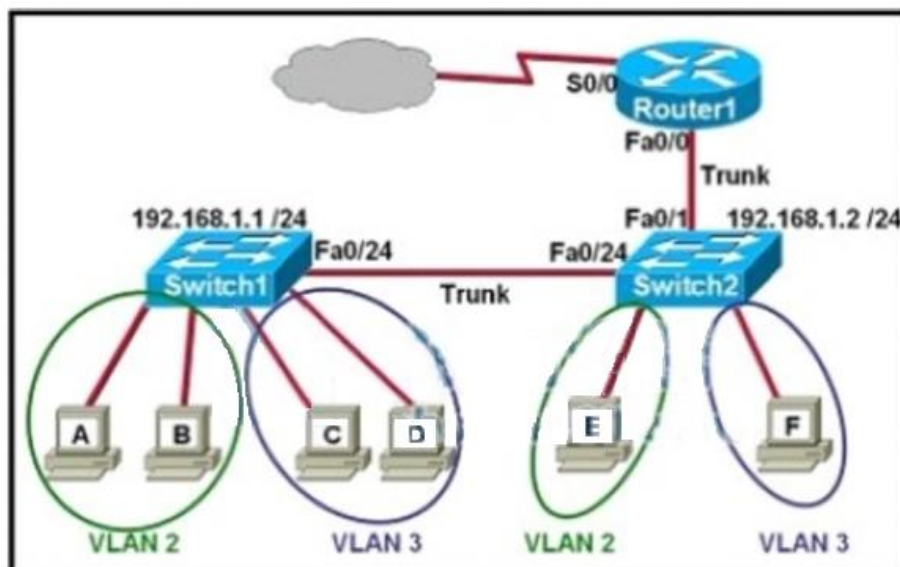
Which component of a routing table entry represents the subnet mask?

- A. Routing protocol code
- B. Prefix
- C. metric
- D. Network mask

Answer is D

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



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

Answer is D

Which function does traffic shaping perform?

- A. it buffers and queues excess packets
- B. it drops packets to control the output rate
- C. it buffers traffic without queuing it
- D. it queues traffic without buffering it

Answer is A



Which major component of the network virtualization architecture isolate users according to policy?

- A. policy enforcement
- B. access control
- C. network services virtualization
- D. Path Isolation.

Answer is B

What are two advantages of Layer 2 Ethernet switches over hubs? (Choose two.)

- A. decreasing the number of collision domains
- B. filtering frames based on MAC addresses
- C. allowing simultaneous frame transmissions
- D. increasing the size of broadcast domains
- E. increasing the maximum length of UTP cabling between devices

Answer is B,C

Which two statements about switch stacking are true? (Choose two)

- A. The stack is powered by a single power cable
- B. The switches are connected in a daisy-chain fashion
- C. The first and last switch in the stack must be connected to one another
- D. The switches are connected by crossover cables
- E. The switches must be fully meshed

Answer is A,B

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The Company WAN is migrating from RIPv1 to RIPv2.
Which three statements are correct about RIP version 2? (Choose three.)

- A. It has the same maximum hop count as version 1.
- B. It uses broadcasts for its routing updates.
- C. It is a classless routing protocol.
- D. It has a lower default administrative distance than RIP version 1.
- E. It supports authentication.
- F. It does not send the subnet mask in updates.

Answer is A,C,E

What are three parts of an IPv6 global unicast address? (Choose three.)

- A. an interface ID that is used to identify the local host on the network
- B. an interface ID that is used to identify the local network for a particular host.
- C. a subnet ID that is used to identify networks inside of the local enterprise site
- D. a global routing prefix that is used to identify the network portion of the address that has been provided by an ISP
- E. a global routing prefix that is used to identify the portion of the network address provided by a local administrator

Answer is A,C,D

Which three circumstances can cause a GRE tunnel to be in an up/down state? (Choose three.)

- A. The tunnel interface IP address is misconfigured.
- B. The tunnel source interface is down.
- C. A valid route to the destination address is missing from the routing table.
- D. The tunnel address is routed through the tunnel itself.
- E. The ISP is blocking the traffic.
- F. An ACL is blocking the outbound traffic.

Answer is B,C,D

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Which EIGRP for IPv6 command can you enter to view the link-local addresses of the neighbors of a device?

- A. show ipv6 eigrp 20 interfaces
- B. show ipv6 route eigrp
- C. show ipv6 eigrp neighbors
- D. show ip eigrp traffic

Answer is C

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

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

Answer is C

A network admin enters the following command on a router. Logging trap 3. What are the three message types that will be sent to the syslog server.

- A. informational
- B. emergency
- C. warning
- D. critical
- E. debug
- F. error

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Answer is B,D,F

A Network engineer wants to allow a temporary entry for a remote user with a specific username and password so that the user can access the entire network over the internet . Which ACL can be used?

- A. reflexive
- B. extended
- C. standard
- D. dynamic

Answer is A

Which header field is new on IPv6?

- A. Version
- B. Hop Limit
- C. Flow Label
- D. Traffic Class

Answer is C

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

- A. They can be used with an intrusion prevention system
- B. They can limit unauthorized user access to protect data
- C. Each wireless access point requires its own firewall
- D. They must be placed only at locations where the private network connects to the internet
- E. They can prevent attacks from the internet only

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Answer is A,B

Which Type of ipv6 unicast ip address is reachable across the Internet?

- A. Unique Local
- B. Compatible
- C. Link local
- D. Global

Answer is D

Which feature allows a device to use a switch port that is configured for half-duplex to access the network?

- A. CSMA/CD
- B. IGMP
- C. port security
- D. split horizon

Answer is A

```
R1
interface FastEthernet0/0
  ip address 172.16.10.1 255.255.255.224

interface FastEthernet0/1
  ip address 172.16.10.33 255.255.255.240

router rip
  network 172.16.0.0
no auto-summary
```

Refer to the exhibit. After you apply the given configuration to R1, you determine that it is failing to advertise the 172.16.10.32/27 network. Which action most likely to correct the problem.

- A. Enable passive interface
- B. Enable RIPv2
- C. Enable manual summarization
- D. Enable autosummarization.

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Answer is B

Refer to the exhibit, Switch port FastEthernet 0/24 on AL Switch1 can be used to create an IEEE 802.1Q compliant trunk to another switch. Based on the output shown , what is the reason that trunk does not form, even though the proper cabling is attached?

```
ALSwitch# show running-config
«output omitted»
Interface FastEthernet0/24 no ip address
«output omitted»
ALSwitch# show interfaces FastEthernet0/24 switchport
Name: Fa0/24
Switchport: Enabled
Administrative Mode: static access
Operation Mode: static access
Administrative Trunking Encapsulation: dot1q
Operation Trunking Encapsulation: native
Negotiation of Trunking: Off
Access Mode VLAN: 1 (default)
Trunking Native Mode VLAN: 1 (default)
Voice VLAN: none
Administrative private-vlan host-association: none
Administrative private-vlan mapping: none
Trunking VLANs Enabled: ALL
Pruning VLANs Enabled: 2-1001
Capture Mode Disabled
Capture VLANs Allowed: ALL

Protected: false

Voice VLAN: none (Inactive)
Appliance trust: none
```

- A. VLANs have not been created yet.
- B. An IP address must be configured for the port.
- C. The port is currently configured for access mode.
- D. The correct encapsulation type has not been configured.

Answer is C

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Which port security mode can assist with troubleshooting by keeping count of violations?

- A. shutdown
- B. access
- C. restrict
- D. protect

Answer is C

Instructions

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

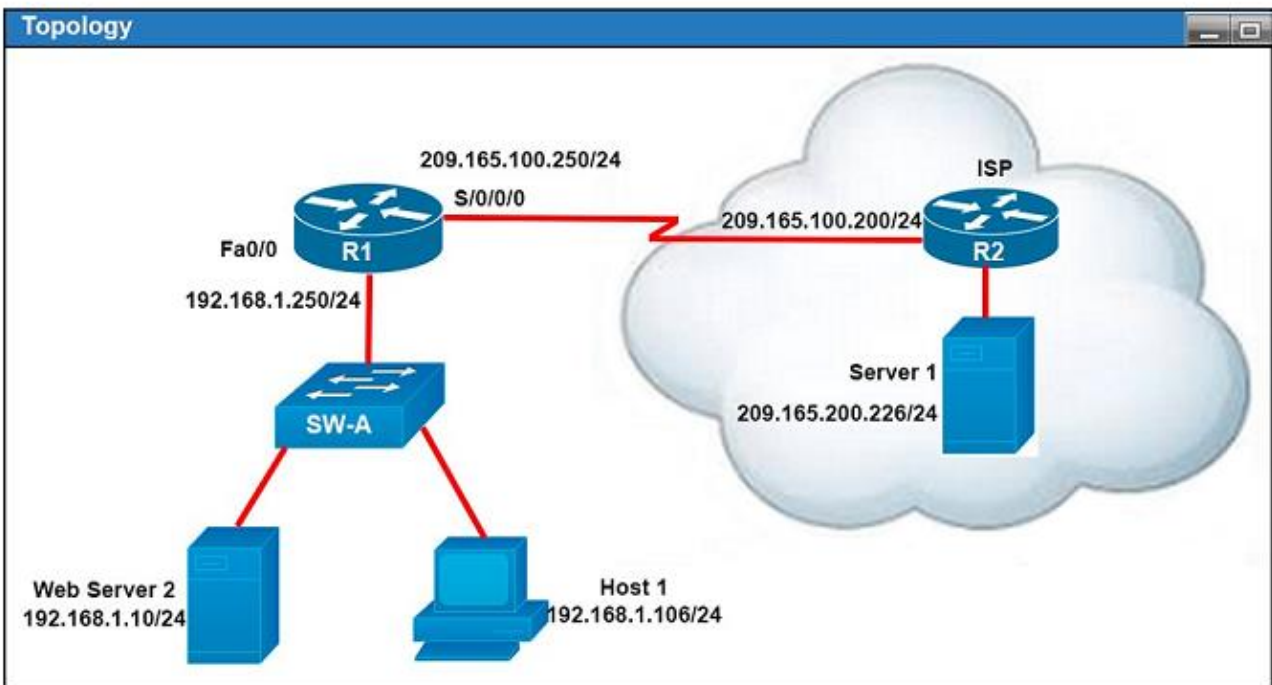
To gain access to the topology, click on the Topology button of the screen. When you have finished viewing the topology , you can return to your questions by clicking the questions button to the left

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

Refer to the topology. The diagram represents a small network with a single connection to the Internet.



If the router R1 has a packet with a destination address 192.168.1.255, what describes the operation of the network?

- A. R1 will forward the packet out all interfaces.
- B. R1 will drop this packet because this is not a valid IP address.
- C. As R1 forwards the frame containing this packet, Sw-A will add 192.168.1.255 to its MAC table.
- D. R1 will encapsulate the packet in a frame with a destination MAC address of FF-FF-FF-FF-FF-FF.
- E. As R1 forwards the frame containing this packet, Sw-A will forward it to the device assigned the IP address of 192.168.1.255.

Answer is B



Which option is a benefit of switch stacking?

- A. It provides redundancy with no impact on resource usage
- B. It simplifies adding and removing hosts.
- C. It supports better performance of high-needs applications.
- D. It provides higher port density with better resource usage.

Answer is D

Which command can you enter to troubleshoot the failure of address assignments?

- A. **show ip dhcp database**
- B. **show ip dhcp pool**
- C. **clear ip dhcp server statistics**
- D. **show ip dhcp import**

Answer is B

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

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

Answer is B,D

Before installing a new, upgraded version of the IOS, what should be checked on the router, and which command should be used to gather this information? (Choose two.)

- A. the amount of available ROM
- B. the amount of available flash and RAM memory
- C. the version of the bootstrap software presents on the router
- D. show version
- E. show processes
- F. show running-config

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Answer is B,D

Which statement is correct regarding the operation of DHCP?

- A. A DHCP client uses a ping to detect address conflicts.
- B. A DHCP server uses a gratuitous ARP to detect DHCP clients.
- C. A DHCP client uses a gratuitous ARP to detect a DHCP server.
- D. If an address conflict is detected, the address is removed from the pool and an administrator must resolve the conflict.
- E. If an address conflict is detected, the address removed from the pool for an amount of time configurable by the administrator.
- F. If an address conflict is detected, the address is removed from the pool and will not be reused until server is rebooted.

Answer is D

Which IPV6 feature is supported in IPV4 but is not commonly used?

- A. unicast
- B. multicast
- C. anycast
- D. broadcast

Answer is C

For which two reasons might be you choose chassis aggregation instead of stacking switches? (Choose two.)

- A. to increase the number of devices in use
- B. to increase the maximum port count
- C. to avoid the use of a centralized configuration manager
- D. to allow hot-swapping modules
- E. to avoid relying solely on Ethernet interfaces

Answer is A,C

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Which option is the industry-standard protocol for EtherChannel?

- A. PAgP
- B. LACP
- C. Cisco Discovery Protocol
- D. DTP

Answer is B

Refer to the exhibit. Which two statements are true based the output of the show frame-relay lmi command issued on the Branch router? (Choose two.)

```
Branch# show frame-relay lmi
LMI Statistics for interface Serial0/0 (Frame Relay DTE) LMI TYPE = ANSI
Invalid Unnumbered info 0      Invalid Prot Disc 0
Invalid dummy Call Ref 0      Invalid Msg Type 0
Invalid Status Message 0      Invalid Lock Shift 0
Invalid Information ID 0       Invalid Report IE Len 0
Invalid Report Request 0       Invalid Keep IE Len 0
Num Status Enq. Sent 61       Num Status msgs Rcvd 0
Num Update Status Rcvd 0      Num Status Timeouts 60
Branch#
```

- A. LMI messages are being sent on DLCI 1023.
- B. The LMI exchange between the router and Frame Relay switch is functioning properly.
- C. LMI messages are being sent on DLCI 0.
- D. The Frame Relay switch is not responding to LMI requests from the router.
- E. The router is providing a clock signal on Serial0/0 on the circuit to the Frame Relay switch.
- F. Interface Serial0/0 is not configured to encapsulate Frame Relay.

Answer is C,D

Which command can you enter to view the ports that are assigned to VLAN 20?

- A. Switch#show ip interface vlan 20
- B. Switch#show vlan id 20
- C. Switch#show ip interface brief
- D. Switch#show interface vlan 20

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Answer is B

In which two circumstances are private IPv4 addresses appropriate? (Choose two.)

- A. on internal hosts that stream data solely to external resources
- B. on hosts that communicates only with other internal hosts
- C. on the public-facing interface of a firewall
- D. on hosts that require minimal access to external resources
- E. to allow hosts inside an enterprise to communicate in both directions with hosts outside the enterprise

Answer is B,D

What are two characteristics of Telnet? (Choose two.)

- A. It sends data in clear text format.
- B. It is no longer supported on Cisco network devices.
- C. It is more secure than SSH.
- D. It requires an enterprise license in order to be implemented.
- E. It requires that the destination device be configured to support Telnet connections.

Answer is A,E

Which three statements describe the reasons large OSPF networks use a hierarchical design? (Choose three.)

- A. to confine network instability to single areas of the network.
- B. to reduce the complexity of router configuration
- C. to speed up convergence
- D. to lower costs by replacing routers with distribution layer switches
- E. to decrease latency by increasing bandwidth
- F. to reduce routing overhead

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Answer is A,C,F

Which statement about LLDP is true?

- A. It is a Cisco proprietary protocol.
- B. It is configured in global configuration mode.
- C. The LLDP update frequency is a fixed value.
- D. It runs over the transport layer.

Answer is B

An access list was written with the four statements shown in the graphic. Which single access list statement will combine all four of these statements into a single statement that will have exactly the same effect?

```
access-list 10 permit 172.29.16.0.0.0.0.255
access-list 10 permit 172.29.17.0.0.0.0.255
access-list 10 permit 172.29.18.0.0.0.0.255
access-list 10 permit 172.29.19.0.0.0.0.255
```

- A. access-list 10 permit 172.29.16.0 0.0.0.255
- B. access-list 10 permit 172.29.16.0 0.0.1.255
- C. access-list 10 permit 172.29.16.0 0.0.3.255
- D. access-list 10 permit 172.29.16.0 0.0.15.255
- E. access-list 10 permit 172.29.0.0 0.0.255.255

Answer is C

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Which spanning-tree feature places a port immediately into a forwarding state?

- A. BPDU guard
- B. PortFast
- C. loop guard
- D. UDLD
- E. Uplink Fast

Answer is B

What are the three reasons that an organization with multiple branch offices and roaming users might implement a Cisco VPN SOLUTION instead of point to point WAN links?

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

Answer is B,C,D

If three devices are plugged into one port on a switch and two devices are plugged into a different port, how many collision domains are on a switch?

- A. 2
- B. 4
- C. 5
- D. 6

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Answer is A

Assuming the default switch configuration which vlan range can be added modified and removed on a cisco switch?

- A. 2 through 1001
- B. 1 through 1001
- C. 1 through 1002
- D. 2 through 1005

Answer is A

What are two requirements for an HSRP group? (Choose two)

- A. exactly one active router
- B. one or more standby routers
- C. one or more backup virtual routers
- D. exactly one standby active router
- E. exactly one backup virtual router

Answer is A,B

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Instructions

Enter IOS commands on the device to verify network operation and answer the multiple-choice questions.

THIS TASK DOES NOT REQUIRE DEVICE CONFIGURATION.

Click the device icon to gain access to the console of the device. No console or enable passwords are required.

To access the multiple-choice questions, click the numbered boxes on the left of the top panel.

There are four multiple-choice questions with this task. Be sure to answer all four questions before clicking Next button.

Scenario

You are a junior network engineer for a financial company, and the main office network is experiencing network issues. Troubleshoot the network issues.

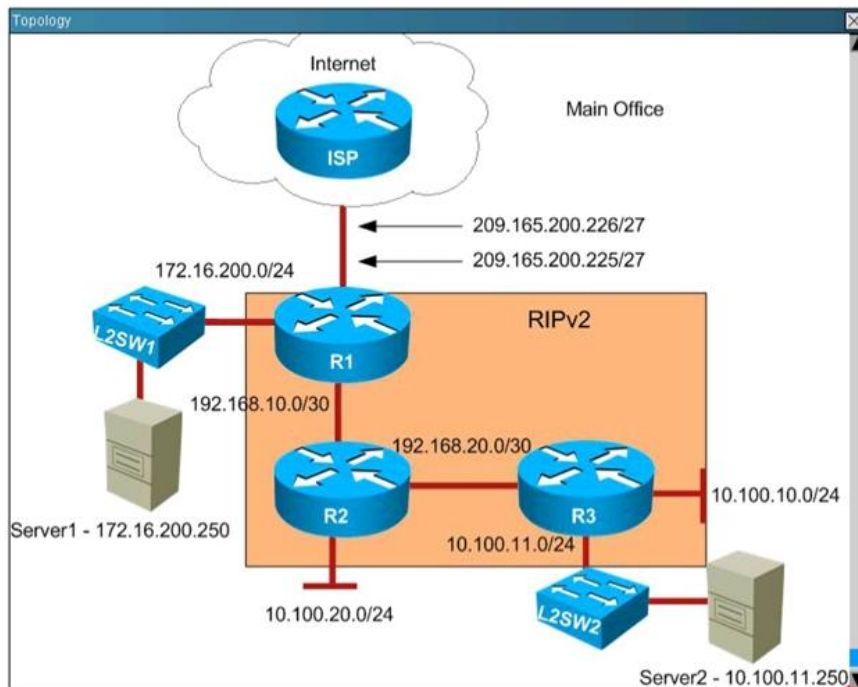
Router R1 connects the main office to the Internet, and routers R2 and R3 are internal routers.

NAT is enabled on router R1.

The routing protocol that is enabled between routers R1, R2 and R3 is RIPv2.

R1 sends the default route into RIPv2 for the internal routers to forward Internet traffic to R1.

You have console access on R1, R2 and R3 devices. Use only show commands to troubleshoot the issues.



Examine the DHCP configuration between R2 and R3, R2 is configured as the DHCP server and R3 as the client. What is the reason R3 is not accepting the IP address via DHCP?



- A. On R2, the network statement in the DHCP pool configuration is incorrectly configured.
- B. On R3, DHCP is not enabled on the interface that is connected to R2.
- C. On R2, the interface that is connected to R3 is in shutdown condition.
- D. On R3, the interface that is connected to R2 is in shutdown condition.

Answer is B

Which NAT type is used to translate a single inside address to a single outside address?

- A. dynamic NAT
- B. NAT overload
- C. PAT
- D. static NAT

Answer is D

Which range represents the standard access list?

- A. 99
- B. 150
- C. 299
- D. 2000

Answer is A

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Refer to the exhibit.

```
AISwitch1# show interfaces FastEthernet 0/24 switchport
```

```
Name: Fa0/24
```

```
Switchport: Enabled
```

```
Administrative Mode: static access
```

```
Operational Mode: static access
```

```
Administrative Trunking Encapsulation: dot1q
```

```
Operational Trunking Encapsulation: native
```

```
Negotiation of Trunking: Off
```

```
Access Mode VLAN: 1 (default)
```

```
Voice VLAN: none
```

```
Administrative private-vlan host association: none
```

```
Administrative private-vlan mapping: none
```

```
Operational private-vlan: none
```

```
Trunking VLANs Enabled: ALL
```

```
Pruning VLANs Enabled: 2-1001
```

```
Capture Mode Disabled
```

```
Capture VLANs Allowed: ALL
```

```
Protected: false
```

```
Voice VLAN: none (Inactive)
```

```
Appliance trust none
```

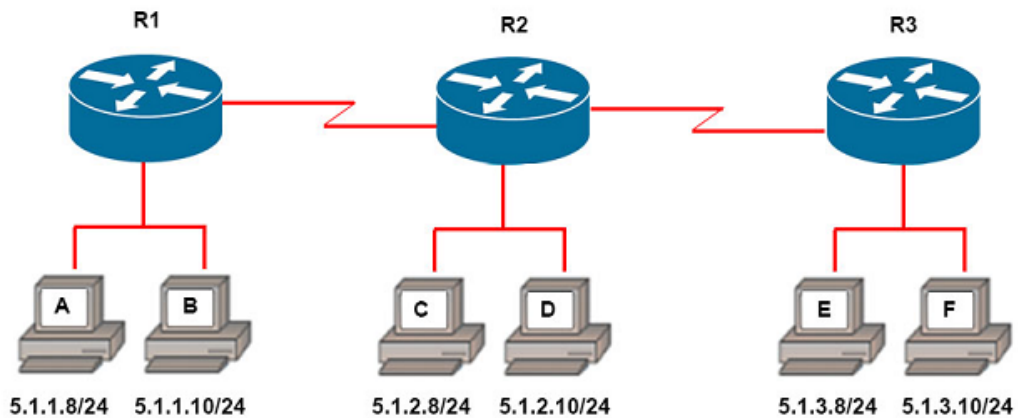
Switch port FastEthernet 0/24 AISwitch1 will be used to create an IEE 802.1Q compliant trunk to another switch. Based on the output shown , what is the reason the trunk does not form even though the cabling is properly done ?

- A. VLANs have not been created yet.
- B. An IP address must be configured for the port.
- C. The port is currently configured for access mode.
- D. The correct encapsulation type has not been configured.
- E. The no shutdown command has not been entered for the port.

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Answer is C

The access control list shown in the graphic has been applied to the Ethernet interface of router R1 using the ip access-group 101 in command. Which of the following Telnet sessions will be blocked by this ACL? (Choose two.)



```
access-list 101 deny tcp 5.1.1.8 0.0.0.3 0.0.0.255 eq telnet
access-list 101 permit ip any any
```

- A. from host A to host 5.1.1.10
- B. from host A to host 5.1.3.10
- C. from host B to host 5.1.2.10
- D. from host B to host 5.1.3.8
- E. from host C to host 5.1.3.10
- F. from host F to host 5.1.1.10

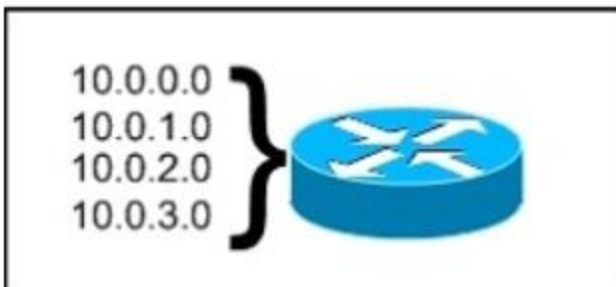
Answer is B,D

Which statement about EIGRP on IPv6 devices is true?

- A. The configuration uses process numbers.
- B. It is configured directly on the interface.
- C. The configuration uses secondary IP addresses.
- D. The neighbors of each device are directly configured.

Answer is B

Refer to the exhibit. What is the most appropriate summarization for these routes?



- A. 10.0.0.0 /21
- B. 10.0.0.0 /22
- C. 10.0.0.0 /23
- D. 10.0.0.0 /24

Answer is B

Which two circumstances can cause collision domain issues on VLAN domain? (Choose two.)

- A. duplex mismatches on Ethernet segments in the same VLAN
- B. multiple errors on switchport interfaces
- C. congestion on the switch inband path
- D. a failing NIC in an end device
- E. an overloaded shared segment

Answer is A,C



Which logging command can enable administrators to correlate syslog messages with millisecond precision?

- A. no logging console
- B. logging buffered 4
- C. no logging monitor
- D. service timestamps log datetime msec
- E. logging host 10.2.0.21

Answer is D

Which three elements must be used when you configure a router interface for VLAN trunking? (Choose three.)

- A. one physical interface for each subinterface
- B. one IP network or subnetwork for each subinterface
- C. a management domain for each subinterface
- D. subinterface encapsulation identifiers that match VLAN tags
- E. one subinterface per VLAN
- F. subinterface numbering that matches VLAN tags

Answer is B,D,E

Where information about untrusted hosts are stored?

- A. CAM table
- B. Trunk table
- C. MAC table
- D. binding database

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Answer is D

Which command can you enter to block HTTPS traffic from the whole Class A private network range to a host?

- A. R1(config)#access-list 105 deny tcp 10.0.0.0 0.255.255.255 40.0.0.2 0.0.0.0 eq 53
- B. R1(config)#access-list 105 deny tcp 10.1.0.0 0.0.255.255 40.0.0.2 0.0.0.0 eq 53
- C. R1(config)#access-list 105 deny tcp 10.1.0.0 0.0.255.255 40.0.0.2 0.0.0.0 eq 443
- D. R1(config)#access-list 105 deny tcp 10.0.0.0 0.255.255.255 40.0.0.2 0.0.0.0 eq 443

Answer is D

Which statement about RADIUS security is true?

- A. It supports EAP authentication for connecting to wireless networks.
- B. It provides encrypted multiprotocol support.
- C. Device-administration packets are encrypted in their entirety.
- D. It ensures that user activity is fully anonymous.

Answer is A

Which command can be used from a PC to verify the connectivity between hosts that connect through a switch in the same LAN?

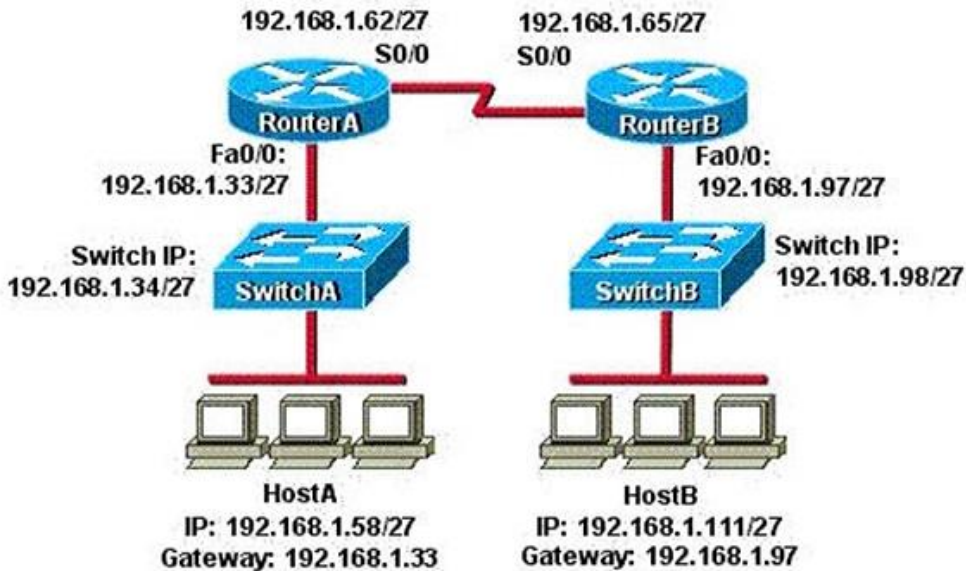
- A. ping address
- B. tracet address
- C. traceroute address
- D. arp address

Answer is A

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Refer to the exhibit. HostA cannot ping HostB. Assuming routing is properly configured, what is the cause of this problem?



- A. HostA is not on the same subnet as its default gateway.
- B. The address of SwitchA is a subnet address.
- C. The Fa0/0 interface on RouterA is on a subnet that can't be used.
- D. The serial interfaces of the routers are not on the same subnet.
- E. The Fa0/0 interface on RouterB is using a broadcast address.

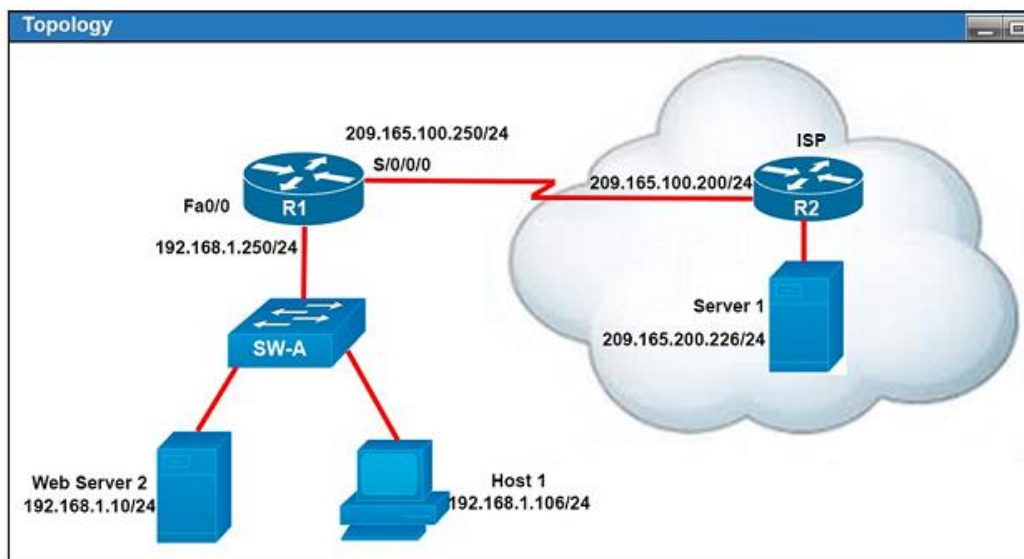
Answer is D

The following configuration line was added to router R1 access-list 101 permit ip 10.25.30.0 0.0.0.255 any. What is the effect of this ACL configuration?

- A. permit all packets matching the first three octets of the source address to all destinations
- B. permit all packet matching the last octet of the destination address and accept all source addresses
- C. permit all packet matching the host bits in the source address to all destinations
- D. permit all packet from the third subnet of the network address to all destinations

Answer is A

Refer to the topology. The diagram represents a small network with a single connection to the Internet.



The router address 192.168.1.250 is the default gateway for both the Web Server 2 and Host 1. What is the correct subnet mask for this network?

- A. 255.255.255.0
- B. 255.255.255.192
- C. 255.255.255.250
- D. 255.255.255.252

Answer is A

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

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

Answer is A



Which configuration can you apply to enable encapsulation on a subinterface?

- A. `interface FastEthernet 0/0`
`encapsulation dot1Q 30`
`ip address 10.1.1.30 255.255.255.0`
- B. `interface FastEthernet 0/0.30`
`ip address 10.1.1.30 255.255.255.0`
- C. `interface FastEthernet 0/0.30`
`description subinterface vlan 30`
- D. `interface FastEthernet 0/0.30`
`encapsulation dot1Q 30`
`ip address 10.1.1.30 255.255.255.0`

Answer is D

Which two protocols are used by bridges and/or switches to prevent loops in a layer 2 network? (Choose two.)

- A. 802.1d
- B. VTP
- C. 802.1q
- D. SAP
- E. STP

Answer is A,E

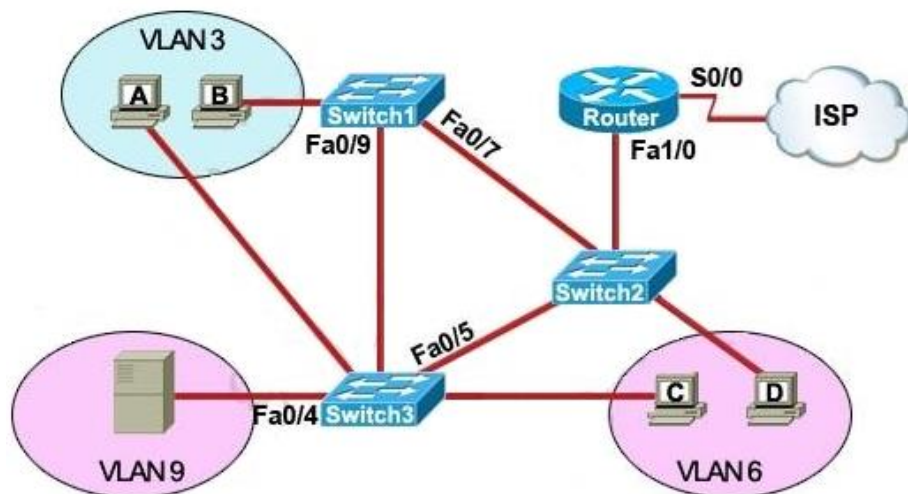
Which command must you enter to enable OSPFV2 in an IPV4 network?

- A. `ip ospf hello-interval seconds`
- B. `router ospf2 process-id`
- C. `router ospf value`
- D. `router ospf process-id`

Answer is D

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Refer to the exhibit. A problem with network connectivity has been observed . It is suspected that the cable connected to switch port Fa0/9 on switch1 is disconnected. What would be an effect of this cable being disconnected?



- A. Host B would not be able to access the server in VLAN9 until the cable is reconnected.
- B. Communication between VLAN3 and the other VLANs would be disabled.
- C. The transfer of files from Host B to the server in VLAN9 would be significantly slower.
- D. For less than a minute, Host B would not be able to access the server in VLAN9. Then normal network function would resume.

Answer is D

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

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

Answer is A



Which two statements about using leased lines for your WAN infrastructure are true? (Choose two.)

- A. Leased lines provide inexpensive WAN access.
- B. Leased lines with sufficient bandwidth can avoid latency between endpoints.
- C. Leased lines require little installation and maintenance expertise.
- D. Leased lines provide highly flexible bandwidth scaling.
- E. Multiple leased lines can share a router interface.
- F. Leased lines support up to T1 link speeds.

Answer is C,D

In which situation would the use of a static route be appropriate?

- A. To configure a route to the first Layer 3 device on the network segment.
- B. To configure a route from an ISP router into a corporate network.
- C. To configure a route when the administrative distance of the current routing protocol is too low.
- D. To reach a network is more than 15 hops away.
- E. To provide access to the Internet for enterprise hosts.

Answer is B

A network admin is planning a network installation for a large organization. The design requires 100 separate subnets, so the company has acquired a class B network address. What subnet mask will provide the 100 subnets required, if 500 usable host addresses are required per subnet?

- A. 255.255.240.0
- B. 255.255.248.0
- C. 255.255.252.0
- D. 255.255.254.0
- E. 255.255.255.0
- F. 255.255.255.192

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Answer is D

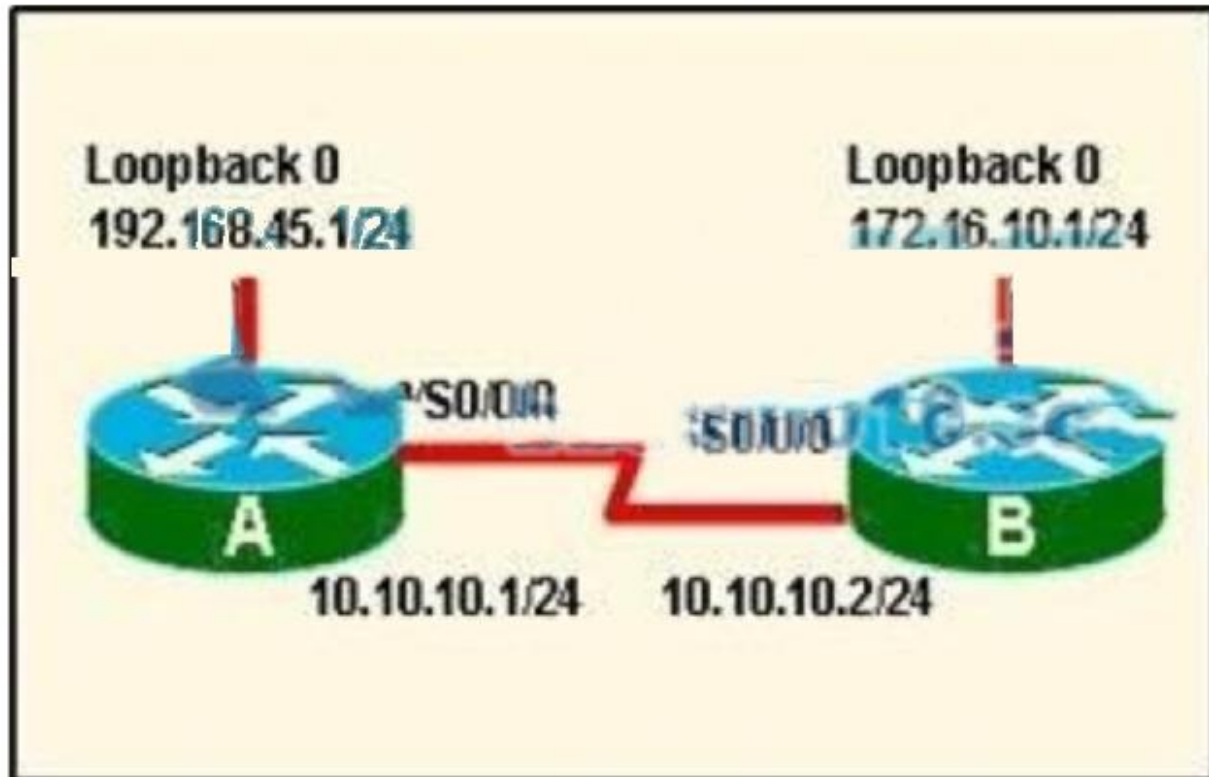
Refer to the exhibit. Which rule does the DHCP server use when there is an IP address conflict?

```
Router# show ip dhcp conflict
IP address      Detection method  Detection time
172.16.1.32     Ping              Feb 16 1998 12:28 PM
172.16.1.64     Gratuitous ARP    Feb 23 1998 08:12 AM
```

- A. The address is removed from the pool until the conflict is resolved.
- B. The address remains in the pool until the conflict is resolved.
- C. Only the IP detected by Gratuitous ARP is removed from the pool.
- D. Only the IP detected by Ping is removed from the pool.
- E. The IP will be shown, even after the conflict is resolved.

Answer is A

Refer to the exhibit. When running OSPF, what would cause router A not to form an adjacency with router B?



- A. The loopback addresses are on different subnets.
- B. The value of the dead timers on the router are different.
- C. Route summarization is enabled on both routers.
- D. The process identifier on router A is different than the process identifier on router B.

Answer is B

Refer to the exhibit. A tech is troubleshooting host connectivity issues on the switches. The host in VLANs 10 and 15 on sw11 are unable to communicate with the hosts in the same VLANs on Sw12. Hosts in the admin VLAN are able to communicate. The port to VLAN assignments are identical on the two switches. What could be the problem?



Sw11# **show vlan brief**

VLAN Name	Status	Ports
1 default	active	
10 Marketing	active	Fa0/6, Fa0/7, Fa0/8, Fa0/9 Fa0/10, Fa0/11, Fa0/12, Fa0/13 Fa0/14, Fa0/15
15 Accounting	active	Fa0/16, Fa0/18, Fa0/19, Fa0/20 Fa0/21, Fa0/22, Fa0/24
20 Admin	active	Fa0/1, Fa0/2, Fa0/3, Fa0/4 Fa0/5
1002 fddi-default	active	
1003 token-ring-default	active	
1004 fddinet-default	active	
1005 trnet-default	active	

Switch#

- A. The Fa0/1 port is not operational on one of the switches.
- B. The link connecting the switches has not been configured as a trunk.
- C. At least one port needs to be configured in VLAN 1 for VLANs 10 and 15 to be able to communicate.
- D. Port FastEthernet 0/1 needs to be configured as an access link on both switches.
- E. A router is required for hosts on SW11 in VLANs 10 and 15 to communicate with hosts in the same VLAN on Sw12.

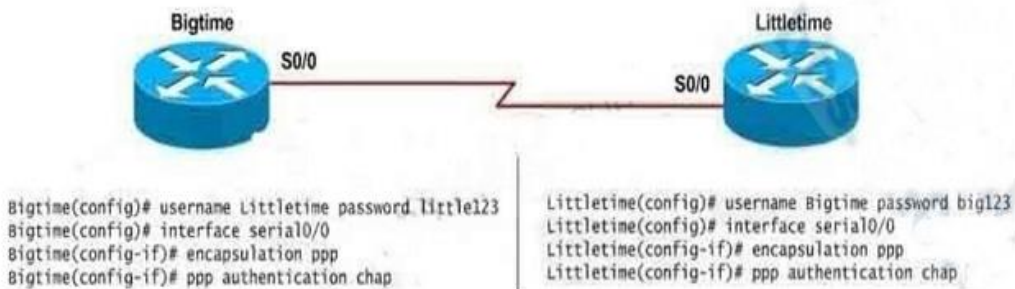
Answer is B

While troubleshooting a GRE Tunnel interface issue, show interface command output displays tunnel status up , but line protocol is down. Which reason for this problem is the most likely?

- A. The next hop server is misconfigured.
- B. The route to the tunnel destination address is through the tunnel itself.
- C. The tunnel was just reset.
- D. The interface has been administratively shut down.

Answer is B

Refer to the exhibit. The Bigtime router is unable to authenticate to the Littletime router. What is the cause of the problem?



- A. The usernames are incorrectly configured on the two routers.
- B. The passwords do not match on the two routers.
- C. CHAP authentication cannot be used on a serial interface.
- D. The routers cannot be connected from interface S0/0 to interface S0/0.
- E. With CHAP authentication, one router must authenticate to another router. The routers cannot be configured to authenticate to each other.

Answer is B



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

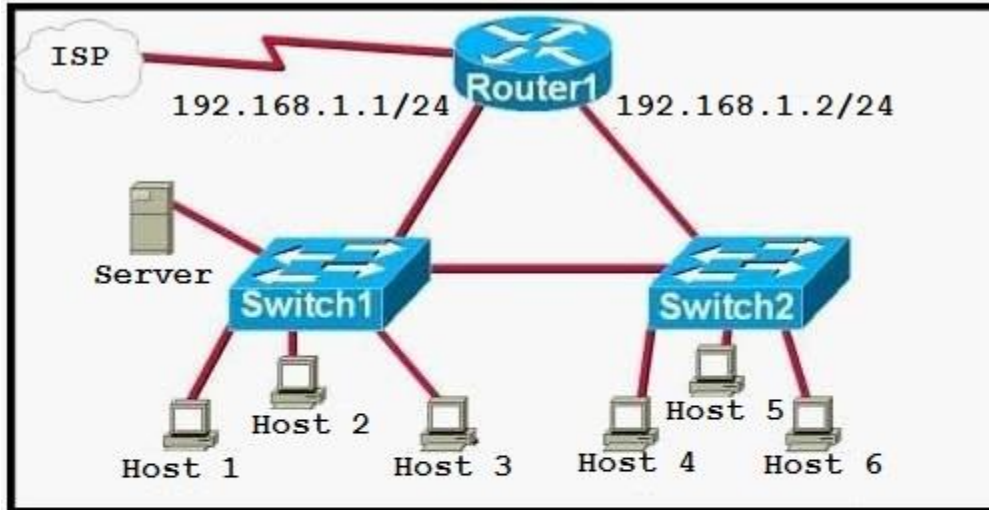
```
Cisco#show ip interface brief
```

Interface	IP-Address	OK?	Method	Status	Protocol
FastEthernet0/0	192.168.1.1	YES	manual	up	up
FastEthernet0/1	172.16.1.1	YES	manual	up	up
Loopback0	1.1.1.1	YES	manual	up	up
Loopback1	2.2.2.2	YES	manual	up	up
Vlan1	unassigned	YES	unset	administratively down	down

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

Answer is D

Refer to the exhibit. A network technician is asked to design a small network for redundancy . The exhibit represents this design, with all hosts configured the same VLAN. What conclusions can be made about this design?



- A. This design will function as intended.
- B. Spanning-tree will need to be used.
- C. The router will not accept the addressing scheme.
- D. The connection between switches should be a trunk.
- E. The router interfaces must be encapsulated with the 802.1Q protocol.

Answer is C

Which option is the correct CIDR notation for 192.168.0.0 subnet 255.255.255.252?

- A. /29
- B. /30
- C. /31
- D. /32

Answer is B



For which two reasons was RFC 1918 address space defining (Choose two.)

- A. to preserve public IPv4 address space
- B. to reduce the occurrence of overlapping IP addresses
- C. to preserve public IPv6 address space
- D. reduce the size of ISP routing tables
- E. to support the NAT protocol

Answer is A, B

In which two formats can the IPv6 address fd15:0db8:0000:0000:0700:0003:400F:572B be written? (Choose two.)

- A. fd15:0db8:0000:0000:700:3:400F:527B
- B. fd15::db8::700:3:400F:527B
- C. fd15:db8:0::700:3:4F:527B
- D. fd15:0db8::7:3:4F:527B
- E. fd15:db8::700:3:400F:572B

Answer is A, E

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

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

Answer is B, C

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Configuration of which option is required on a Cisco switch for the Cisco IP phone to work?

- A. PortFast on the interface
- B. the interface as an access port to allow the voice VLAN ID
- C. a voice VLAN ID in interface and global configuration mode
- D. Cisco Discovery Protocol in global configuration mode

Answer is B

Which type does a port become when it receives the best BPDU on a bridge?

- A. The designated port
- B. The backup port
- C. The alternate port
- D. The root port

Answer is D

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Refer to the exhibit. Which address and mask combination represents a summary of the routes learned by EIGRP?

```
Gateway of last resort is not set

  192.168.25.0/30 is subnetted, 4 subnets
D    192.168.25.20 [90/2681856] via 192.168.15.5, 00:00:10, Serial0/1
D    192.168.25.16 [90/1823638] via 192.168.15.5, 00:00:50, Serial0/1
D    192.168.25.24 [90/3837233] via 192.168.15.5, 00:05:23, Serial0/1
D    192.168.25.28 [90/8127323] via 192.168.15.5, 00:06:45, Serial0/1
C    192.168.15.4/30 is directly connected, Serial0/1
C    192.168.2.0/24 is directly connected, FastEthernet0/0
```

- A. 192.168.25.0 255.255.255.240
- B. 192.168.25.0 255.255.255.252
- C. 192.168.25.16 255.255.255.240
- D. 192.168.25.16 255.255.255.252
- E. 192.168.25.28 255.255.255.240
- F. 192.168.25.28 255.255.255.252

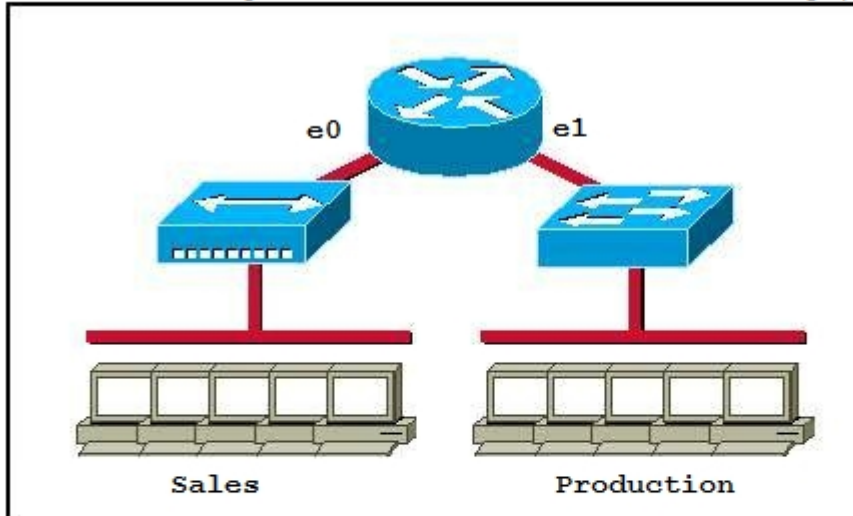
Answer is C

Which layer of OSI reference model is responsible for determining the availability of the receiving program and checking to see if enough resources exist for that communication?

- A. transport
- B. network
- C. presentation
- D. session
- E. application

Answer is E

Which of the following statements describe the network shown in the graphic? (Choose two.)



- A. There are two broadcast domains in the network.
- B. There are four broadcast domains in the network.
- C. There are six broadcast domains in the network.
- D. There are four collision domains in the network.
- E. There are five collision domains in the network.
- F. There are seven collision domains in the network.

Answer is A, F

By default, how many MAC addresses are permitted to be learned on a switch port with port security enabled?

- A. 8
- B. 2
- C. 1
- D. 0

Answer is C

```
R1#show ip route
Codes: C - connected, S - static, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2
       i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
       ia - IS-IS inter area, * - candidate default, U - per-user static route
       o - ODR, P - periodic downloaded static route

Gateway of last resort is 192.168.14.4 to network 0.0.0.0

C    192.168.12.0/24 is directly connected, FastEthernet0/0
C    192.168.13.0/24 is directly connected, FastEthernet0/1
C    192.168.14.0/24 is directly connected, FastEthernet1/0
     192.168.10.0/24 is variably subnetted, 3 subnets, 3 masks
O     192.168.10.0/24 [110/2] via 192.168.14.4, 00:02:01, FastEthernet1/0
O     192.168.10.32/27 [110/11] via 192.168.13.3, 00:00:52, FastEthernet0/1
O     192.168.0.0/16 [110/2] via 192.168.15.5, 00:05:01, FastEthernet1/1
D     192.168.10.1/32 [90/52778] via 192.168.12.2, 00:03:44, FastEthernet0/0
O*E2 0.0.0.0/0 [110/1] via 192.168.14.4, 00:00:10, FastEthernet1/0
```

Refer to the exhibit. What is the metric for the route from R1 to 192.168.10.1?

- A. 2
- B. 90
- C. 110
- D. 52778

Answer is D

After completing the configuration, the associate discovers that not all the interfaces are participating in OSPF. Which three of the interfaces shown in the exhibit will participate in OSPF according to this configuration statement? (Choose 3)

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



Answer is B, C, D

An admin issues the show ip interface s0/0 command and the output displays that the interface serial 0/0 is up, line protocol is up, What does “Line protocol is up” specifically indicate about the interface?

- A. The cable is attached properly.
- B. CDP has discovered the connected device.
- C. Keepalives are being received on the interface.
- D. A carrier detect signal has been received from the connected device.
- E. IP is correctly configured on the interface.

Answer is C

On which type of device is every port in the same collision domain?

- A. a router
- B. a Layer 2 switch
- C. a hub

Answer is C

Which two statements about northbound and southbound APIs are true? (Choose two.)

- A. Only southbound APIs allow program control of the network.
- B. Only northbound APIs allow program control of the network.
- C. Only southbound API interfaces use a Service Abstraction Layer.
- D. Only northbound API interfaces use a Service Abstraction Layer.
- E. Both northbound and southbound API interfaces use a Service Abstraction Layer.
- F. Both northbound and southbound APIs allow program control of the network.

Answer is B, C

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How many bits represent network id in a IPv6 address?

- A. 32
- B. 48
- C. 64
- D. 128

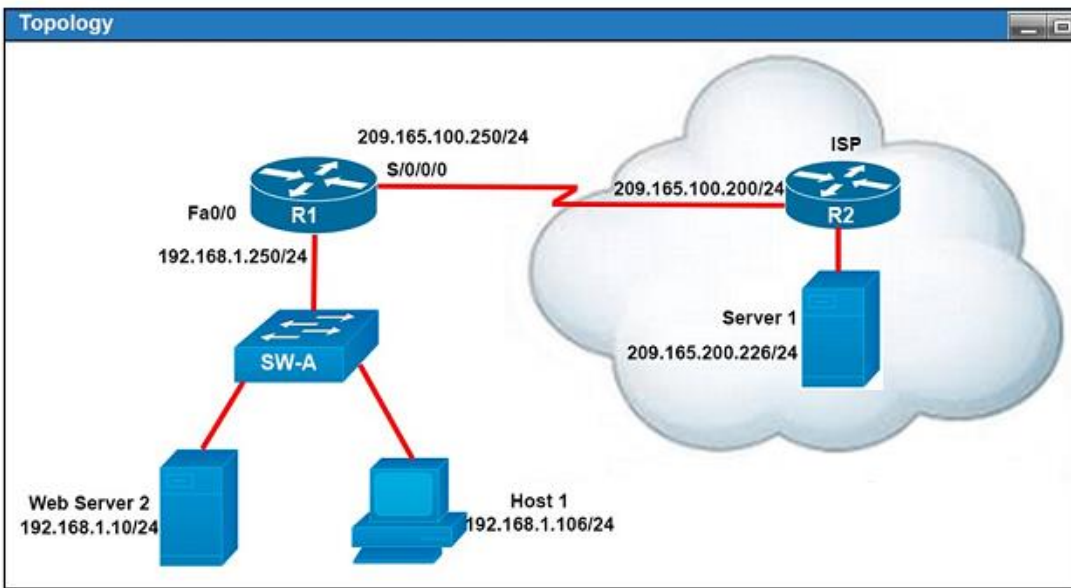
Answer is C

You are configuring an IP SLA ICMP Echo operation to troubleshoot a network connectivity issue. When do you enter an IP address to test the IP SLA?

- A. when you define the ICMP Echo operation
- B. when you enable the ICMP Echo operation
- C. when you verify the IP SLA operation
- D. when you specify the test frequency

Answer is A

Refer to the topology. The diagram represents a small network with a single connection to the Internet.

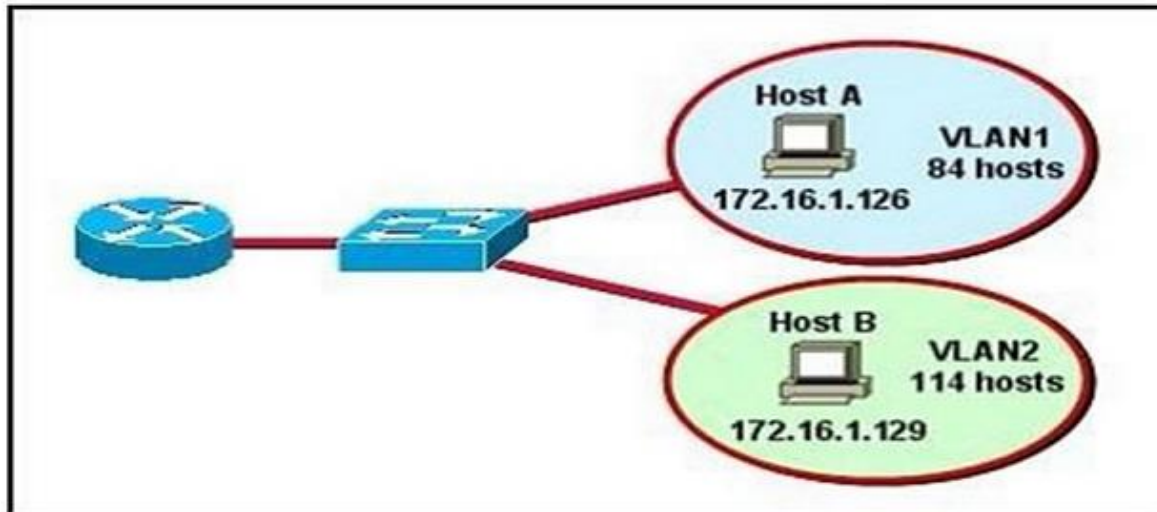


What must be configured on the network on order for users on the Internet to view web pages located on Web Server 2?

- A. On Router R2, configure a default static route to the 192.168.1.0 network
- B. On router R2, configure DNS to resolve the URL assigned to Web Server 2 to the 192.168.1.10 address.
- C. On router R1, configure NAT to translate an address on the 209.165.100.0/24 network to 192.168.1.10.
- D. On router R1, configure DHCP to assign a registered IP address on the 209.165.100.0/24 network to Web Server 2.

Answer is C

Refer to the diagram. All hosts have connectivity with one another. Which statements describe the addressing scheme that is in use in the network? (Choose 3)



- A. The subnet mask in use is 255.255.255.192.
- B. The subnet mask in use is 255.255.255.128.
- C. The IP address 172.16.1.25 can be assigned to hosts in VLAN1
- D. The IP address 172.16.1.205 can be assigned to hosts in VLAN1
- E. The LAN interface of the router is configured with one IP address.
- F. The LAN interface of the router is configured with multiple IP addresses.

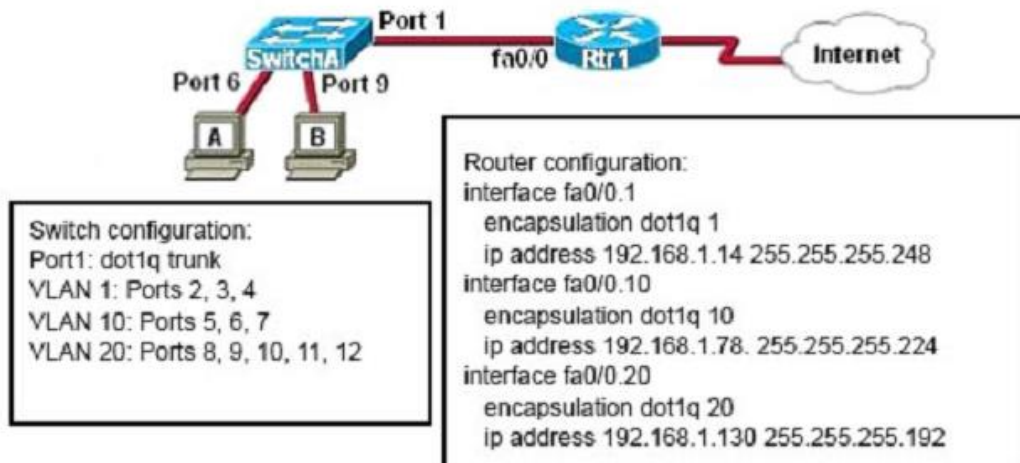
Answer is B, C, F

What is the status of port-channel if LACP is misconfigured?

- A. Forwarding
- B. Enabled
- C. Disabled
- D. errdisabled

Answer is D

Refer to the exhibit . A network admin is adding two new hosts to switch A. Which three values could be used for the configuration of these hosts? (Choose 3)



- A. host A IP address: 192.168.1.79
- B. host A IP address: 192.168.1.64
- C. host A default gateway: 192.168.1.78
- D. host B IP address: 192.168.1.128
- E. host B default gateway: 192.168.1.129
- F. host B IP address: 192.168.1.190

Answer is A, C, F

Which port state is introduced by Rapid-PVST?

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

Answer is C

Which effect of the **terminal monitor** command is true?

- A. It displays the configuration of the syslog server
- B. It configures a syslog server
- C. It configures the device to log messages to the console
- D. It puts the device into global configuration mode

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Answer is C

Which feature can you implement to reserve bandwidth for VoIP calls across the call path?

- A. PQ
- B. CBWFQ
- C. round robin
- D. RSVP

Answer is D

Which command is configured on a switch to enable neighbor discovery in a multivendor environment?

- A. lldp run
- B. lldp transmit
- C. lldp receive
- D. cdp run

Answer is A

If all switches are configured with default values, which switch will take over when the primary root bridge experiences a power loss?

- A. switch 00E0.F726 3DC6
- B. switch 00E0.F90B 6BE3
- C. switch 0004.9A1A C182
- D. switch 0040.0BC0 90C5

Answer is C

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What two things will a router do when running a distance vector routing protocol? (Choose two.)

- A. Send periodic updates regardless of topology changes.
- B. Send entire routing table to all routers in the routing domain.
- C. Use the shortest-path algorithm to determine the best path.
- D. Update the routing table based on updates from their neighbors.
- E. Maintain the topology of the entire network in its database.

Answer is A, D

Which statement about DHCP snooping is true?

- A. it can be configured on switches and routers.
- B. It uses DHCP Discover packets to identify DHCP servers.
- C. It blocks traffic from DHCP servers on untrusted interfaces.
- D. It allows packets from untrusted ports if their source MAC address is found in the binding table.

Answer is C

You enter the `show ipv6 route` command on an OSPF device and the device displays a route. Which conclusion can you draw about the environment?

- A. OSPF is distributing IPv6 routes to BGP.
- B. The router is designated as an ABR.
- C. The router is designated as totally stubby.
- D. OSPFv3 is in use.

Answer is D

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

- A. It is a proprietary protocol.
- B. It is a universal protocol.
- C. It is a Layer 2-based protocol.
- D. It is enabled by default.
- E. It is disabled by default.
- F. It is a Layer 3-based protocol.

Answer is A, C, D

If all OSPF routers in a single area are configured with the same priority value, what value does a router use for the OSPF router ID in the absence of a loopback interface?

- A. the IP address of the first Fast Ethernet interface
- B. the IP address of the console management interface
- C. the highest IP address among its active interfaces
- D. the lowest IP address among its active interfaces
- E. the priority value until a loopback interface is configured

Answer is C

Which command shows your active Telnet connections?

- A. show session
- B. show cdp neighbors
- C. show users
- D. show queue

Answer is A

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

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

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

Answer is C

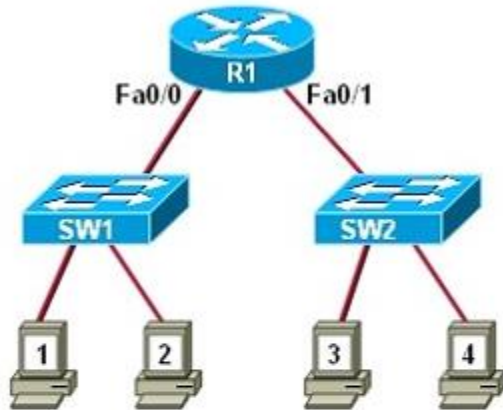
What are two security appliances that can be installed in a network? (Choose two.)

- A. ATM
- B. IDS
- C. IOS
- D. IOX
- E. IPS
- F. SDM

Answer is B, E

Refer to the exhibit. Both switches are using a default configuration. Which two destination addresses will host 4 use to send data to host 1 ? (Choose 2)

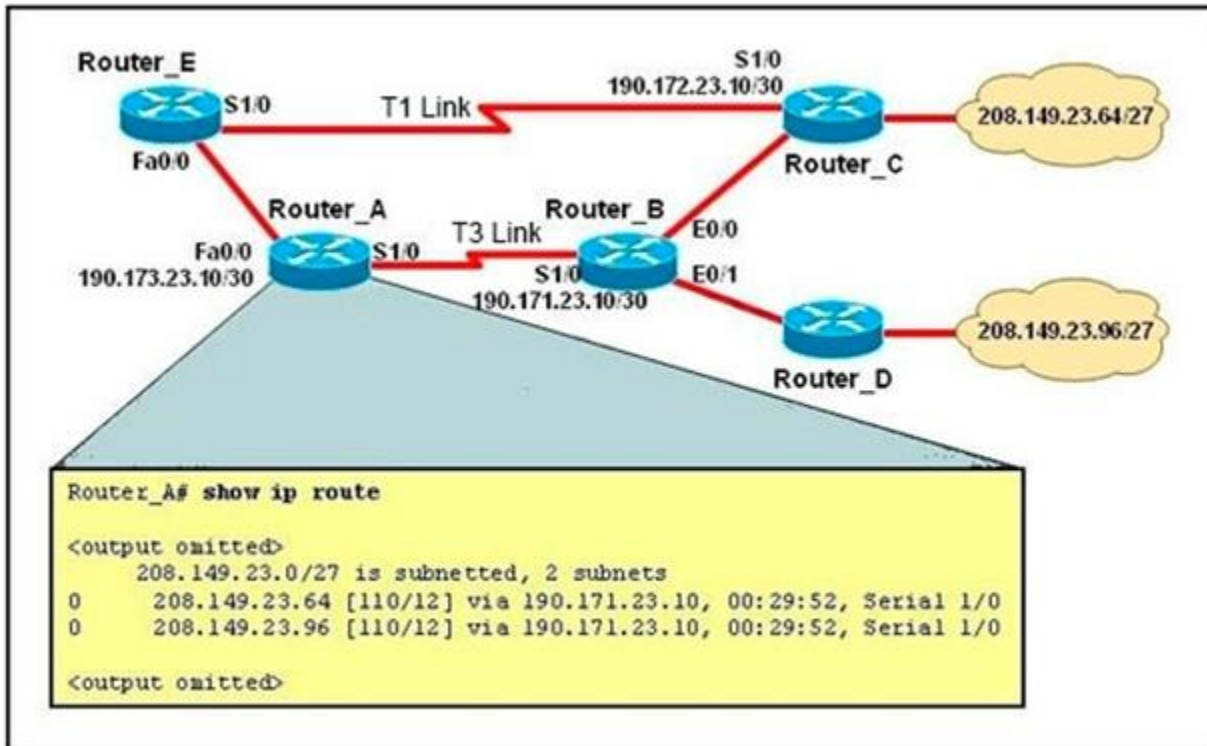
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- A. the IP address of host 1
- B. the IP address of host 4
- C. the MAC address of host 1
- D. the MAC address of host 4
- E. the MAC address of the Fa0/0 interface of the R1 router
- F. the MAC address of the Fa0/1 interface of the R1 router

Answer is A, F

Refer to the exhibit. The network is converged. After link state advertisements are received from Router A , what information will Router E contain in its routing table for the subnets 208.149.23.64 and 208.149.23.96?



- A. 208.149.23.64[110/13] via 190.173.23.10, 00:00:00:07, FastEthernet0/0
208.149.23.96[110/13] via 190.173.23.10, 00:00:00:16, FastEthernet0/0
- B. 208.149.23.64[110/1] via 190.173.23.10, 00:00:00:07, Serial1/0
208.149.23.96[110/3] via 190.173.23.10, 00:00:00:16, FastEthernet0/0
- C. 208.149.23.64[110/13] via 190.173.23.10, 00:00:00:07, Serial1/0
208.149.23.96[110/13] via 190.173.23.10, 00:00:00:16, Serial1/0
208.149.23.96[110/13] via 190.173.23.10, 00:00:00:16, FastEthernet0/0
- D. 208.149.23.64[110/13] via 190.173.23.10, 00:00:00:07, Serial1/0
208.149.23.96[110/13] via 190.173.23.10, 00:00:00:16, Serial1/0

Answer is A



Which address class includes network 191.168.0.1/27?

- A. Class C
- B. Class B
- C. Class D
- D. Class A

Answer is B

Which major component of the Cisco network virtualization architecture isolates users according to policy?

- A. network services virtualization
- B. policy enforcement
- C. access control
- D. path isolation

Answer is C

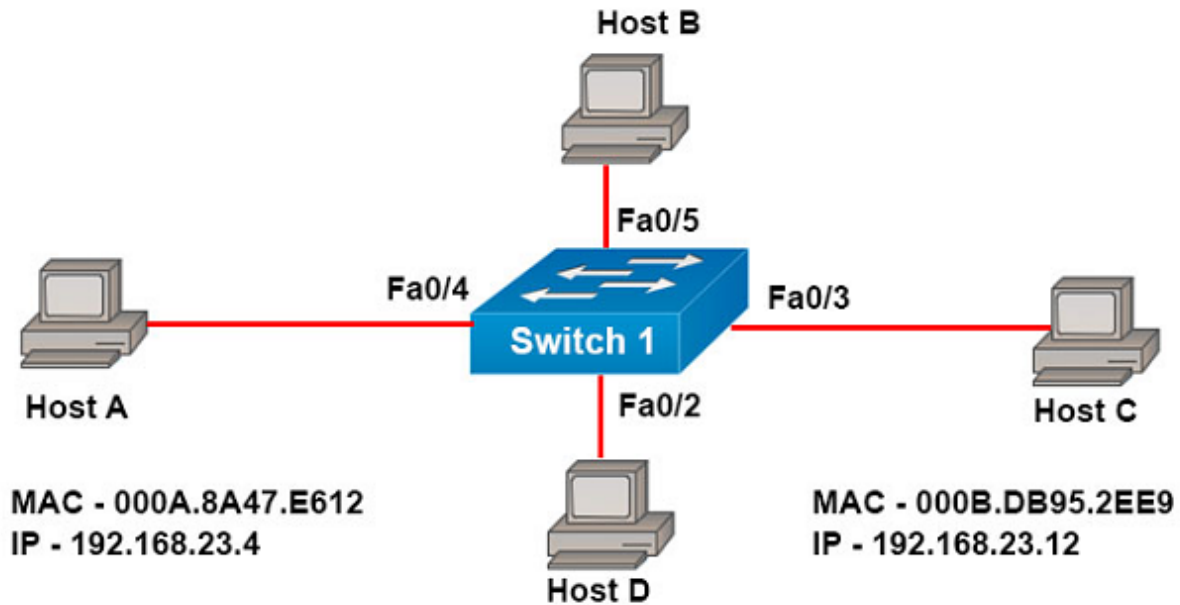
Which two descriptions of TACACS+ are true? (Choose two.)

- A. It encrypts only the password.
- B. It can authorize specific router commands.
- C. It separates authentication, authorization, and accounting functions.
- D. It uses UDP as its transport protocol.
- E. It combines authentication and authorization.

Answer is B, C

On a network of one department, there are four PC's connected to a switch, as shown in the following figure. After the Switch 1 restarts. Host A (the host on the left) sends the first frame to Host C (the host on the right). What is the first thing should the switch do?

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- A. Switch1 will add 192.168.23.12 to the switching table.
- B. Switch1 will add 192.168.23.4 to the switching table.
- C. Switch1 will add 000A.8A47.E612 to the switching table.
- D. None of the above

Answer is C

How to verify SSH connections was secured?

- A. `ssh -v 1 -l admin IP`
- B. `ssh -v 2 -l admin IP`
- C. `ssh -l admin IP`
- D. `ssh -v -l admin IP`

Answer is B



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

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

Answer is B, E

Which Cisco platform can verify ACLs?

- A. Cisco Prime Infrastructure
- B. Cisco Wireless LAN Controller
- C. Cisco APIC-EM
- D. Cisco IOS-XE

Answer is C

When you are troubleshooting an ACL issue on a router, which command would you use to verify which interfaces are affected by the ACL?

- A. show ip access-lists
- B. show access-lists
- C. show interface
- D. show ip interface
- E. list ip interface

Answer is D

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Which tunneling mechanism embeds an IPv4 address within an IPv6 address?

- A. Teredo
- B. 6to4
- C. 4to6
- D. GRE
- E. ISATAP

Answer is B

An admin must assign static IP addresses to the servers in a network. For network 192.168.20.24/29, the router is assigned the first usable host address while the sales server is given the last usable host address. Which of the following should be entered into the IP properties box for the sales server?

- A. IP address: 192.168.20.14
Subnet Mask: 255.255.255.248
Default Gateway: 192.168.20.9
- B. IP address: 192.168.20.254
Subnet Mask: 255.255.255.0
Default Gateway: 192.168.20.1
- C. IP address: 192.168.20.30
Subnet Mask: 255.255.255.248
Default Gateway: 192.168.20.25
- D. IP address: 192.168.20.30
Subnet Mask: 255.255.255.240
Default Gateway: 192.168.20.17
- E. IP address: 192.168.20.30
Subnet Mask: 255.255.255.240
Default Gateway: 192.168.20.25

Answer is C

Which statement about routing protocols is true?

- A. Link-state routing protocols choose a path by the number of hops to the destination.
- B. OSPF is a link-state routing protocol.
- C. Distance-vector routing protocols use the Shortest Path First algorithm.
- D. IS-IS is a distance-vector routing protocol.

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Answer is B

Which item represents the standard IP ACL?

- A. Access-list 110 permit any any
- B. Access-list 50 deny 192.168.1.1 0.0.0.255
- C. Access list 101 deny tcp any host 192.168.1.1
- D. Access-list 2500 deny tcp any host 192.168.1.1 eq 22

Answer is B

What is the default lease time for a DHCP binding?

- A. 24 hours
- B. 12 hours
- C. 48 hours
- D. 36 hours

Answer is A

Which two statements about EIGRP on IPv6 networks are true? (Choose two.)

- A. It is configured on the interface
- B. It is globally configured
- C. It is vendor agnostic
- D. It supports a shutdown feature
- E. It is configured using a network statement

Answer is A, D

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Two hosts are attached to a switch with the default configuration. Which statement about the configuration is true?

- A. IP routing must be enabled to allow the two hosts to communicate.
- B. The two hosts are in the same broadcast domain.
- C. The switch must be configured with a VLAN to allow the two hosts to communicate.
- D. Port security prevents the hosts from connecting to the switch

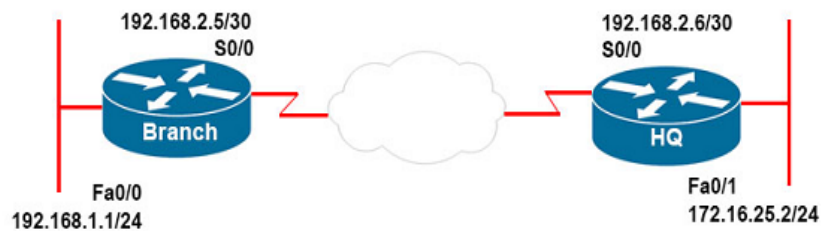
Answer is B

Which type of access list compares source and destination IP addresses?

- A. standard
- B. extended
- C. reflexive
- D. IP named

Answer is B

Refer to the exhibit. A network associate has configured the internetwork that is shown in the exhibit, but has failed to configure routing properly.



Which configuration will allow the hosts on the Branch LAN to access resources on the HQ LAN with the least impact on router processing and WAN bandwidth?



- A. HQ(config)# ip route 192.168.1.0 255.255.255.0 192.168.2.5
Branch(config)# ip route 172.16.25.0 255.255.255.0 192.168.2.6
- B. HQ(config)# router rip
HQ(config-router)# network 192.168.2.0
HQ(config-router)# network 172.16.0.0
Branch(config)# router rip
Branch(config-router)# network 192.168.1.0
Branch(config-router)# network 192.168.2.0
- C. HQ(config)# router eigrp 56
HQ(config-router)# network 192.168.2.4
HQ(config-router)# network 172.16.25.0
Branch(config)# router eigrp 56
Branch(config-router)# network 192.168.1.0
Branch(config-router)# network 192.168.2.4
- D. HQ(config)# router ospf 1
HQ(config-router)# network 192.168.2.4 0.0.0.3 area 0
HQ(config-router)# network 172.16.25.0 0.0.0.255 area 0
Branch(config)# router ospf 1
Branch(config-router)# network 192.168.1.0 0.0.0.255 area 0

Answer is A

Which feature can you use to restrict SNMP queries to a specific OID tree?

- A. server group
- B. a community
- C. a view record
- D. an access group

Answer is C

Which command is used to configure a switch as an authoritative NTP server?

- A. switch(config)#ntp master 3
- B. switch(config)#ntp peer 193.168.2.2
- C. switch(config)#ntp server 193.168.2.2
- D. switch(config)#ntp source 193.168.2.2

Answer is A

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Which command would you use on a Cisco router to verify the Layer 3 path to a host?

- A. tracert address
- B. traceroute address
- C. telnet address
- D. ssh address

Answer is B

Which option describes how a switch in rapid PVST+ mode responds to a topology change?

- A. It immediately deletes dynamic MAC addresses that were learned by all ports on the switch.
- B. It sets a timer to delete all MAC addresses that were learned dynamically by ports in the same STP instance.
- C. It sets a timer to delete dynamic MAC addresses that were learned by all ports on the switch.
- D. It immediately deletes all MAC addresses that were learned dynamically by ports in the same STP instance.

Answer is D

What are the three things that the Netflow uses to consider the traffic to be in a same flow? (Choose three.)

- A. IP address
- B. Interface name
- C. Port numbers
- D. L3 protocol type
- E. MAC address

Answer is A, C, D

For which two protocols can PortFast alleviate potential host startup issues? (Choose two.)

- A. DHCP
- B. DNS
- C. OSPF
- D. RIP
- E. CDP

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Answer is A, B

What parameter can be different on ports within an EtherChannel?

- A. speed
- B. DTP negotiation settings
- C. trunk encapsulation
- D. duplex

Answer is B

The following access list below was applied outbound in the E0 interface connected to the 192.169.1.8/29 LAN: access-list 135 deny tcp 192.169.1.8 0.0.0.7 eq 20 any access-list 135 deny tcp 192.169.1.8 0.0.0.7 eq 21 any. How will the above access lists affect traffic?

- A. FTP traffic from 192.169.1.22 will be denied
- B. No traffic, except for FTP traffic will be allowed to exit E0
- C. FTP traffic from 192.169.1.9 to any host will be denied
- D. All traffic exiting E0 will be denied
- E. All FTP traffic to network 192.169.1.9/29 will be denied

Answer is D

Which three options are benefits of using TACACS+ on a device? (Choose three)

- A. It ensures that user activity is untraceable
- B. It provides a secure accounting facility on the device.
- C. device-administration packets are encrypted in their entirety.
- D. It allows the user to remotely access devices from other vendors.
- E. It allows the users to be authenticated against a remote server.
- F. It supports access-level authorization for commands.

Answer is C, E, F

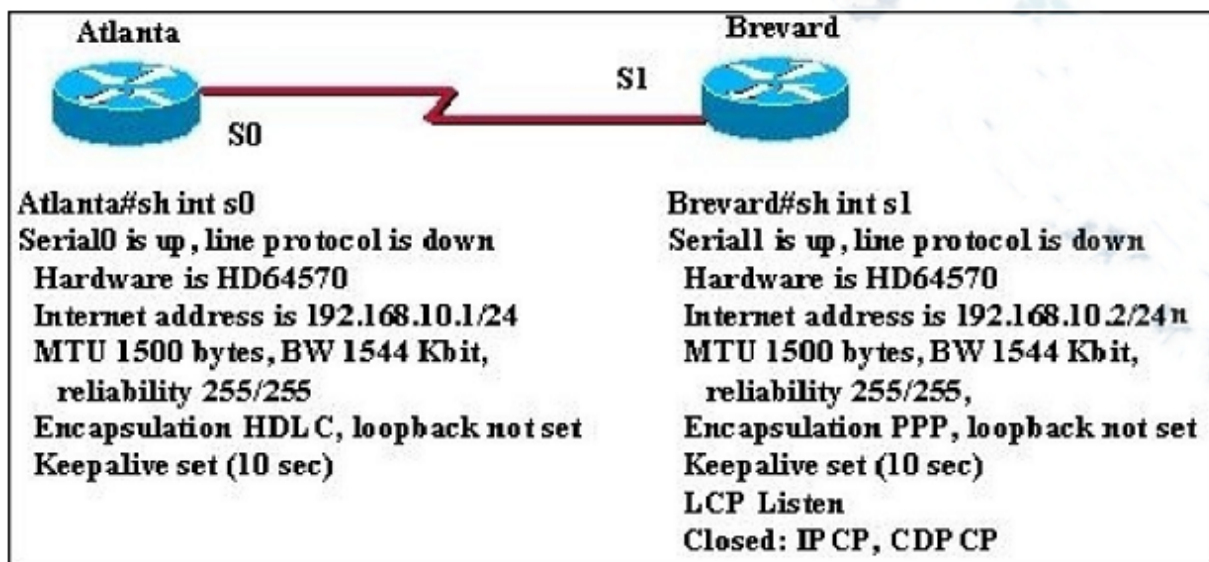
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Which command can you enter to display the operational status of the network ports on a router?

- A. show ip interface brief
- B. show interface switchport
- C. show running-config interface fastethernet 0/1
- D. show interface status

Answer is A

Two routers names Atlanta and Brevard are connected via their serial interfaces as illustrated, but they are unable to communicate. The Atlanta router is known to have the correct configuration.



Given the partial configurations, identify the fault on the Brevard router that is causing the lack of connectivity.

- A. incompatible IP address
- B. insufficient bandwidth
- C. incorrect subnet mask
- D. incompatible encapsulation
- E. link reliability too low
- F. IPCP closed

Answer is D

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Which two statements about the tunnel mode ipv6ip command are true? (Choose two.)

- A. It enables the transmission of IPv6 packets within the configured tunnel.
- B. It specifies IPv4 as the encapsulation protocol.
- C. It specifies IPv6 as the encapsulation protocol.
- D. It specifies IPv6 as the transport protocol.
- E. It specifies that the tunnel is a Teredo tunnel.

Answer is A, B

Which configuration register value can you set on a Cisco device so that it ignores the NVRAM when it boots?

- A. 0x2124
- B. 0x2120
- C. 0x2142
- D. 0x2102

Answer is C

Which two statements about late collisions are true? (Choose two.)

- A. They may indicate a duplex mismatch.
- B. By definition, they occur after the 512th bit of the frame has been transmitted.
- C. They indicate received frames that did not pass the FCS match.
- D. They are frames that exceed 1518 bytes.
- E. They occur when CRC errors and interference occur on the cable.

Answer is A, B

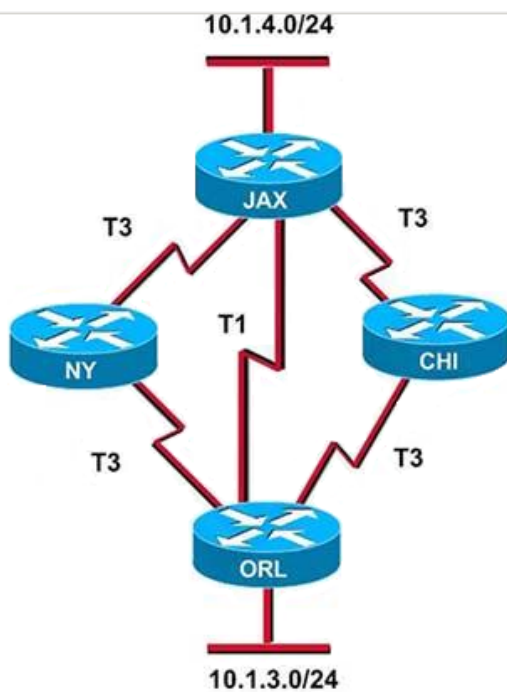
How does a router handle an incoming packet whose destination network is missing from the routing table?

- A. It broadcasts the packet to each interface on the router.
- B. It broadcasts the packet to each network on the router.
- C. It routes the packet to the default route.
- D. It discards the packet.

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Answer is C

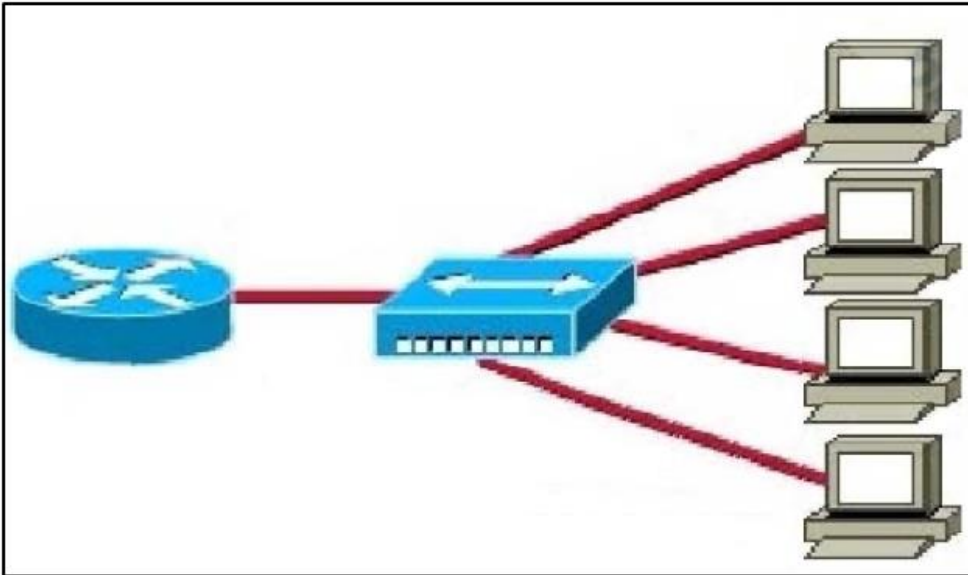
Refer to the exhibit. Which three statements are true about how router JAX will choose a path to the 10.1.3.0/24 network when different routing protocols are configured? (Choose 3)



- A. By default, if RIPv2 is the routing protocol, only the path JAX-ORL will be installed into the routing table.
- B. The equal cost paths JAX-CHI-ORL and JAX- NY-ORL will be installed in the routing table if RIPv2 is the routing protocol.
- C. When EIGRP is the routing protocol, only the path JAX-ORL will be installed in the routing table by default.
- D. When EIGRP is the routing protocol, the equal cost paths JAX-CHI-ORL, and JAX-NY-ORL will be installed in the routing table by default.
- E. With EIGRP and OSPF both running on the network with their default configurations, the EIGRP paths will be installed in the routing table.

Answer is A, D, E

Refer to the exhibit. What two results would occur if the hub were to be replaced with a switch that is configured with one Ethernet VLAN? (Choose two.)



- A. The number of collision domains would decrease.
- B. The number of collision domains would increase.
- C. The number of broadcast domains would remain the same.
- D. The number of collision domains would remain the same.
- E. The number of broadcast domains would increase.

Answer is B, C

Which IPV6 function serves the same purpose as ARP entry verification on an IPv4 network?

- A. interface ip address verification
- B. MAC address table verification
- C. neighbor discovery verification
- D. Routing table entry verification

Answer is C