

Sem
- What two tasks do dynamic routing protocols perform? (Choose two.)

- discover hosts
- update and maintain routing tables
- propagate host default gateways
- network discovery
- assign IP addressing

- What is the correct syntax of a floating static route?

- ip route 209.165.200.228 255.255.255.248 serial 0/0/0
- ip route 209.165.200.228 255.255.255.248 10.0.0.1 120
- ip route 0.0.0.0 0.0.0.0 serial 0/0/0
- ip route 172.16.0.0 255.248.0.0 10.0.0.1

- Which type of static route that is configured on a router uses only the exit interface?

- recursive static route
- directly connected static route
- fully specified static route
- default static route

- Which route is the best match for a packet entering a router with a destination address of 10.16.0.2?

- S 10.0.0.0/8 [1/0] via 192.168.0.2
- S 10.16.0.0/24 [1/0] via 192.168.0.9
- C 10.16.0.0/16 is directly connected, Ethernet 0/1
- C 10.16.0.0/12 is directly connected, Ethernet 0/0

- Which action will bring an error-disabled switch port back to an operational state?

- Remove and reconfigure port security on the interface.
- Issue the switchport mode access command on the interface.
- Clear the MAC address table on the switch.
- Run the shutdown and then no shutdown interface commands

~~XXXX~~ 0.58

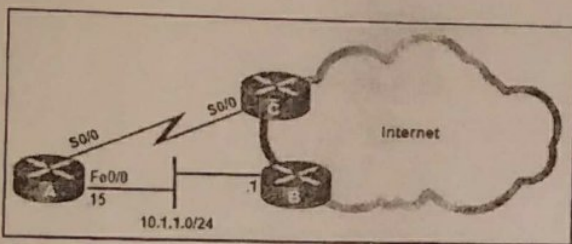
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-A network administrator has entered the following command:

```
ip route 192.168.10.64 255.255.255.192 serial0/0/1
```

When the network administrator enters the command **show ip route**, the route is not in the routing table. What should the administrator do next?

- Re-enter the command using the correct mask.
- Verify that the serial 0/0/1 interface is active and available.
- Verify that the 192.168.10.64 network is active within the network infrastructure.
- Re-enter the command using a network number rather than a usable IP address.



-Refer to the exhibit. This network has two connections to the ISP, one via router C and one via router E. The serial link between router A and router C supports EIGRP and is the primary link to the Internet. If the primary link fails, the administrator needs a floating static route that avoids recursive route lookups and any potential next-hop issues caused by the multiaccess nature of the Ethernet segment with router B. What should the administrator configure?

- Create a static route pointing to Fa0/0 with an AD of 1.
- Create a static route pointing to 10.1.1.1 with an AD of 1.
- Create a static route pointing to 10.1.1.1 with an AD of 95.
- Create a fully specified static route pointing to Fa0/0 with an AD of 1.
- Create a fully specified static route pointing to Fa0/0 with an AD of 95.

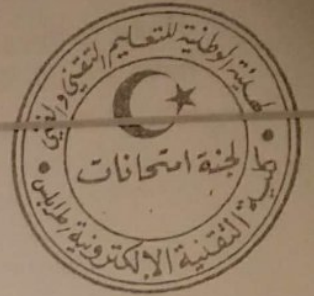
-What single standard access list statement matches to permit all of the following networks?

192.168.16.0
192.168.17.0
192.168.18.0
192.168.19.0

access-list 10 permit 192.168.16.0 0.0.3.255

-Which type of static route is configured with a greater administrative distance to provide a backup route to a route learned from a dynamic routing protocol?

..... Floating static Route



- C 172.16.2.0/24 is directly connected, Serial0/0/0
- S 192.168.2.0/24 [1/0] via 172.16.2.2
- S 192.168.2.0/24 is directly connected, Serial 0/0/0
- S 0.0.0.0/0 [1/0] via 172.16.2.2

-Refer to the exhibit. Which route was configured as a static route to a specific network using the next-hop address?

..... S 192.168.2.0/24 [1/0] via 172.16.2.2

-What network prefix and prefix-length combination is used to create a default static route that will match any IPv6 destination?

..... ::/0

-A router has used the OSPF protocol to learn a route to the 172.16.32.0/19 network. Which command will implement a backup floating static route to this network?

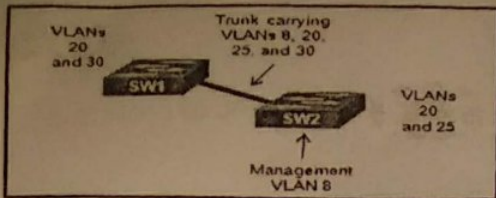
- ip route 172.16.0.0 255.255.240.0 S0/0/0 200
- ip route 172.16.32.0 255.255.224.0 S0/0/0 200
- ip route 172.16.0.0 255.255.224.0 S0/0/0 100
- ip route 172.16.32.0 255.255.0.0 S0/0/0 100

-Compared with dynamic routes, what are two advantages of using static routes on a router? (Choose two.)

- They improve network security.
- They use fewer router resources.
- They improve the efficiency of discovering neighboring networks.
- They take less time to converge when the network topology changes.
- They automatically switch the path to the destination network when the topology changes.

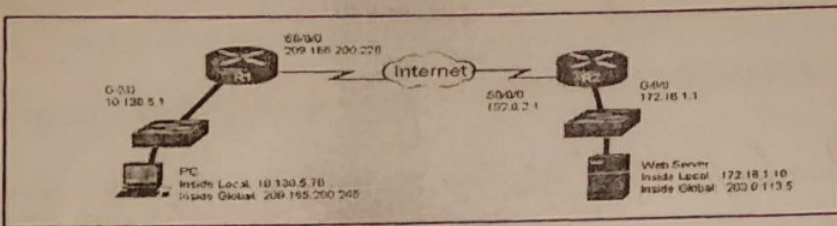
-Which two components are configured via OS in order for a PC to participate in a network environment? (Choose two.)

IP Address
subnet Mask



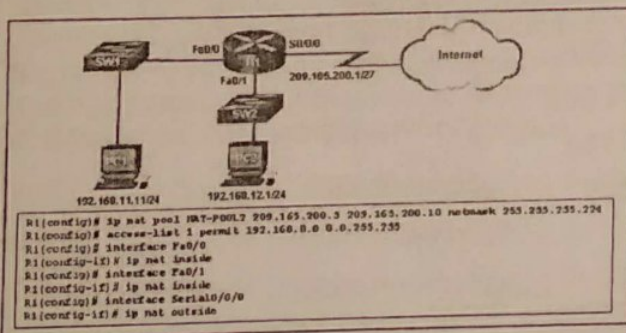
-Refer to the exhibit. A small business uses VLANs 8, 20, 25, and 30 on two switches that have a trunk link between them. What native VLAN should be used on the trunk if Cisco best practices are being implemented?

50



-Refer to the exhibit. NAT is configured on R1 and R2. The PC is sending a request to the web server. What IPv4 address is the source IP address in the packet between R2 and the web server?

209.166.200.245

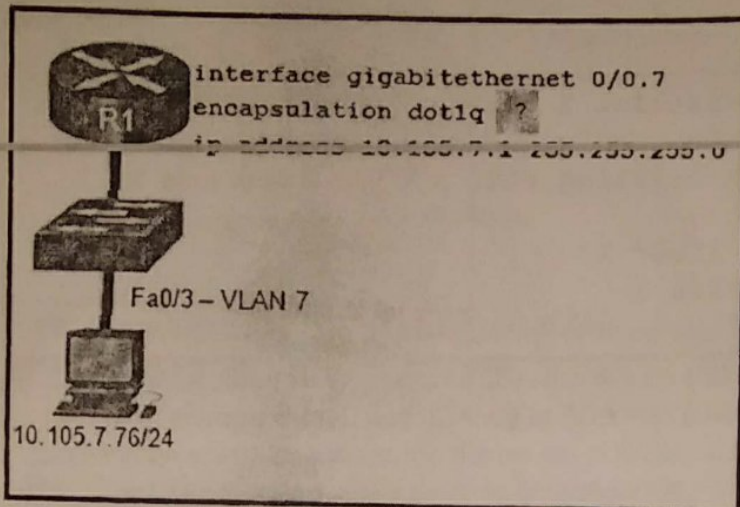


-Refer to the exhibit. R1 is configured for NAT as displayed. What is wrong with the configuration?

NAT-Pool 2 is not bound to ACL 1 *

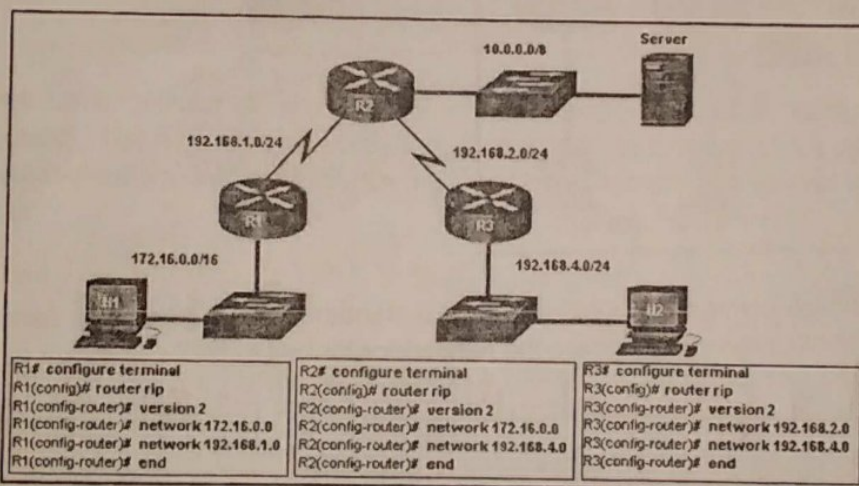
-A network engineer is configuring PAT on a router and has issued the command:
ip nat inside source list 1 interface serial 0/1/0 overload
 Which additional command is required to specify addresses from the 192.168.128.0/18 network as the inside local addresses?

access-list 1 permit 192.168.128.0 0.0.63.255



Q- Refer to the exhibit. A network administrator is configuring inter-VLAN routing on a network. For now, only one VLAN is being used, but more will be added soon. What is the missing parameter that is shown as the highlighted question mark in the graphic?

It identifies the VLAN number



Q- Refer to the exhibit. All hosts and router interfaces are configured correctly. Pings to the server from both H1 and H2 and pings between H1 and H2 are not successful. What is causing this problem?

RIPv2 is misconfigured on R2

Q- A network administrator is configuring an ACL with the command `access-list 10 permit 172.16.32.0 0.0.15.255`. Which IPv4 address matches the ACE?

172.16.47.254

Q- What is the purpose of the `passive-interface` command?

To receive update on an interface but not send update via that int.

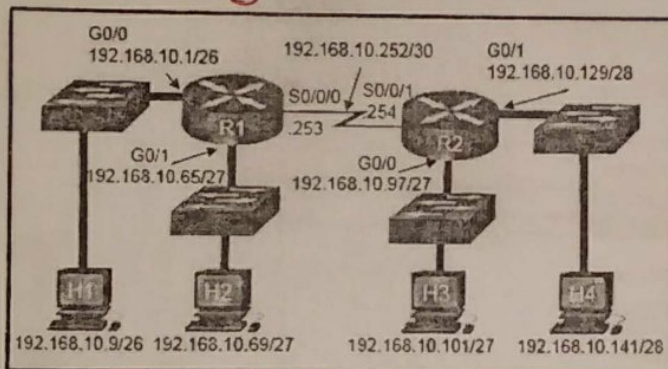

```

Router(config)# access-list 1 deny 172.16.0.1
* Access rule can't be configured at higher sequence num
as it is part of the existing rule at sequence num 10
Router(config)# exit
Router# show access-lists 1
Standard IP access list 1
 10 permit 172.16.0.0, wildcard bits 0.0.255.255

```

Q- Refer to the exhibit. A router has an existing ACL that permits all traffic from the 172.16.0.0 network. The administrator attempts to add a new ACE to the ACL that denies packets from host 172.16.0.1 and receives the error message that is shown in the exhibit. What action can the administrator take to block packets from host 172.16.0.1 while still permitting all other traffic from the 172.16.0.0 network?

Manually add the new deny ACE with sequence No. 5



Q-Refer to the exhibit. Which command would be used in a standard ACL to allow only devices on the network attached to R2 G0/0 interface to access the networks attached to R1?

Access-list 1 permit 192.168.10.96 0.0.0.31

Q- Consider the following output for an ACL that has been applied to a router via the **access-class** in command. What can a network administrator determine from the output that is shown?

```

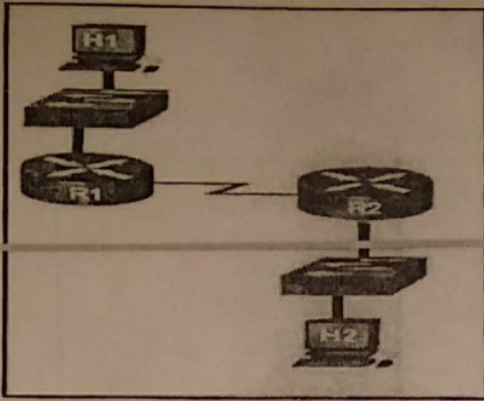
R1# <output omitted>
Standard IP access list 2
 10 permit 192.168.10.0, wildcard bits 0.0.0.255 (2 matches)
 20 deny any (1 match)

```

*To gain access to R1
Two devices were able to use SSH or telnet*

Q- A network administrator is configuring an ACL to restrict access to certain servers in the data center. The intent is to apply the ACL to the interface connected to the data center LAN. What happens if the ACL is incorrectly applied to an interface in the inbound direction instead of the outbound direction?

The ACL does not perform as designed.



Q- Refer to the exhibit. Assuming that the routing tables are up to date and no ARP messages are needed, after a packet leaves H1, how many times is the L2 header rewritten in the path to H2?

2

Q- Which two informations does a switch use to populate the MAC address table?

The source Mac of the incoming Port

Q- A network technician has been asked to secure all switches in the campus network. The security requirements are for each switch to automatically learn and add MAC addresses to both the address table and the running configuration. Which port security configuration will meet these requirements?

sticky secure Mac address

Q- A Cisco Catalyst switch has been added to support the use of multiple VLANs as part of an enterprise network. The network technician finds it necessary to clear all VLAN information from the switch in order to incorporate a new network design. What two command the technician should do to accomplish this task?

Delete the startup and the vlan.dat file in the flash and Reboot the switch

Q- A network administrator is designing an ACL. The networks 192.168.1.0/25, 192.168.0.0/25, 192.168.0.128/25, 192.168.1.128/26, and 192.168.1.192/26 are affected by the ACL. Which wildcard mask, is the most efficient to use when specifying all of these networks in a single ACL permit entry?

0.0.1.255

Q- Which advantage does the store-and-forward switching method have compared with the cut-through switching method?

Frame Error checking


```

R2(config)# ip nat pool NAT-POOL2 209.165.200.226 209.165.200.240 netmask 255.255.255.224
R2(config)# access-list 1 permit 192.168.0.0 0.0.255.255
R2(config)# ip nat inside source list 100 pool NAT-POOL2 overload
R2(config)# interface Serial0/0/0
R2(config-if)# ip nat inside
R2(config)# interface Serial0/1/0
R2(config-if)# ip nat outside

```

Q- Refer to the exhibit. A network administrator has configured R2 for PAT. Why is the configuration incorrect?

NAT-Pool 2 is bound to the wrong ACL

Q- A college marketing department has a networked storage device that uses the IP address 10.18.7.5, TCP port 443 for encryption, and UDP port 4365 for video streaming. The college already uses PAT on the router that connects to the Internet. The router interface has the public IP address of 209.165.200.225/30. The IP NAT pool currently uses the IP addresses ranging from 209.165.200.228-236. Which configuration would the network administrator add to allow this device to be accessed by the marketing personnel from home?

- ip nat pool mktv 10.18.7.5 10.18.7.5
- ip nat outside source static 10.18.7.5 209.165.200.225
- ip nat inside source static tcp 10.18.7.5 443 209.165.200.225 443
ip nat inside source static udp 10.18.7.5 4365 209.165.200.225 4365
- ip nat inside source static tcp 209.165.200.225 443 10.18.7.5 443
ip nat inside source static udp 209.165.200.225 4365 10.18.7.5 4365
- No additional configuration is necessary.

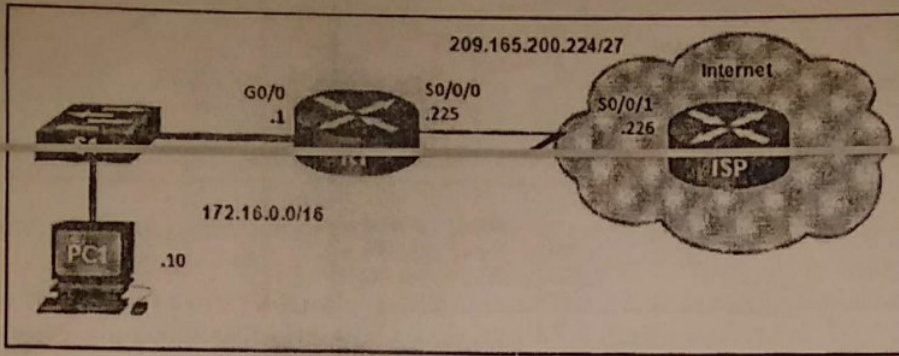
```

R1# show ip nat translations
Pro Inside global      Inside local  Outside local  Outside global
tcp 209.165.200.225:1405 10.6.15.2:1405 209.165.202.141:80 209.165.202.141:80
tcp 209.165.200.225:1406 10.6.15.1:1406 198.51.100.3:80 198.51.100.3:80

```

Q- Refer to the exhibit. Based on the output that is shown, what type of NAT has been implemented?

- dynamic NAT with a pool of two public IP addresses
- PAT using an external interface
- static NAT with one entry
- static NAT with a NAT pool



Q- Refer to the exhibit. R1 was configured with the static route command **ip route 209.165.200.224 255.255.255.224 S0/0/0** and consequently users on network 172.16.0.0/16 are unable to reach resources on the Internet. How should this static route be changed to allow user traffic from the LAN to reach the Internet?

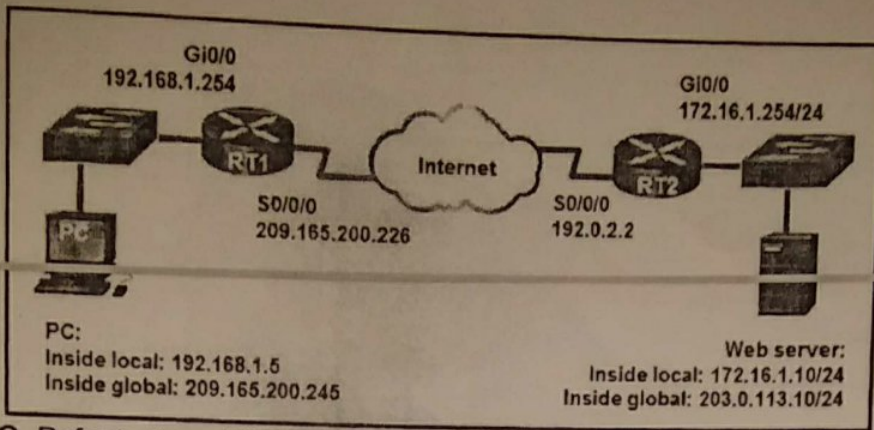
change the destination network and mask 0.0.0.0 0.0.0.0

Q- A router has used the OSPF protocol to learn a route to the 172.16.32.0/19 network. Which command implement a backup floating static route to this network?

- ip route 172.16.0.0 255.255.240.0 S0/0/0 200
- ip route 172.16.32.0 255.255.224.0 S0/0/0 200
- ip route 172.16.0.0 255.255.224.0 S0/0/0 100
- ip route 172.16.32.0 255.255.0.0 S0/0/0 100

Q- Compared with dynamic routes, what are two advantages of using static routes on a router? (Choose two)

- They improve network security.
- They use fewer router resources.
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Q- Refer to the exhibit. NAT is configured on RT1 and RT2. The PC is sending a request to the web server. What IPv4 address is the source IP address in the packet between RT2 and the web server?

209.165.200.245 ~~209.168.1.254~~

```

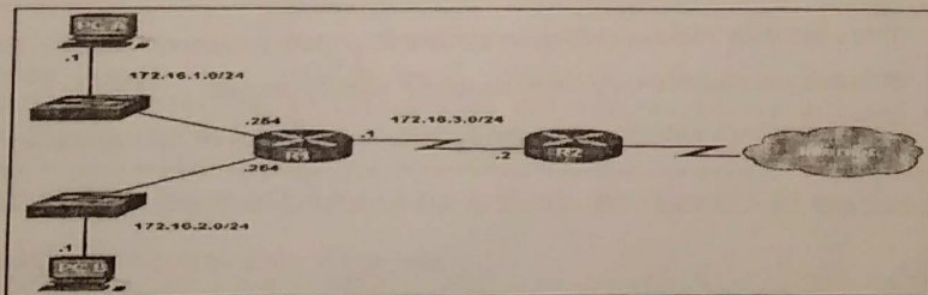
Sw1(config)# interface vlan 99
Sw1(config-if)# ip address 192.168.99.3 255.255.255.0
Sw1(config-if)# no shutdown
Sw1# show vlan
  
```

VLAN	Name	Status	Ports
1	default	active	Fa0/1, Fa0/2, Fa0/3, Fa0/4 Fa0/5, Fa0/6, Fa0/7, Fa0/8 Fa0/9, Fa0/10, Fa0/11, Fa0/12, Gi0/1, Gi0/2
1002	fddi-default	act/unsup	
1003	token-ring-default	act/unsup	
1004	fddinet-default	act/unsup	
1005	trnet-default	act/unsup	

<OUTPUT OMITTED>

Q- Refer to the exhibit. Based on the exhibited configuration and output, why is VLAN 99 missing?

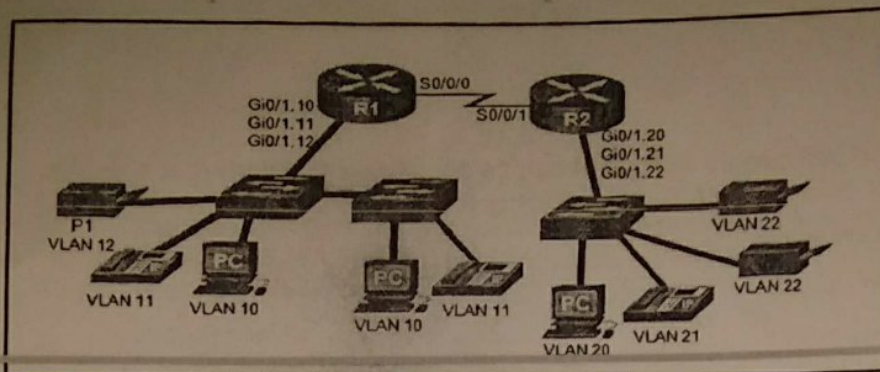
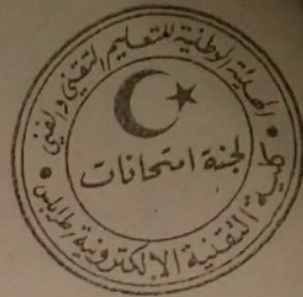
Because the VLAN 99 has not been manually entered into the



Vlan Database with the VLAN 99 case

Q- Which command will create a static route on R2 in order to reach PC B?

IP Route 172.16.2.0/24 172.16.3.1



Q- Refer to the exhibit. The Gigabit interfaces on both routers have been configured with subinterface numbers that match the VLAN numbers connected to them. PCs on VLAN 10 should be able to print to the P1 printer on VLAN 12. PCs on VLAN 20 should print to the printers on VLAN 22. What interface and in what direction should you place a standard ACL that allows printing to P1 from data VLAN 10, but stops the PCs on VLAN 20 from using the P1 printer? (Choose two.)

- R1 Gi0/1.12
- R1 S0/0/0
- R2 S0/0/1
- R2 Gi0/1.20
- inbound
- outbound

Q- What is a disadvantage of NAT?

- There is no end-to-end addressing.
- The router does not need to alter the checksum of the IPv4 packets.
- The internal hosts have to use a single public IPv4 address for external communication.
- The costs of readdressing hosts can be significant for a publicly addressed network.

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- `ip nat inside source static tcp 10.18.7.5 443 209.165.200.225 443`
- `ip nat inside source static udp 10.18.7.5 4365 209.165.200.225 4365`
- `ip nat inside source static tcp 209.165.200.225 443 10.18.7.5 443`
- `ip nat inside source static udp 209.165.200.225 4365 10.18.7.5 4365`
- No additional configuration is necessary.

Q- Which summary IPv6 static route statement can be configured to summarize only the routes to networks 2001:db8:cafe::/58 through 2001:db8:cafe:c0::/58?

- ipv6 route 2001:db8:cafe::/62 S0/0/0
- ipv6 route 2001:db8:cafe::/54 S0/0/0
- ipv6 route 2001:db8:cafe::/56 S0/0/0
- ipv6 route 2001:db8:cafe::/60 S0/0/0

Q- A network administrator is adding ACLs to a new IPv6 multirouter environment. Which IPv6 ACE is automatically added implicitly at the end of an ACL so that two adjacent routers can discover each other?

- permit ip any any
- permit ip any host *ip_address*
- permit icmp any any nd-na
- deny ip any any

Q- The computers used by the network administrators for a school are on the 10.7.0.0/27 network. Which two commands are needed at a minimum to apply an ACL that will ensure that only devices that are used by the network administrators will be allowed Telnet access to the routers? (Choose two.)

- access-class 5 in
- access-list 5 deny any
- access-list standard VTY
permit 10.7.0.0 0.0.0.127
- access-list 5 permit 10.7.0.0 0.0.0.31
- ip access-group 5 out
- ip access-group 5 in

Q- Which two packet filters could a network administrator use on an IPv4 extended ACL? (Choose two.)

- destination MAC address
- ICMP message type
- computer type
- source TCP hello address
- destination UDP port number

Q- A network administrator is using the router-on-a-stick method to configure inter-VLAN routing. Switch port Gi1/1 is used to connect to the router. Which command should be entered to prepare this port for the task?

- Switch(config)# interface glgabiteethernet 1/1
Switch(config-if)# spanning-tree vlan 1
- Switch(config)# interface glgabiteethernet 1/1
Switch(config-if)# spanning-tree portfast
- Switch(config)# interface glgabiteethernet 1/1
Switch(config-if)# switchport mode trunk
- Switch(config)# interface glgabiteethernet 1/1
Switch(config-if)# switchport access vlan 1

Q- Which two characteristics describe the native VLAN? (Choose two.)

- Designed to carry traffic that is generated by users, this type of VLAN is also known as the default VLAN.
- The native VLAN traffic will be untagged across the trunk link.
- This VLAN is necessary for remote management of a switch.
- High priority traffic, such as voice traffic, uses the native VLAN.
- The native VLAN provides a common identifier to both ends of a trunk.

Q- What is the purpose of setting the native VLAN separate from data VLANs?

- The native VLAN is for carrying VLAN management traffic only.
- The security of management frames that are carried in the native VLAN can be enhanced.
- A separate VLAN should be used to carry uncommon untagged frames to avoid bandwidth contention on data VLANs.
- The native VLAN is for routers and switches to exchange their management information, so it should be different from data VLANs.

Q- Two employees in the Sales department work different shifts with their laptop computers and share the same Ethernet port in the office. Which set of commands would allow only these two laptops to use the Ethernet port and create violation log entry without shutting down the port if a violation occurs?

- switchport mode access
switchport port-security
- switchport mode access
switchport port-security
switchport port-security maximum 2
switchport port-security mac-address sticky
switchport port-security violation restrict
- switchport mode access
switchport port-security maximum 2
switchport port-security mac-address sticky
- switchport mode access
switchport port-security maximum 2
switchport port-security mac-address sticky
switchport port-security violation protect



Q- A network administrator is designing an ACL. The networks 192.168.1.0/25, 192.168.0.0/25, 192.168.0.128/25, 192.168.1.128/26, and 192.168.1.192/26 are affected by the ACL. Which wildcard mask, if any, is the most efficient to use when specifying all of these networks in a single ACL permit entry?

- 0.0.0.127
- 0.0.0.255
- 0.0.1.255
- 0.0.255.255
- A single ACL command and wildcard mask should not be used to specify these particular networks or other traffic will be permitted or denied and present a security risk.

Q- Which three values or sets of values are included when creating an extended access control list entry? (Choose three.)

- access list number between 1 and 99
- access list number between 100 and 199
- default gateway address and wildcard mask
- destination address and wildcard mask
- source address and wildcard mask
- source subnet mask and wildcard mask
- destination subnet mask and wildcard mask

Q- Which statement describes a route that has been learned dynamically?

- It is automatically updated and maintained by routing protocols.
- It is unaffected by changes in the topology of the network.
- It has an administrative distance of 1.
- It is identified by the prefix C in the routing table.

Q- What benefit does NAT64 provide?

- It allows sites to use private IPv6 addresses and translates them to global IPv6 addresses.
- It allows sites to connect multiple IPv4 hosts to the Internet via the use of a single public IPv4 address.
- It allows sites to connect IPv6 hosts to an IPv4 network by translating the IPv6 addresses to IPv4 addresses.
- It allows sites to use private IPv4 addresses, and thus hides the internal addressing structure from hosts on public IPv4 networks.