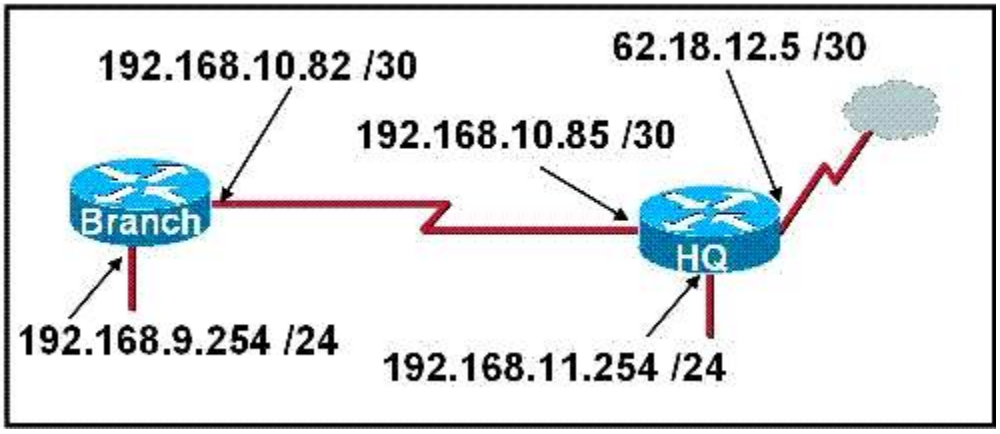
640-822

Exam: Cisco 640-822
Title: Interconnecting Cisco Networking Devices Part 1
Version: Demo

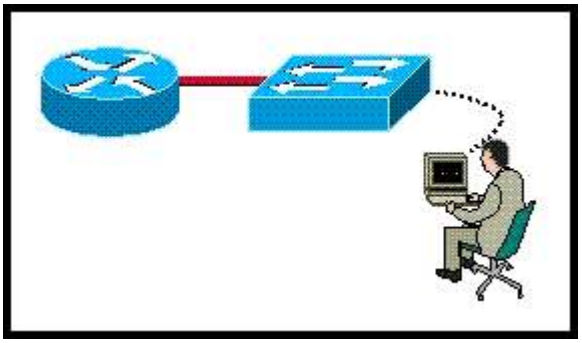
QUESTION NO: 1
After the router interfaces shown in the diagram have been configured, it is discovered that hosts in the Branch LAN cannot access the Internet. Further testing reveals additional connectivity issues. What will fix this problem?



A. Change the address of the HQ router LAN interface.
B. Change the subnet mask of the HQ router LAN interface.
C. Change the address of the Branch router LAN interface.
D. Change the address of the HQ router interface to the Internet.
E. Change the address of the Branch router WAN interface.
F. Change the subnet mask of the HQ router interface to the Internet.

Answer: E

QUESTION NO: 2
Refer to the graphic. A Cisco router and a Catalyst switch are connected as shown. The technician is working on a computer that is connected to the management console of the switch. In order to configure the default gateway for the switch, the technician needs to learn the IP address of the attached router interface. Which IOS command will provide this information in the absence of Layer 3 connectivity?



A. show cdp neighbors detail
B. ping router_ip_address
C. show ip neighbors
D. ping switch_ip_address
E. show dhcp-config
F. show ip rarp

Answer: A

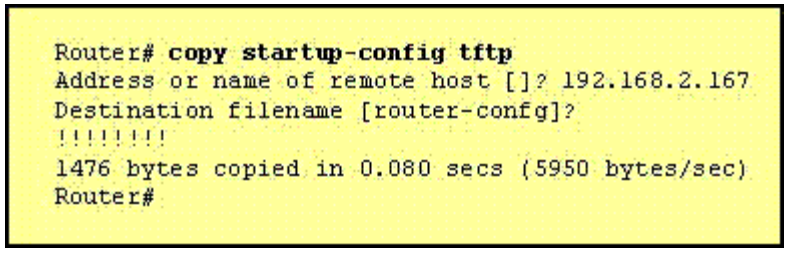
Explanation:
To display detailed information about neighboring devices discovered using Cisco Discovery Protocol (CDP), use the **show cdp neighbors** privileged EXEC command.
Detail - (Optional) Displays detailed information about a neighbor (or neighbors) including network address, enabled protocols, hold time, and software version.

The following is sample output for the **show cdp neighbors detail** command.
router#**show cdp neighbors detail**

Device ID: lab-7206
Entry address(es):
IP address: 172.19.169.83
Platform: cisco 7206VXR, Capabilities: Router
Interface: Ethernet0, Port ID (outgoing port): FastEthernet0/0/0
Holdtime : 123 sec
Version :
Cisco Internetwork Operating System Software
IOS (tm) 5800 Software (C5800-P4-M), Version 12.1(2)
Copyright (c) 1986-2002 by Cisco Systems, Inc.
advertisement version: 2
Duplex: half

QUESTION NO: 3
Refer to the exhibit. The ports that are shown are the only active ports on the switch. The MAC address table is shown in its entirety. The Ethernet frame that is shown arrives at the switch.

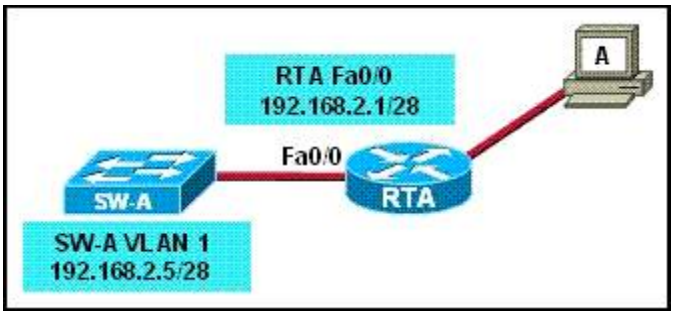
What two operations will the switch perform when it receives this frame? (Choose two.)



A. The frame will be forwarded out port fa0/3 only.
B. The frame will be forwarded out fa0/1, fa0/2, and fa0/3.
C. The frame will be forwarded out all the active ports.
D. The MAC address of 0000.00dd.dddd will be added to the MAC address table.
E. The MAC address of 0000.00aa.aaaa will be added to the MAC address table.

Answer: B,E

QUESTION NO: 4
Refer to the exhibit. Workstation A must be able to telnet to switch SW-A through router RTA for management purposes. What must be configured for this connection to be successful?



A. IP routing on SW-A
B. default gateway on SW-A
C. VLAN 1 on RTA
D. cross-over cable connecting SW-A and RTA

Answer: B
Explanation:
Configure a default gateway on SW-A.

In order for a switch to send traffic to a destination that is not located directly, as is the case in our example, a default gateway must be configured on the switch. This will enable it to send the traffic to router RTA where it can be routed to host A.
Incorrect Answers:
* This is the default VLAN used and does not need to be configured.
* A cross over cable is used to connect two switches or two routers together back to back, but a straight through cable should be used when connecting a switch to a routers.
* IP routing does not need to be enabled, just the default gateway.

QUESTION NO: 5

What does the "Inside Global" address represent in the configuration of NAT?

A. a globally unique, private IP address assigned to a host on the inside network
B. the summarized address for all of the internal subnetted addresses
C. a registered address that represents an inside host to an outside network
D. the MAC address of the router used by inside hosts to connect to the Internet

Answer: C

Explanation:
With NAT, Cisco defines 4 different types of addresses as follows:

- **Inside local address** - The IP address assigned to a host on the inside network. This is the address configured as a parameter of the computer's OS or received via dynamic address allocation protocols such as DHCP. The address is likely not a legitimate IP address assigned by the Network Information Center (NIC) or service provider.
- **Inside global address** - A legitimate IP address assigned by the NIC or service provider that represents one or more inside local IP addresses to the outside world.
- **Outside local address** - The IP address of an outside host as it appears to the inside network. Not necessarily a legitimate address, it is allocated from an address space routable on the inside.
- **Outside global address** - The IP address assigned to a host on the outside network by the host's owner. The address is allocated from a globally routable address or network space.

The above definitions still leave a lot to be interpreted. For this example, this document redefines these terms by first defining "local address" and "global address." Keep in mind that the terms "inside" and "outside" are NAT definitions. Interfaces on a NAT router are defined as "inside" or "outside" with the NAT configuration commands, **ip nat inside** and **ip nat outside**. Networks to which these interfaces connect can then be thought of as "inside" networks or "outside" networks, respectively.

- **Local address** - A local address is any address that appears on the "inside" portion of the network.
- **Global address** - A global address is any address that appears on the "outside" portion of the network.

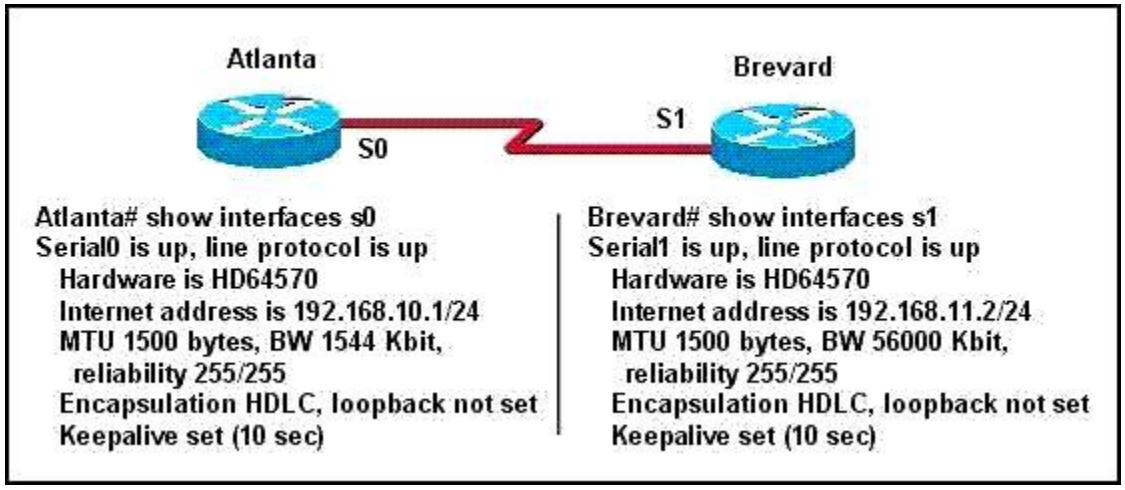
QUESTION NO: 6
Refer to the exhibit. What does the address 192.168.2.167 represent?

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

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

Answer: C

QUESTION NO: 7
Two routers named Atlanta and Brevard are connected by their serial interfaces as shown in the exhibit, but there is no data connectivity between them. The Atlanta router is known to have a correct configuration. Given the partial configurations shown in the exhibit, what is the problem on the Brevard router that is causing the lack of connectivity?



A. The bandwidth setting is incompatible with the connected interface.
B. The maximum transmission unit (MTU) size is too large.
C. The subnet mask is incorrect.
D. The serial line encapsulations are incompatible.
E. A loopback is not set.
F. The IP address is incorrect.

Answer: F

QUESTION NO: 8
The administrator is unable to establish connectivity between two Cisco routers. Upon

reviewing the command output of both routers, what is the most likely cause of the problem?

RtrA# show running-config	RtrB# show running-config
<some output text omitted>	<some output text omitted>
enable password cisco	enable password cisco1
!	
hostname RtrA	hostname RtrB
username RtrB password cisco	username RtrA password cisco1
!	!
interface serial 0/0	interface serial 0/0
ip address 10.0.8.1 255.255.248.0	ip address 10.0.15.2 255.255.248.0
encapsulation ppp	encapsulation ppp
ppp authentication chap	ppp authentication chap

A. Username/password is incorrectly configured.
B. Router names are incorrectly configured.
C. Serial ip addresses
D. Authentication needs to be changed to PAP for both routers.

Answer: A
Explanation:
When setting up local password database in CHAP, configure commands username username password password in overall configuration mode to add note to local password database. Note that the username here should be the router name on the opposite side. And the password should be the same as that in the password database of CHAP authentication server. The above graphic shows different password.

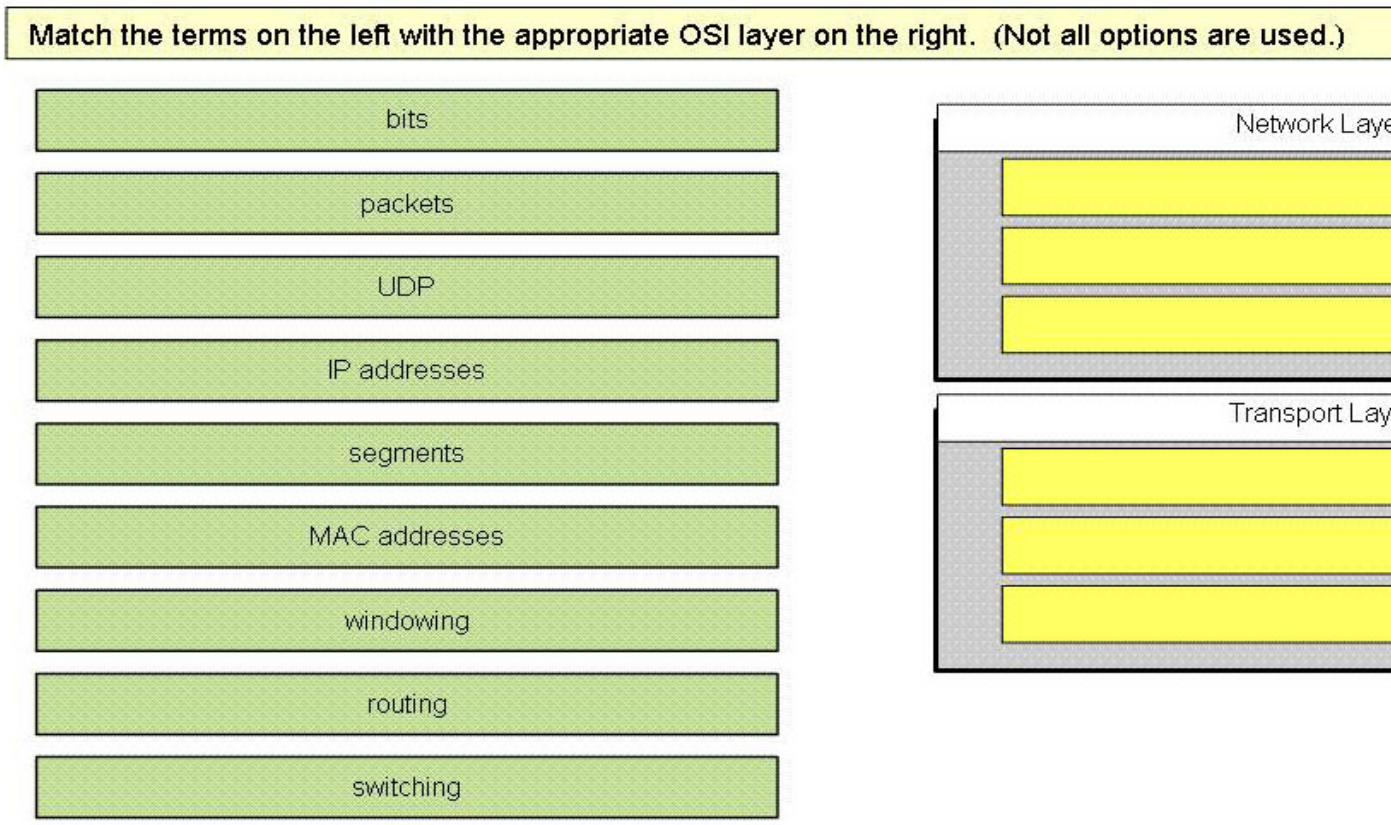
Incorrect Answers:
* Either PAP or CHAP can be used for these routers.
* Although this appears to be true at first glance, the subnet mask is 255.255.248.0, and the IP addresses on each side of the link are indeed on the same subnet.
* The hostnames are configured correctly, but the passwords do not match.

QUESTION NO: 9
Which of the following are types of flow control? (Choose three.)

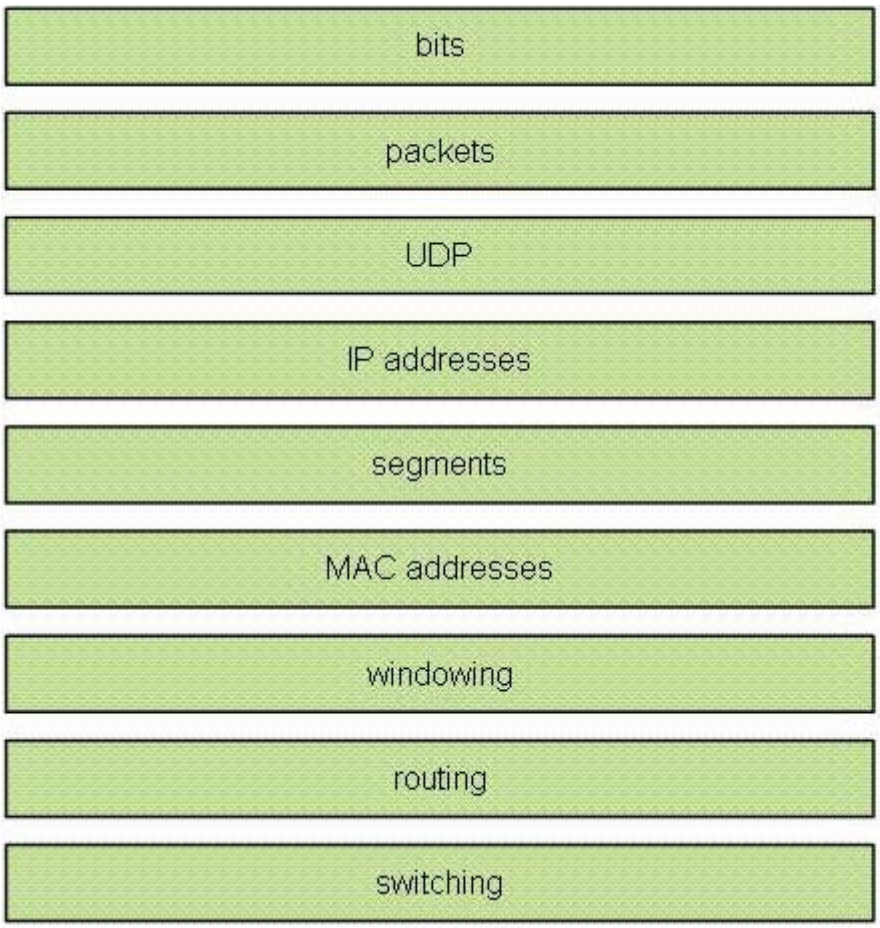
A. cut-through
B. load balancing
C. congestion avoidance
D. buffering
E. windowing

Answer: C,D,E

QUESTION NO: 10 DRAG DROP
Drop



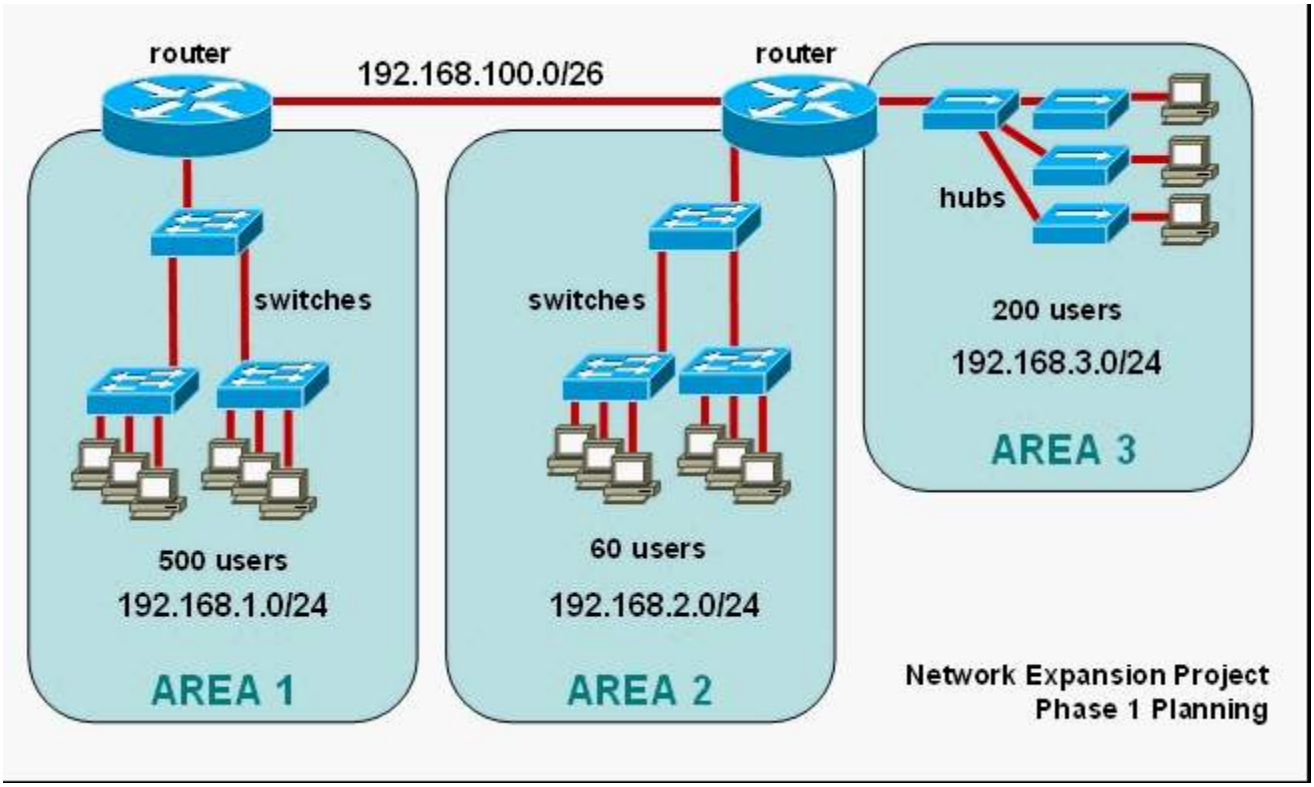
Answer: <m x1="16" x2="383" y1="44" y2="76" ss="0" a="0"></m><m x1="15" x2="386" y1="86" y2="117" ss="0" a="1"></m><m x1="16" x2="384" y1="127" y2="157" ss="0" a="2"></m><m x1="18" x2="386" y1="172" y2="200" ss="0" a="3"></m><m x1="17" x2="384" y1="213" y2="244" ss="0" a="4"></m><m x1="16" x2="386" y1="253" y2="285" ss="0" a="5"></m><m x1="17" x2="384" y1="296" y2="325" ss="0" a="6"></m><m x1="16" x2="387" y1="337" y2="367" ss="0" a="7"></m><m x1="17" x2="387" y1="379" y2="409" ss="0" a="8"></m><m x1="497" x2="817" y1="80" y2="108" ss="1" a="0"></m><m x1="500" x2="818" y1="116" y2="142" ss="1" a="1"></m><m x1="499" x2="819" y1="149" y2="176" ss="1" a="2"></m><m x1="500" x2="817" y1="225" y2="253" ss="1" a="3"></m><m x1="500" x2="821" y1="260" y2="287" ss="1" a="4"></m><m x1="499" x2="820" y1="295" y2="321" ss="1" a="5"></m><c start="1" stop="0"></c><c start="3" stop="1"></c><c start="7" stop="2"></c><c start="4" stop="3"></c><c start="6" stop="4"></c><c start="2" stop="5"></c>



QUESTION NO: 11
Refer to the exhibit. The junior network support staff provided the diagram as a recommended configuration for the first phase of a four-phase network expansion project. The entire network expansion will have over 1000 users on 14 network segments and has been allocated this IP address space:

192.168.1.1 through 192.168.5.255
192.168.100.1 through 198.168.100.255

What are three problems with this design? (Choose three.)



A. The AREA 3 IP address space is inadequate for the number of users.
B. The network address space that is provided requires a single network-wide mask.
C. The router-to-router connection is wasting address space.
D. AREA 2 could use a mask of /25 to conserve IP address space.
E. The AREA 1 IP address space is inadequate for the number of users.
F. The broadcast domain in AREA 1 is too large for IP to function.

Answer: C,D,E
Explanation:
Besides network address and broadcast address, network 192.168.1.0/24 allows only 254 hosts. Thus it is evident that AREA 1 IP address space is inadequate for 500 users.
If AREA 2 uses a mask of /25, i.e. 255.255.255.128, it will be able to accommodate IP space of 128 (256-128=128), which is adequate for 60 users. And as the two routers need only two IP, to use 192.168.100.0/26 is a waste of address space.
So the answer would be A,C and E.

* Since there are only 60 users on this LAN, a /25 could be used as that will provide for up to 128 IP addresses (126 usable). In fact, since there are only 60 users, a /26 could be used as that will provide for up to 62 usable IP addresses. However, this would not accommodate any kind of growth and could cause problems in the future.
* On point to point serial router links, a /30 is generally used as this will allow for only 2 usable IP addresses, which is all that is needed. In this case, a /26 has been assigned.

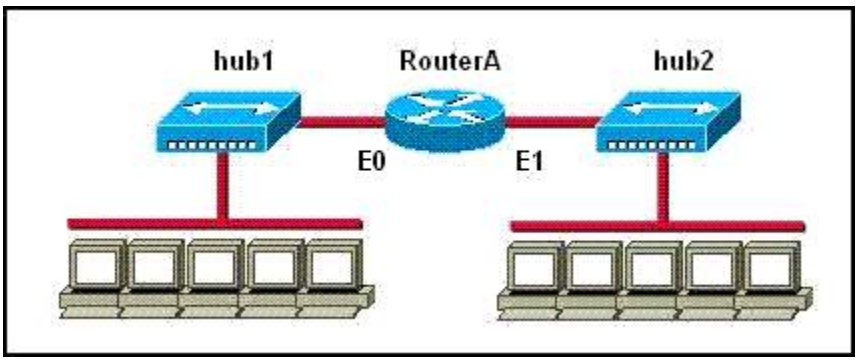
* In this area, there are 500 users, but a /24 will only provide for 254 usable IP addresses. A /23 or larger will be needed to accommodate this many users.

QUESTION NO: 12
Which type of attack is characterized by a flood of packets that are requesting a TCP connection to a server?

A. brute force
B. Trojan horse
C. denial of service
D. reconnaissance

Answer: C
Explanation:
A denial-of-service attack (DoS attack) is an attempt to make a computer resource unavailable to its intended users. Although the means to, motives for and targets of a DoS attack may vary, it generally comprises the concerted, malevolent efforts of a person or persons to prevent an Internet site or service from functioning efficiently or at all, temporarily or indefinitely. Among these are Network connectivity attacks.
These attacks overload the victim with TCP packets so that its TCP/IP stack is not able to handle any further connections, and processing queues are completely full with nonsense malicious packets. As a consequence of this attack, legitimate connections are denied. One classic example of a network connectivity attack is a SYN Flood

QUESTION NO: 13
Refer to the graphic. How many collision domains are shown?



A. two
B. four
C. six
D. fourteen
E. three
F. one

Answer: A

Explanation:
The multi-segment configuration guidelines apply only to a single Ethernet "collision domain." A collision domain is formally defined as a single CSMA/CD network in which there will be a collision if two computers attached to the system transmit at the same time. An Ethernet system composed of a single segment or multiple segments linked with repeaters is a network that functions as a single collision domain.

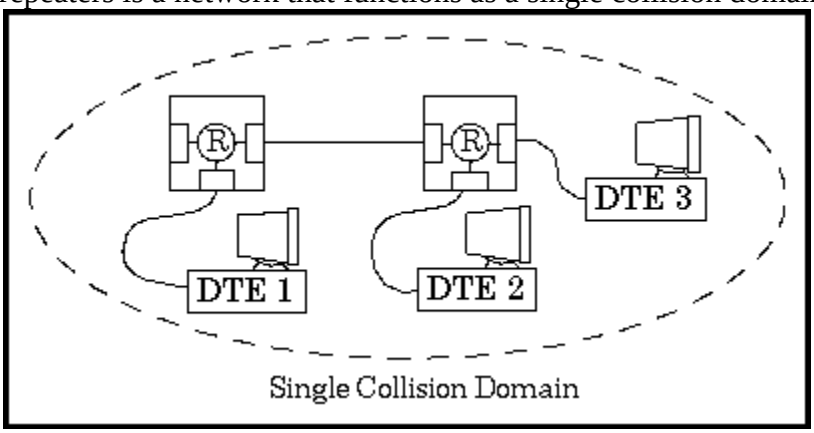


FIGURE 1 Repeater hubs create a single collision domain

The figure shows two repeater hubs connecting three computers. Since only repeater connections are used between segments in this network, all of the segments and computers are in the same collision domain.
In the next figure, the repeaters and DTEs are instead separated by a router (packet

switch) and are therefore in separate collision domains, since routers do not forward collision signals from one segment to another. Routers contain multiple Ethernet interfaces and are designed to receive a packet on one Ethernet port and transmit the data onto another Ethernet port in a new packet.

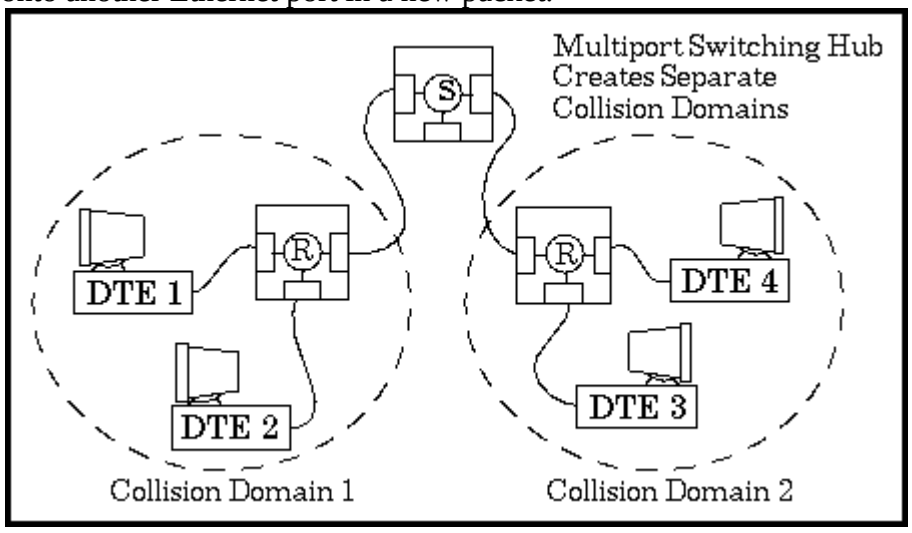


FIGURE 2 Routers creates separate collision domains

Instead of propagating collision signals between Ethernet segments, routers interrupt the collision domain and allow the Ethernets they link to operate independently. Therefore, you can use packet switching hubs to build larger network systems by interconnecting individual Ethernet systems.

QUESTION NO: 14
What is the purpose of flow control?

A. to reassemble segments in the correct order at the destination device
B. to ensure data is retransmitted if an acknowledgment is not received
C. to provide a means for the receiver to govern the amount of data sent by the sender
D. to regulate the size of each segment

Answer: C

Explanation:
Flow control paces the transmission of data between a sending device and a receiving device. Flow control ensures that the receiving device can absorb the data sent to it before the sending device sends more. When the buffers on the receiving device are full, a message is sent to the sending device to suspend transmission until the data in the buffers has been processed.
Incorrect Answers:
* Data retransmission mechanisms are not handled by control. They are most often handled by transport layer protocols such as TCP.
* This describes the reassembly portion of the segmentation and reassembly (SAR)

function of network equipment.
* The maximum transmission unit (MTU) handles the regulation of maximum frame sizes.

QUESTION NO: 15
A network administrator has subnetted the 172.16.0.0 network using a subnet mask of 255.255.255.192. A duplicate IP address of 172.16.2.120 has accidentally been configured on a workstation in the network. The technician must assign this workstation a new IP address within that same subnetwork. Which address should be assigned to the workstation?

A. 172.16.2.127
B. 172.16.2.80
C. 172.16.2.128
D. 172.16.1.64
E. 172.16.1.80
F. 172.16.2.64

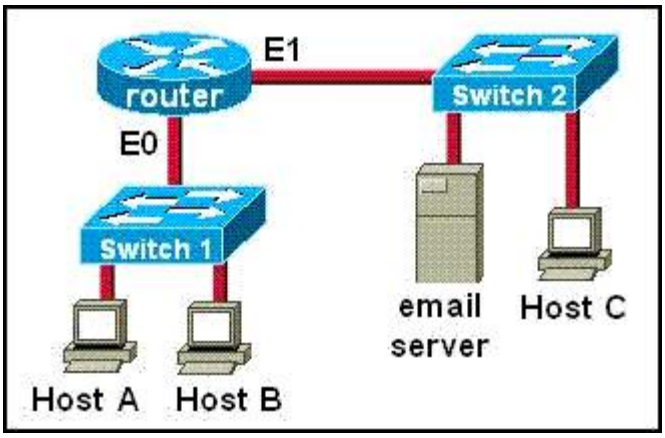
Answer: B

Explanation:
A subnet mask of 255.255.255.192 (/26) will provide us with 4 subnet (2 usable) each with 62 usable hosts per network. So in our example the four networks will be:

172.16.2.1-62
172.16.2.65-126
172.16.2.129-190
172.16.2.193-254

Since we know that the host must be in the same IP subnet as 172.16.2.120, only choice C is correct.

QUESTION NO: 16
Host A needs to communicate with the email server shown in the graphic. What address will be placed in the destination address field of the frame when it leaves Host A?

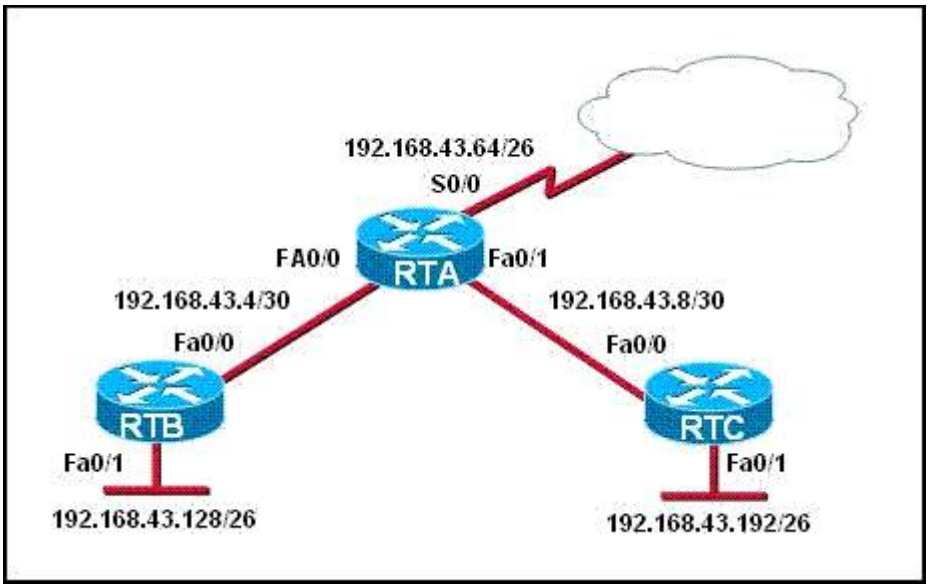


A. the MAC address of the email server
B. the MAC address of E1 of the router
C. the MAC address of Switch 1
D. the MAC address of E0 of the router
E. the MAC address of Switch 2
F. the MAC address of Host A

Answer: D

Explanation:
Since the email server resides on a different IP subnet than the host A, the host will send the frame to its default gateway. In this case, the router C is acting as the default gateway for all hosts on the LAN, so the frame will be sent to its Ethernet interface so that it can be routed to the email server.

QUESTION NO: 17
Refer to the exhibit. For security reasons, information about RTA, including platform and IP addresses, should not be accessible from the Internet. This information should, however, be accessible to devices on the internal networks of RTA. Which command or series of commands will accomplish these objectives?

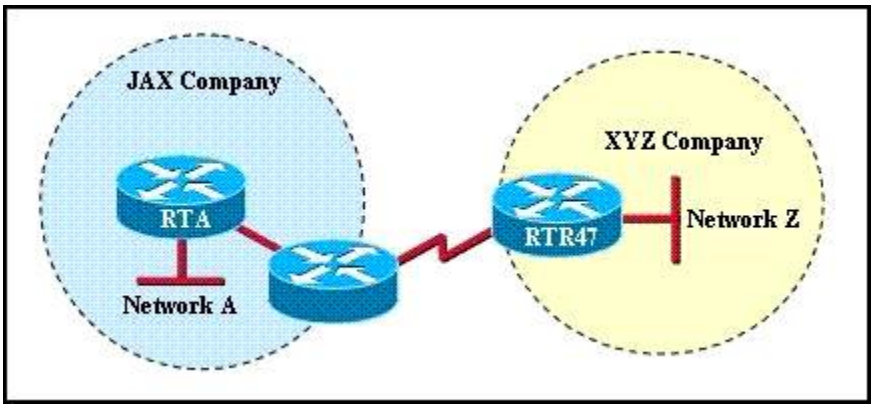


A. RTA(config)#interface s0/0
RTA(config-if)#no cdp enable
B. RTA(config)#no cdp run
C. RTA(config)#interface s0/0
RTA(config-if)#no cdp run
D. RTA(config)#no cdp enable

Answer: A
Explanation:
S0/0 interface of RTA is connected to Internet. So we only need to cut this connection.

CDP is a proprietary protocol designed by Cisco to help administrators collect information about both locally attached and remote devices. By using CDP, you can gather hardware and protocol information about neighbor devices which is useful info for troubleshooting and documenting the network.
To disable the CDP on particular interface use the “no cdp enable” command. To disable CDP on the entire router use the “no cdp run” in global configuration mode.

QUESTION NO: 18
Refer to the exhibit. A person is trying to send a file from a host on Network A of the JAX Company to a server on Network Z of the XYZ Company. The file transfer fails. The host on Network A can communicate with other hosts on Network A. Which command, issued from router RTA, would be the most useful for troubleshooting this problem?



A. show version
B. show flash:
C. show interfaces
D. show history
E. show controllers serial

Answer: C
Explanation:
This problem is most likely due to a communication problem with the ftp server. Using the show interface command can be used to verify the IP address, speed, errors,, configuration, etc. One of the first steps in troubleshooting any connectivity issue is to issue the "show interfaces" command to ensure that all of the interfaces are up and active.

QUESTION NO: 19
Which line from the output of the show ip interface command indicates that there is a Layer 1 problem?

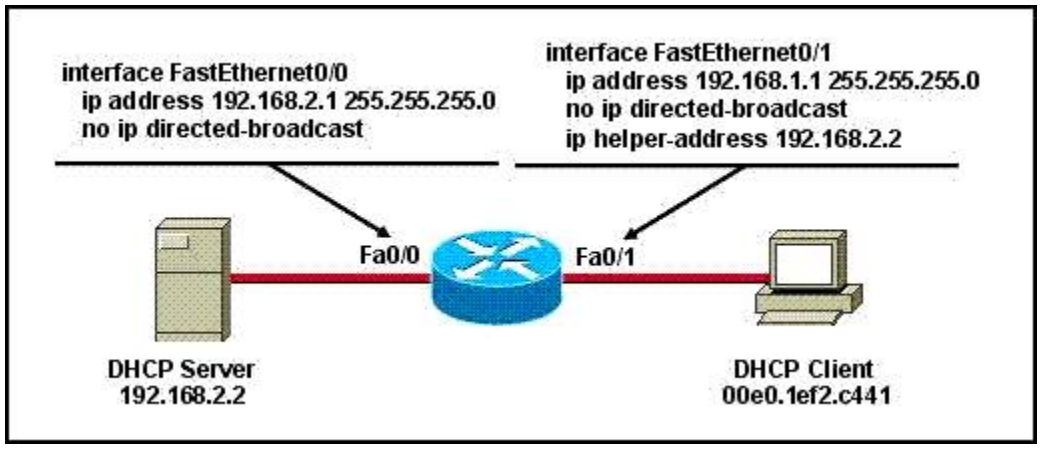
A. Serial0/1 is up, line protocol is up
B. Serial0/1 is up, line protocol is down
C. Serial0/1 is administratively down, line protocol is down
D. Serial0/1 is down, line protocol is down

Answer: D
Explanation:
When the physical interface itself is down, then the problem is related to layer 1. When it is up, but the line protocol is down, then the problem is related to layer 2.

Status Line Condition	Possible Problem	Solution
Serial *x* is down, line protocol is down (DTE mode)	The router is not sensing a CD signal (that is, the CD is not active). A telephone company problem has occurred—line is down or is not connected to CSU/DSU. Cabling is faulty or incorrect. Hardware failure has occurred (CSU/DSU).	1. Check the LEDs on the CSU/DSU to see whether the CD is active, or insert a breakout box on the line to check for the CD signal. 2. Verify that you are using the proper cable and interface (see your hardware installation documentation). 3. Insert a breakout box and check all control leads. 4. Contact your leased-line or other carrier service to see whether there is a problem. 5. Swap faulty parts. 6. If you suspect faulty router hardware, change the serial line to another port. If the connection comes up, the previously connected interface has a problem.

Reference: http://www.cisco.com/univercd/cc/td/doc/cisintwk/itg_v1/tr1915.htm

QUESTION NO: 20
Refer to the exhibit. The DHCP settings have recently been changed on the DHCP server and the client is no longer able to reach network resources. What should be done to correct this situation?

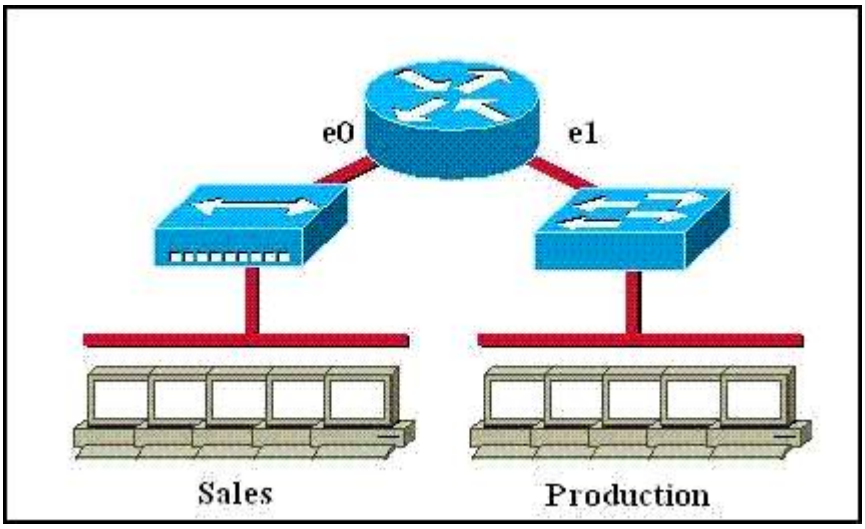


A. Verify that the DNS server address is correct in the DHCP pool.
B. Clear all DHCP leases on the router to prevent address conflicts.

C. Issue the ipconfig command with the /release and /renew options in a command window.
D. Use the tracert command on the DHCP client to first determine where the problem is located.
E. Ping the default gateway to populate the ARP cache.

Answer: C
Explanation:
ipconfig is a command line utility available on all versions of Microsoft Windows starting with Windows NT. ipconfig is designed to be run from the Windows command prompt. This utility allows you to get the IP address information of a Windows computer. It also allows some control over active TCP/IP connections. ipconfig is an alternative to the older 'winipcfg' utility. Using the release and renew options will force the PC to try to obtain an IP address again from the DHCP server.
ipconfig /release
This option terminates any active TCP/IP connections on all network adapters and releases those IP addresses for use by other applications. 'ipconfig /release" can be used with specific Windows connection names. In this case, the command will affect only the specified connections and not all. The command accepts either full connection names or wildcard names.
ipconfig /renew
This option re-establishes TCP/IP connections on all network adapters. As with the release option, ipconfig /renew takes an optional connection name specifier.
Both /renew and /release options only work on clients configured for dynamic (DHCP) addressing.
Reference: http://compnetworking.about.com/od/workingwithipaddresses/a/ipconfig.htm

QUESTION NO: 21
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 five collision domains in the network.
C. There are four broadcast domains in the network.
D. There are four collision domains in the network.
E. There are seven collision domains in the network.
F. There are six broadcast domains in the network.

Answer: A,E
Explanation:
HUB is in itself a broadcast domain, a collision domain.
Switch is a broadcast domain, each interface being a collision domain
Each interface of Router is a broadcast domain.
So in this graphic,
Broadcast domains are:
Both E0 and E1 interface of Router are broadcast domain.
Collision domains are:
1. The HUB connected to Router E0 interface is a collision domain.
2. The Switch connected to Router E1 interface has a collision domain.
3. Five pc are connected to the Switch separately, so there are five collision domains.

QUESTION NO: 22
From where does a small network get its IP network address?

A. Internet Architecture Board (IAB)
B. Internet Assigned Numbers Authority (IANA)
C. Internet Domain Name Registry (IDNR)
D. Internet Service Provider (ISP)

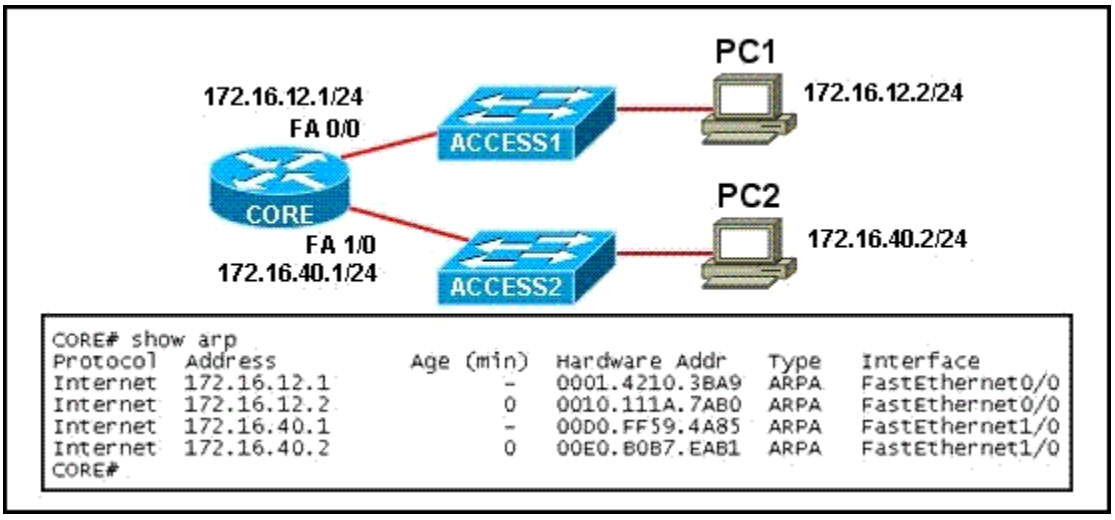
Answer: D

Explanation:

Normally a small network will be assigned a number of IP addresses from their ISP, or in some cases, such as DSL and cable modem, a single dynamic IP address will be assigned by the ISP. Only very large networks requiring a large IP block (normally more than a /20) will register with IANA, RIPE, or ARIN (American Registry of Internet Numbers) to obtain their IP addresses.

QUESTION NO: 23

Refer to the exhibit. PC1 pings PC2. What three things will CORE router do with the data that is received from PC1? (Choose three.)

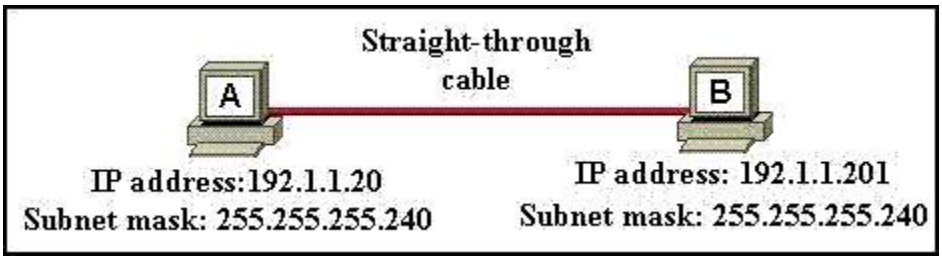


A. CORE router will place the MAC address of PC2 in the destination MAC address of the frames.
B. CORE router will replace the destination IP address of the packets with the IP address of PC2.
C. CORE router will put the MAC address of the forwarding FastEthernet interface in the place of the source MAC address.
D. CORE router will put the IP address of the forwarding FastEthernet interface in the place of the source IP address in the packets.
E. The data frames will be forwarded out interface FastEthernet0/1 of CORE router.
F. The data frames will be forwarded out interface FastEthernet1/0 of CORE router.

Answer: A,C,F

QUESTION NO: 24

A network administrator is connecting PC hosts A and B directly through their Ethernet interfaces as shown in the graphic. Ping attempts between the hosts are unsuccessful. What can be done to provide connectivity between the hosts? (Choose two.)



A. A rollover cable should be used in place of the straight-through cable
B. The subnet masks should be set to 255.255.255.0.
C. A crossover cable should be used in place of the straight-through cable.
D. The hosts must be reconfigured to use private IP addresses for direct connections of this type.
E. A default gateway needs to be set on each host.
F. The subnet masks should be set to 255.255.255.192.

Answer: B,C

Explanation:
This problem is due to the misconfiguration of subnet mask as well as the fact that a straight-through cable is used to connect the two devices. To ensure connectivity, the correct subnet mask needs to be used so that the two devices are in the same subnet and when connecting two PC's back to back a crossover cable should be used.

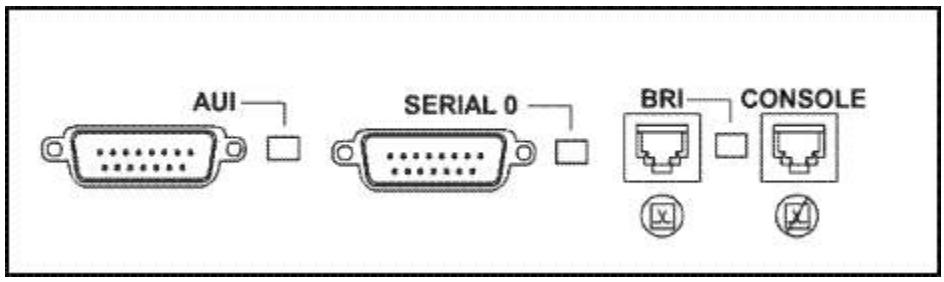
QUESTION NO: 25
What are two recommended ways of protecting network device configuration files from outside network security threats? (Choose two.)

A. Use a firewall to restrict access from the outside to the network devices.
B. Always use Telnet to access the device command line because its data is automatically encrypted.
C. Prevent the loss of passwords by disabling password encryption.
D. Allow unrestricted access to the console or VTY ports.
E. Use SSH or another encrypted and authenticated transport to access device configurations.

Answer: A,E
Explanation:
Whenever the trusted (inside) part of the network connects to an untrusted (outside, or internet) network, the use of a firewall should be implemented to ensure only legitimate traffic is allowed within the enterprise. SSH is a secure alternative to telnet that encrypts the traffic so that data carried within can not be "sniffed." It is always recommended to use SSH over telnet whenever possible.

QUESTION NO: 26
This graphic shows some common router ports. Which port can be used for a WAN T1

connection?



A. BRI
B. Console
C. Serial 0
D. AUI

Answer: C
Explanation:
Serial is usually used when connecting router and WAN.

From the choices above, only the serial connection can be used for a data T1. In this case, the serial interface would connect to an external CSU/DSU.
Incorrect Answers:
* The router includes an asynchronous serial console port and an auxiliary port. The console and auxiliary ports provide access to the router either locally using a console terminal connected to the console port, or remotely using a modem connected to the auxiliary port.
* For flexibility, some Cisco routers provide a generic AUI connector for Ethernet ports. These AUI ports are designed to connect to an external transceiver for conversion to a specific media type (such as twisted pair, coax, or fiber).
* BRI ports are used to connect to ISDN links, not T1.
Reference:
http://www.ieng.net/univercd/cc/td/doc/product/access/acs_mod/2800/hw/03_hw.htm#wp1033227

QUESTION NO: 27
Which two statements best describe the wireless security standard that is defined by WPA? (Choose two.)

A. It specifies use of a static encryption key that must be changed frequently to enhance security.
B. It specifies the use of dynamic encryption keys that change each time a client establishes a connection.
C. It requires that all access points and wireless devices use the same encryption key.
D. It includes authentication by PSK.

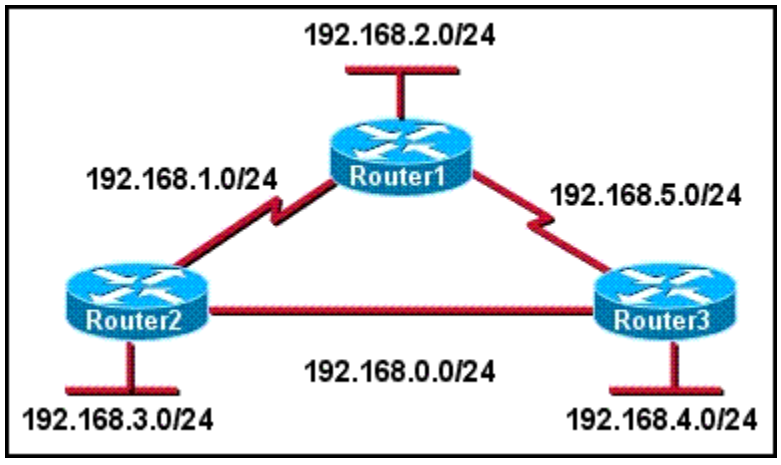
E. It requires use of an open authentication method.

Answer: B,D

Explanation:
WPA is a more powerful security technology for Wi-Fi networks than WEP. It provides strong data protection by using encryption as well as strong access controls and user authentication. WPA utilizes 128-bit encryption keys and dynamic session keys to ensure your wireless network's privacy and enterprise security.
There are two basic forms of WPA:
WPA Enterprise (requires a Radius server)
WPA Personal (also known as WPA-PSK)

Either can use TKIP or AES for encryption. Not all WPA hardware supports AES.
WPA-PSK is basically an authentication mechanism in which users provide some form of credentials to verify that they should be allowed access to a network. This requires a single password entered into each WLAN node (Access Points, Wireless Routers, client adapters, bridges). As long as the passwords match, a client will be granted access to a WLAN.
Encryption mechanisms used for WPA and WPA-PSK are the same. The only difference between the two is in WPA-PSK, authentication is reduced to a simple common password, instead of user-specific credentials.
The Pre-Shared Key (PSK) mode of WPA is considered vulnerable to the same risks as any other shared password system - dictionary attacks for example. Another issue may be key management difficulties such as removing a user once access has been granted where the key is shared among multiple users, not likely in a home environment.
Reference: http://www.dslreports.com/faq/wifisecurity/2.2_WPA

QUESTION NO: 28
Refer to the exhibit. Router1 and Router3 are already configured with RIPv2. What are the minimum network commands that are required on Router2 for all networks to converge?



A. (config-router)# network 192.168.0.0
B. (config-router)# network 192.168.0.0
(config-router)# network 192.168.1.0
(config-router)# network 192.168.3.0
C. (config-router)# network 192.168.0.0
(config-router)# network 192.168.1.0
D. (config-router)# network 192.168.2.0
(config-router)# network 192.168.3.0
(config-router)# network 192.168.4.0

Answer: B

QUESTION NO: 29
What are two advantages of Layer 2 Ethernet switches over hubs? (Choose two.)

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

Answer: B,C
Explanation:
The advantages of Layer 2 switches over hub are: switch allows not only simultaneous frame transmissions, data amplification and modification, but can also filter frames and fragments.

QUESTION NO: 30
Which two statements describe the IP address 10.16.3.65/23? (Choose two.)

A. The last valid host address in the subnet is 10.16.2.254 255.255.254.0
B. The broadcast address of the subnet is 10.16.3.255 255.255.254.0.
C. The lowest host address in the subnet is 10.16.2.1 255.255.254.0.
D. The subnet address is 10.16.3.0 255.255.254.0.
E. The network is not subnetted.

Answer: B,C
Explanation:
A subnet mask of /23 translates to 255.255.254.0 and will provide for up to 512 IP addresses.
If we take the 10.16.X.X network using the /23 subnet mask, the first network available is

10.16.0.0/23, which will provide host address from 10.16.0.1 to 10.16.2.254, with 10.16.2.255 being the broadcast address. The next available network in the 10.16.X.X covers our example in this question of 10.16.3.66.
In this case, the first useable IP address is (10.16.2.1 choice E), and the broadcast address is 10.16.3.255 (choice A).

In closing, the partial reference table on IPv4 subnets:

CIDR	Net mask	Addresses
/18	255.255.192.0	16384
/19	255.255.224.0	8192
/20	255.255.240.0	4096
/21	255.255.248.0	2048
/22	255.255.252.0	1024
/23	255.255.254.0	512
/24	255.255.255.0	256
/25	255.255.255.128	128
/26	255.255.255.192	64
/27	255.255.255.224	32
/28	255.255.255.240	16