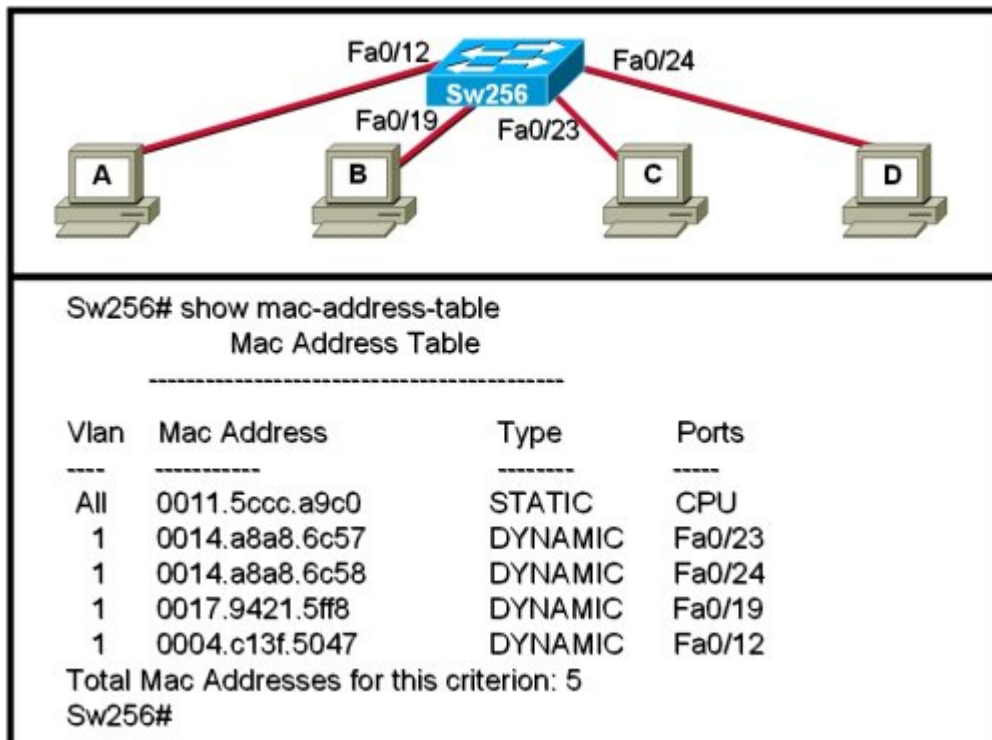# Cisco Networking Acedemy

Final Exam

A PC can not connect to any remote websites, ping its default gateway, or ping a printer that is functioning properly on the local network segment. Which action will verify that the TCP/IP stack is functioning correctly on this PC?

○ Use the ipconfig /all command at the host's command prompt.

◉ Use the ping 127.0.0.1 command at the command prompt.

○ Use the traceroute command at the command prompt to identify any failures on the path to the gateway.

○ Use FTP to check for connectivity to remote sites.

○ Download a troubleshooting tool from the PC manufacturer's website.
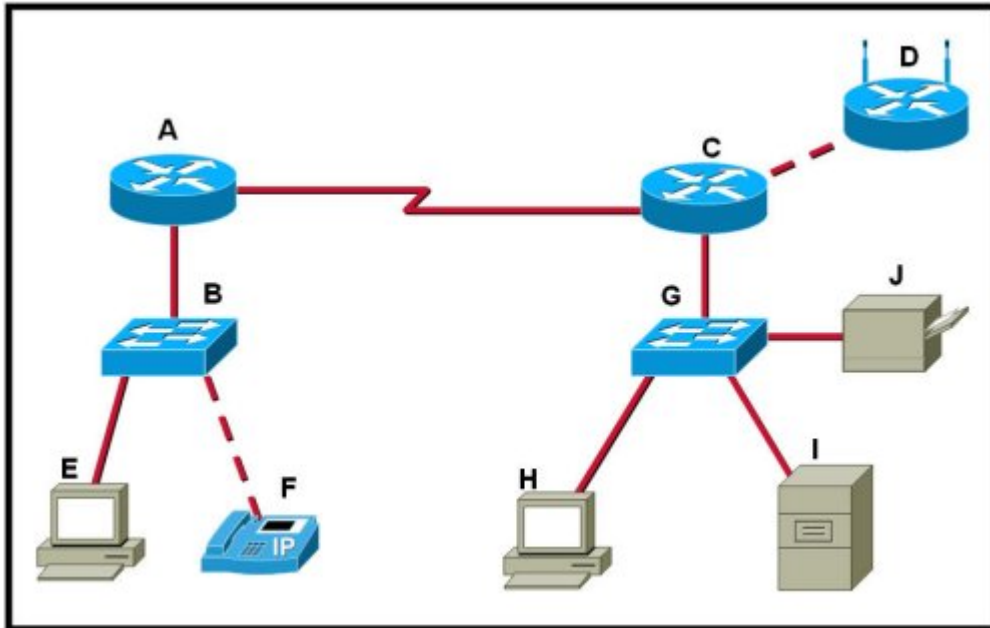
Refer to the exhibit. Which set of devices contains only intermediary devices?

◉ A, B, D, G

○ A, B, E, F

○ C, D, G, I

○ G, H, I, J

```
Fa0/12                    Fa0/24
          Sw256
     Fa0/19    Fa0/23

  A        B         C          D
```

Sw256# show mac-address-table
         Mac Address Table

Vlan   Mac Address   Type   Ports
----   -----------   --------   -----
All   0011.5ccc.a9c0   STATIC   CPU
1   0014.a8a8.6c57   DYNAMIC   Fa0/23
1   0014.a8a8.6c58   DYNAMIC   Fa0/24
1   0017.9421.5ff8   DYNAMIC   Fa0/19
1   0004.c13f.5047   DYNAMIC   Fa0/12
Total Mac Addresses for this criterion: 5
Sw256#

Refer to the exhibit. When computer A sends a frame to computer D, what computers receive the frame?

⦿ only computer D

◯ only computer A and computer D

◯ only computer B, computer C, and computer D

◯ all computers

Which password is automatically encrypted when it is created?

◯ vty

◯ aux

◯ console

⦿ enable secret

◯ enable password

Which three statements characterize the transport layer protocols? (Choose three.)

☑ TCP and UDP port numbers are used by application layer protocols.

☐ TCP uses port numbers to provide reliable transportation of IP packets.

☐ UDP uses windowing and acknowledgments for reliable transfer of data.

☑ TCP uses windowing and sequencing to provide reliable transfer of data.

☑ TCP is a connection-oriented protocol. UDP is a connectionless protocol.

Which type of media is immune to EMI and RFI? (Choose two.)

☐ 10 Base-T

☐ 10 Base-2

☐ 10 Base-5

☑ 100 Base-FX

☐ 100 Base TX

☑ 1000 Base LX

```
C:\> ipconfig /all

Windows IP Configuration

        Host Name . . . . . . . . . . . . : md-wxp2
        Primary Dns Suffix  . . . . . . . : cisco.com
        Node Type . . . . . . . . . . .. . : Hybrid
        IP Routing Enabled. . . . . . . : No
        WINS Proxy Enabled. . . . . . . : No
        DNS Suffix Search List. . . . . . : cisco.com

Ethernet adapter Wireless Network Connection:

        Connection-specific DNS Suffix  . : cisco.com
        Description . . . . . . . . . . . . : Intel(R) PRO/Wireless 3945ABG
        Physical Address. . . . . . . . . : 00-18-DE-C7-F3-FB
        Dhcp Enabled. . . . . . . . . . . : No
        IP Address. . . . . . . . . . . . . : 192.168.254.9
        Subnet Mask . . . . . . . . . . . : 255.255.255.0
        Default Gateway . . . . . . . . . : 192.168.254.1
        DNS Servers . . . . . . . . . . . : 192.168.64.196
```
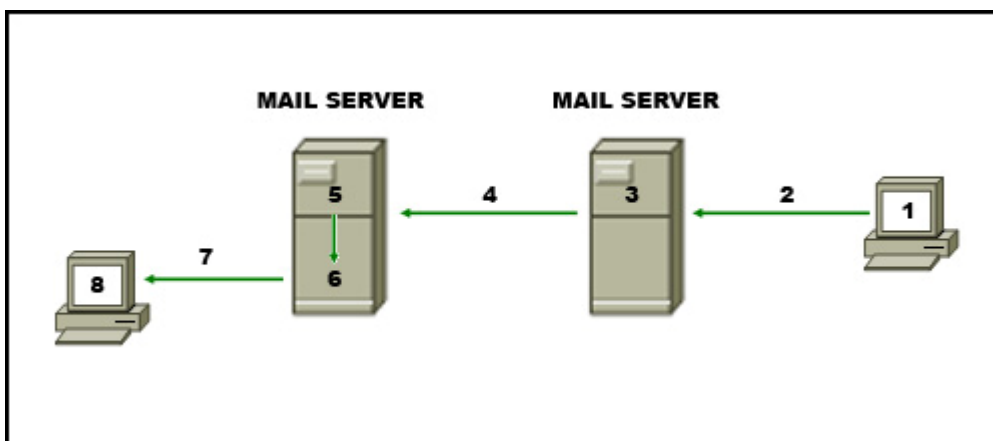
Refer to the exhibit. A technician is working on a network problem that requires verification of the router LAN interface. What address should be pinged from this host to confirm that the router interface is operational?

☐ 127.0.0.1

☐ 192.168.64.196

◉ 192.168.254.1

☐ 192.168.254.9

☐ 192.168.254.254

Refer to the exhibit. The diagram represents the process of sending email between clients.

Select the list below that correctly identifies the component or protocol used at each numbered stage of the diagram.

- ☐ 1.MUA 2.MDA 3.MTA 4.SMTP 5.MTA 6.POP 7.MDA 8.MUA
- ☐ 1.MUA 2.POP 3.MDA 4.SMTP 5.MTA 6.MDA 7.SMTP 8.MUA
- ☐ 1.MUA 2.POP 3.SMTP 4.MDA 5.MTA 6.SMTP 7.POP 8.MUA
- ☐ 1.MDA 2.SMTP 3.MTA 4.SMTP 5.MTA 6.MUA 7.POP 8.MDA
- ◉ 1.MUA 2.SMTP 3.MTA 4.SMTP 5.MTA 6.MDA 7.POP 8.MUA
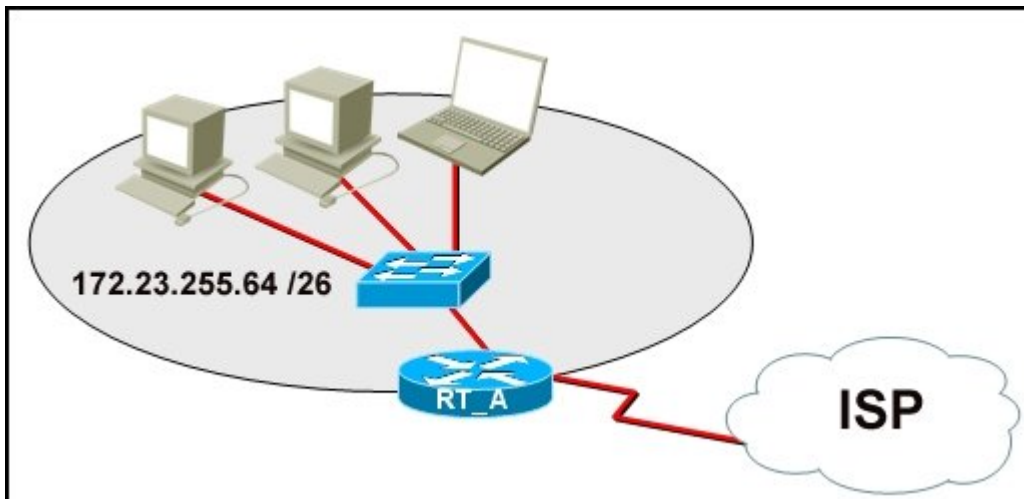
Refer to the exhibit. What function does router RT_A need to provide to allow Internet access for hosts in this network?

- ◉ address translation
- ☐ DHCP services
- ☐ ftpd
- ☐ web server

Refer to the exhibit. The network containing router B is experiencing problems. A network associate has isolated the issue in this network to router B? What action can be preformed to correct the network issue?

- ☐ issue the **ip address** command on interface FastEthernet 0/0
- ◉ issue the **no shutdown** command on interface FastEthernet 0/1
- ☐ issue the **clock rate** command on interface Serial 0/0/0
- ☐ issue the **description** command on interface Serial 0/0/1

Which three IPv4 addresses represent a broadcast for a subnet? (Choose three.)

- ☑ 172.16.4.63 /26
- ☐ 172.16.4.129 /26
- ☑ 172.16.4.191 /26
- ☐ 172.16.4.51 /27
- ☑ 172.16.4.95 /27
- ☐ 172.16.4.221 /27

What are three characteristics of CSMA/CD? (Choose three.)

- ☐ Devices can be configured with a higher transmission priority.
- ☐ A jam signal indicates that the collision has cleared and the media is not busy.
- ☑ A device listens and waits until the media is not busy before transmitting.
- ☐ The device with the electronic token is the only one that can transmit after a collision.
- ☑ All of the devices on a segment see data that passes on the network medium.
- ☑ After detecting a collision, hosts can attempt to resume transmission after a random time delay has expired.

In a Cisco IOS device, where is the startup-configuration file stored?

- ☐ Flash
- ☑ NVRAM
- ☐ RAM
- ☐ ROM

A routing issue has occurred in you internetwork. Which of the following type of devices should be examined to isolate this error?

- ☐ access point
- ☐ host
- ☐ hub
- ☑ router
- ☐ switch

Which OSI layer protocol does IP rely on to determine whether packets have been lost and to request retransmission?

- ☐ application
- ☐ presentation
- ☐ session
- ☑ transport

Due to a security violation, the router passwords must be changed. What information can be learned from the following configuration entries? (Choose two.)

Router(config)# **line vty 0 3**
Router(config-line)# **password c13c0**
Router(config-line)# **login**

☐ The entries specify three Telnet lines for remote access.

☑ The entries specify four Telnet lines for remote access.

☐ The entries set the console and Telnet password to "c13c0".

☐ Telnet access will be denied because the Telnet configuration is incomplete.

☑ Access will be permitted for Telnet using "c13c0" as the password.

Which prompt represents the appropriate mode used for the **copy running-config startup-config** command ?

☐ Switch-6J>

◉ Switch-6J#

☐ Switch-6J(config)#

☐ Switch-6J(config-if)#

☐ Switch-6J(config-line)#

Which combination of network id and subnet mask correctly identifies all IP addresses from 172.16.128.0 through 172.16.159.255?

☐ 172.16.128.0 255.255.255.224

☐ 172.16.128.0 255.255.0.0

☑ 172.16.128.0 255.255.192.0

◯ 172.16.128.0 255.255.224.0

☐ 172.16.128.0 255.255.255.192

When must a router serial interface be configured with the **clock rate** command?

☐ when the interface is functioning as a DTE device

☐ when the interface timers have been cleared

☐ when the connected DTE device is shut down

◉ when the interface is functioning as a DCE device

When connectionless protocols are implemented at the lower layers of the OSI model, what are usually used to acknowledge the data receipt and request the retransmission of missing data?

☐ connectionless acknowledgements

◉ upper-layer connection-oriented protocols

☐ Network layer IP protocols

☐ Transport layer UDP protocols

A technician is asked to secure the privileged EXEC mode of a switch by requiring a password. Which type of password would require this login and be considered the most
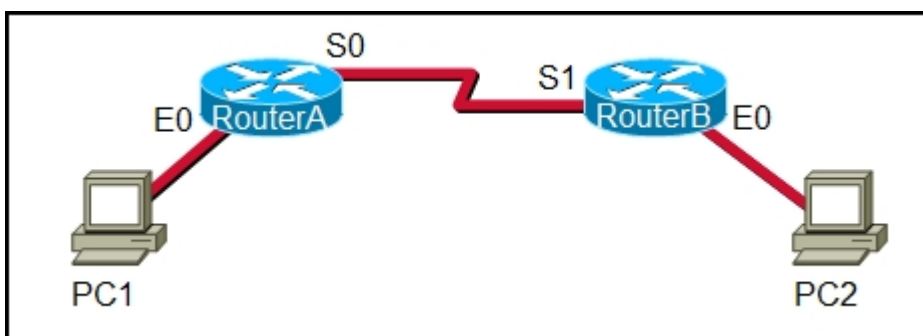
secure?

- ☐ console
- ☐ enable
- ◉ enable secret
- ☐ VTY
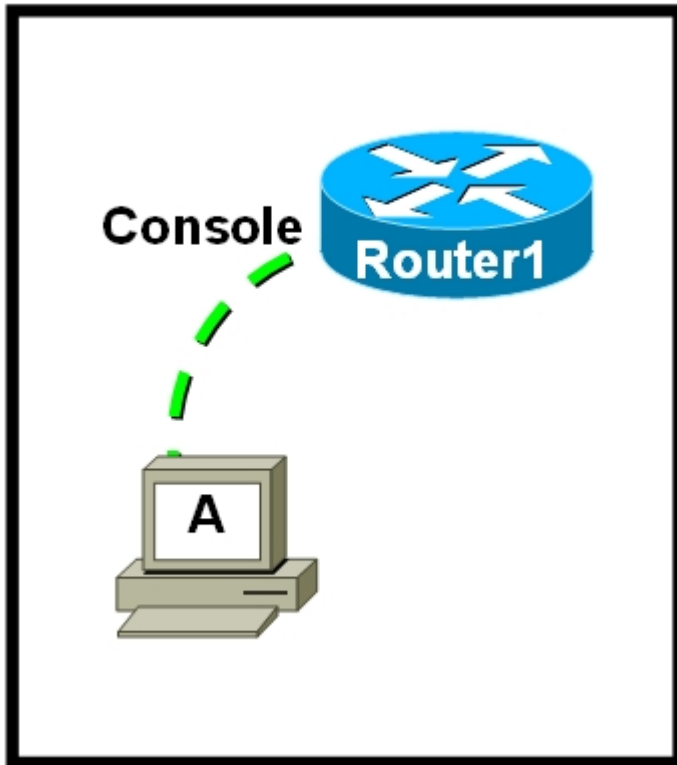
Refer to the exhibit. What is required on host A for a network technician to create the initial configuration on RouterA?

- ☐ a FTP client
- ☐ a telnet client
- ◉ a terminal emulation program
- ☐ a web browser

Refer to the exhibit. A network administrator remotely accesses the CLI of RouterB from PC1. Which two statements are true about the application layer protocol that is used to make this connection? (Choose two.)

☐ The data is encrypted.

☑ The connection type is called a VTY session.

☐ A server process is running on PC1.

☐ A GET request is sent to RouterB.

☑ The application name is the same for the service, protocol, and client.

The Layer 4 header contains which type of information to aid in the delivery of data?

◉ service port number

◯ host logical address

◯ device physical address

◯ virtual connection identifier
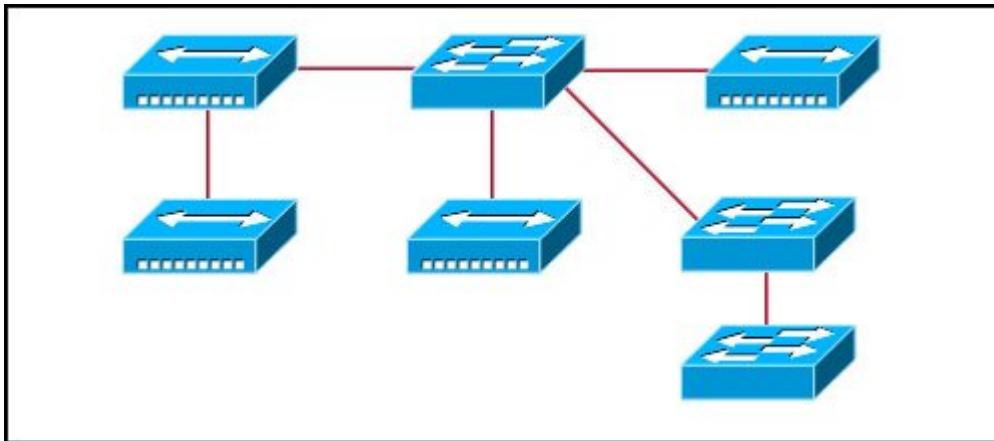
Refer to the exhibit. What two facts can be determined about the exhibited topology? (Choose two.)

☑ A single broadcast domain is present

☐ Two logical address ranges are required.

☐ Three broadcast domains are shown.

☐ Four networks are needed.

☑ Five collision domains exist.
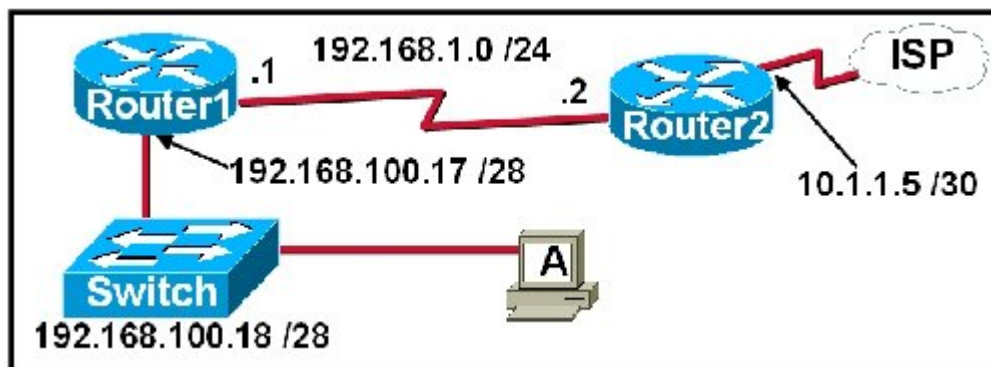
Refer to the exhibit. A network technician is trying to determine the correct IP address

configuration for Host A. What is a valid configuration for Host A?

- ○ IP address: 192.168.100.19; Subnet Mask: 255.255.255.248; Default Gateway: 192.16.1.2
- ◉ IP address: 192.168.100.20; Subnet Mask: 255.255.255.240; Default Gateway: 192.168.100.17
- ○ IP address: 192.168.100.21; Subnet Mask: 255.255.255.248; Default Gateway: 192.168.100.18
- ○ IP address: 192.168.100.22; Subnet Mask: 255.255.255.240; Default Gateway: 10.1.1.5
- ○ IP address: 192.168.100.30; Subnet Mask: 255.255.255.240; Default Gateway: 192.168.1.1
- ○ IP address: 192.168.100.31; Subnet Mask: 255.255.255.240; Default Gateway: 192.168.100.18
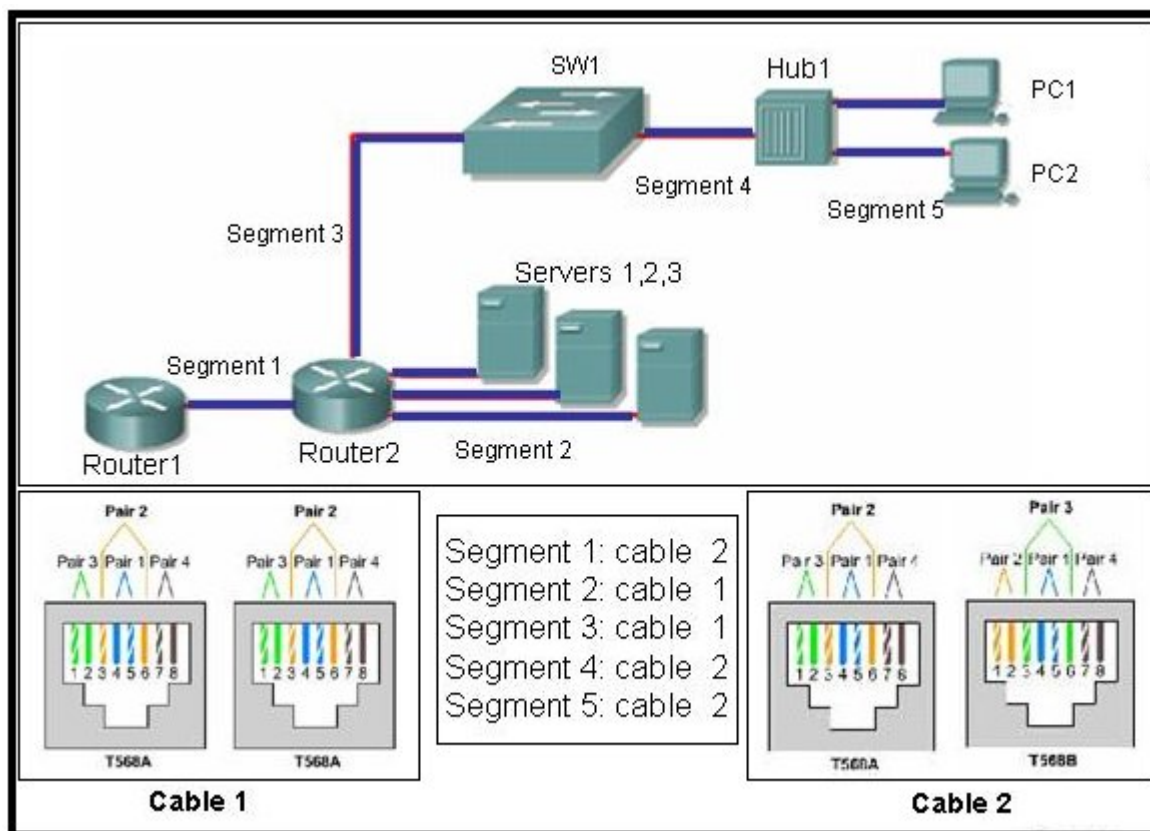
Refer to the exhibit. Cable 1 and cable 2 have the ends wired for specific physical layer requirements. The table lists each segment by number and the cable which has been installed by the network technician between the network components on that segment. From the data given, which segments have the correct cable installed? (Choose three.)

- ☑ segment1

- ☐ segment2

- ☑ segment3

- ☑ segment4

☐ segment5

What is true regarding network layer addressing? (Choose three.)

☐ uses a flat structure
☐ prevent broadcasts
☑ heirarchical
☑ uniquely identifies each host
☐ 48 bits in length
☑ contains a network portion

```
Gateway of last resort is 192.168.1.3 to network 0.0.0.0

10.0.0.0/24 is subnetted, 2 subnets

R      10.1.1.0 [120/2] via 192.168.1.3, 00:00:03, FastEthernet0/1

R      10.1.2.0 [120/2] via 192.168.1.3, 00:00:03, FastEthernet0/1

192.168.1.0/29 is subnetted, 1 subnets

C      192.168.1.0 is directly connected, FastEthernet0/1

192.168.2.0/29 is subnetted, 1 subnets

C      192.168.2.0 is directly connected, FastEthernet0/0

S*     0.0.0.0/0  [1/0] via 192.168.1.3
```

Refer to the exhibit. A router, whose table is shown, receives a packet that is destined for 192.168.1.4. How will router treat the packet?

◌ The packet will be dropped.
◌ The packet will be forwarded via FastEthernet 0/0.
◉ The packet will be forwarded to the destination host.
◌ The packet will be forwarded to the 192.168.1.3 next-hop address.

Partial Layer 4 Header			
Bit 0		Bit 16	Bit 31
Source Port	13357	Destination Port	23
Sequence Number	3001		
Header Length, Reserved, Code Bits		Window	1500

Refer to the exhibit. Which two statements describe the information that is represented in the header? (Choose two.)

☐ This is a server response.

☐ The UDP protocol is being used.

☑ The destination port indicates a Telnet session.

☑ The return segment will contain a source port of 23.

☐ The next session originated from the client of this session will use the source port number 13358.
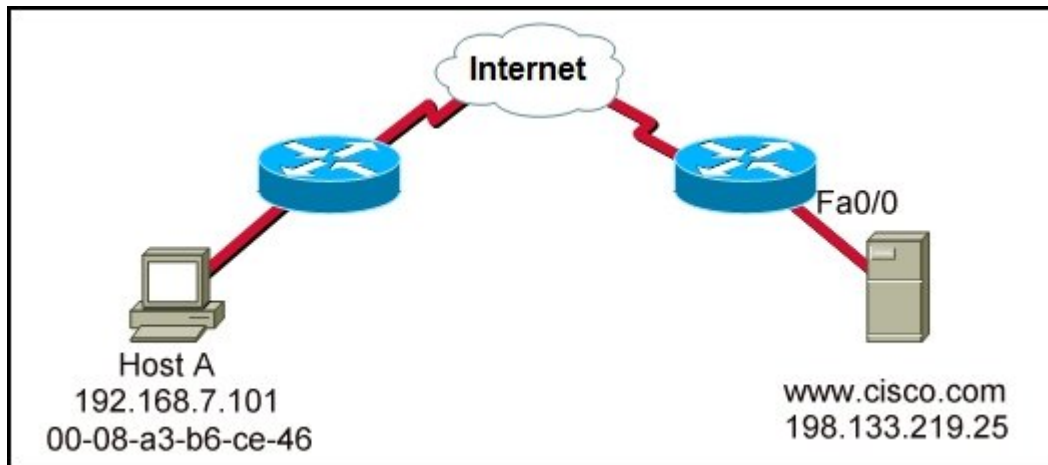
Refer to the exhibit. What is the correct destination socket number for a web page request from Host A to the web server?

☐ 00-08-a3-b6-ce-46

◉ 198.133.219.25:80

☐ http://www.cisco.com

☐ C 198.133.219.0/24 is directly connected, FastEthernet0/0

During the encapsulation process, which identifiers are added at the transport layer?

☐ two networks routing the packets

◉ two applications communicating the data

☐ two hosts at either end of the communication

☐ two nodes on the local network exchanging the frame
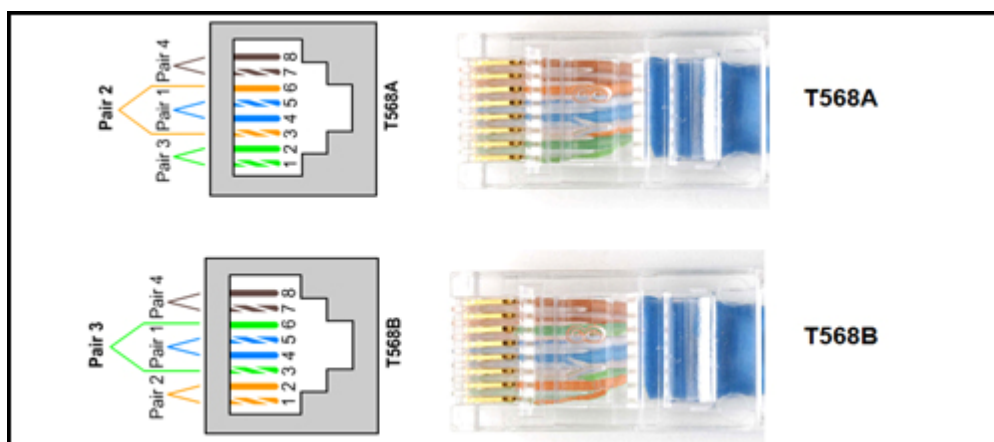
Refer to the exhibit. A student has wired each end of a CAT 5e cable as shown. What is the result? (Choose two.)

☐ The cable is unusable and must be rewired.

☐ The cable is suitable for use as a Gigabit Ethernet straight-through.

☑ The cable is suitable for use as a Fast Ethernet crossover.

☐ The cable is suitable for use as a rollover cable.

☐ The cable is suitable for use as a Gigabit Ethernet crossover.

☑ The cable is suitable for use between two 100 Mbps Auto-MDIX capable switches.
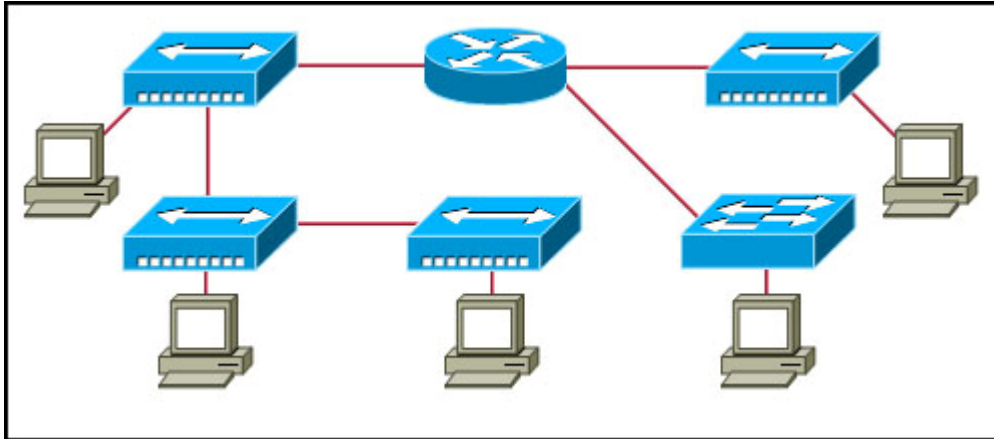
Refer to the exhibit. Assume all devices are using default configurations. How many subnets are required to address the topology that is shown?

○ 1

◉ 3

○ 4

○ 5

○ 7
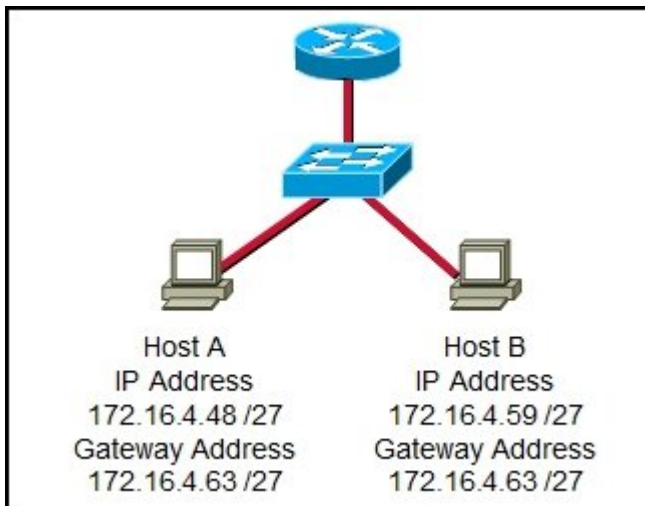
Refer to the exhibit. On the basis of the IP configuration that is shown, what is the reason that Host A and Host B are unable to communicate outside the local network?

○ Host A was assigned a network address.

○ Host B was assigned a multicast address.

○ Host A and Host B belong to different networks.

◉ The gateway address was assigned a broadcast address.

Refer to the exhibit. Each media link is labeled. What type of cable should be used to connect the different devices?

- ☐ Connection 1 - rollover cable
  Connection 2 - straight-through cable
  Connection 3 - crossover cable
- ☐ Connection 1 - crossover cable
  Connection 2 - rollover cable
  Connection 3 - crossover cable
- ☐ Connection 1 - straight-through cable
  Connection 2 - crossover cable
  Connection 3 - crossover cable
- ☉ Connection 1 - straight-through cable
  Connection 2 - crossover cable
  Connection 3 - straight-through cable
- ☐ Connection 1 - crossover cable
  Connection 2 - straight-through cable
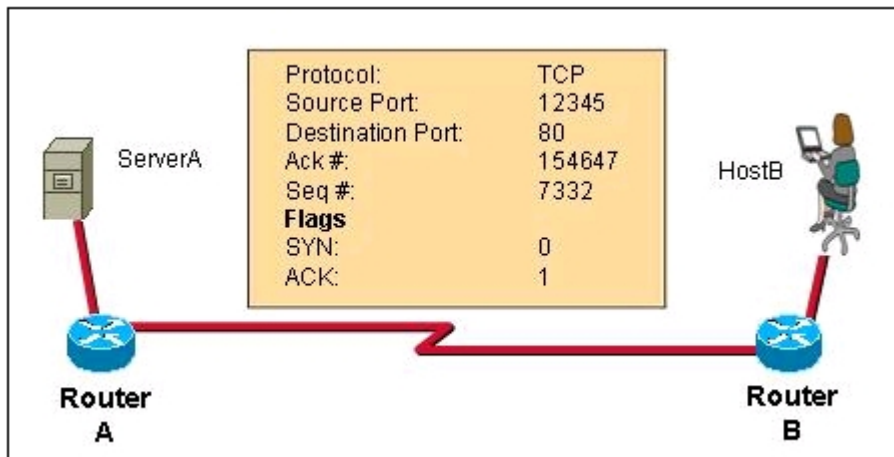 Connection 3 - crossover cable

Refer to the exhibit. What does the IP address 192.168.33.2 represent?

- ☐ The host's default gateway.
- ☐ The host's IP address.
- ☉ The host's primary domain name server.
- ☐ The IP address of the website resolver1.mooki.local.
- ☐ The IP address of the host's homepage.

Refer to the exhibit. What two facts can be determined from the information that is given? (Choose two.)

- ☐ This exchange is part of the three-way handshake.
- ☐ The source port indicates that a Telnet session has been initiated.
- ☐ The data is flowing from server to client.
- ☑ The destination port indicates that an HTTP session has been initiated.
- ☑ The data listed is associated with the transport layer.
- ☐ The source port does not support communication with the destination port that is listed.

Which of the following are the address ranges of the private IP addresses? (Choose three.)

- ☑ 10.0.0.0 to 10.255.255.255
- ☐ 200.100.50.0 to 200.100.25.255
- ☐ 150.150.0.0 to 150.150.255.255
- ☑ 172.16.0.0 to 172.31.255.255
- ☑ 192.168.0.0 to 192.168.255.255
- ☐ 127.16.0.0 to 127.31.255.255

Which two functions of the OSI model occur at layer two? (Choose two.)

- ☑ physical addressing
- ☐ encoding
- ☐ routing
- ☐ cabling
- ☑ media access control

Which range of port numbers are reserved for services that are commonly used by applications that run on servers?

- ☐ 0 to 255
- ☉ 0 to 1023
- ☐ 1024 to 49151
- ☐ 49152 to 65535

As network administrator, what is the subnet mask that allows 510 hosts given the IP address 172.30.0.0?

- 255.255.0.0
- 255.255.248.0
- 255.255.252.0
- ● 255.255.254.0
- 255.255.255.0
- 255.255.255.128
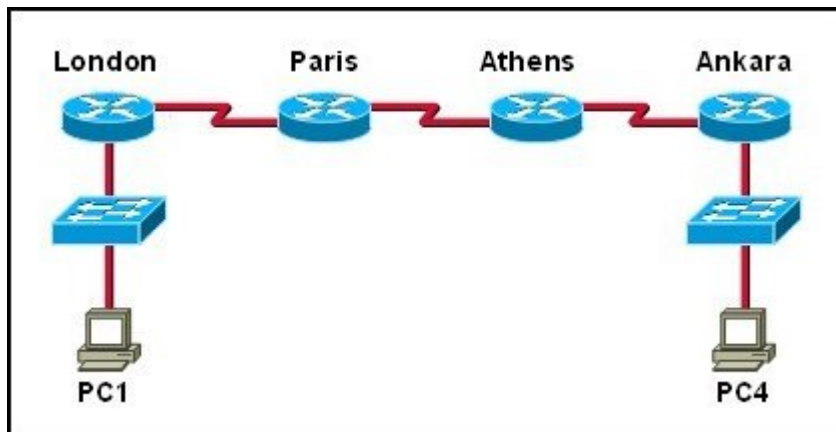
Refer to the exhibit. The **tracert** command is initiated from PC1 to the destination PC4. Which device will send a response to the initial packet from PC1?

- ◉ London
- Paris
- ✗ Athens
- Ankara
- PC4
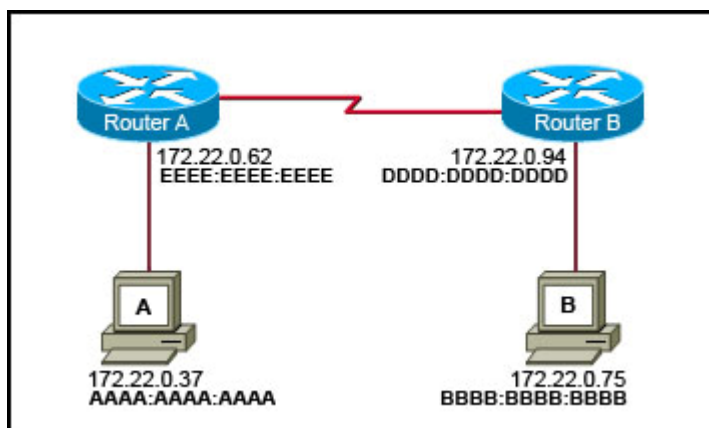
Refer to the exhibit. Host A is transmitting data to host B. What addresses will host A use to for the destination IP and MAC addresses in this communication?

- Destination MAC: BBBB:BBBB:BBBB Destination IP: 172.22.0.62
- Destination MAC: DDDD:DDDD:DDDD Destination IP: 172.22.0.75
- Destination MAC: EEEE:EEEE:EEEE Destination IP: 172.22.0.62
- Destination MAC: BBBB:BBBB:BBBB Destination IP: 172.22.0.75

- ⦿ Destination MAC: EEEE:EEEE:EEEE Destination IP: 172.22.0.75
- ⦾ Destination MAC: DDDD:DDDD:DDDD Destination IP: 172.22.0.94
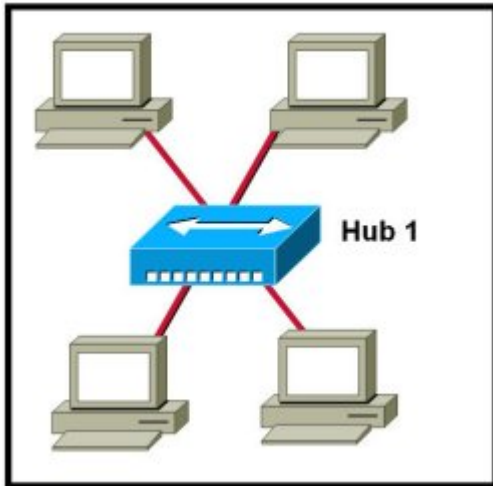
Refer to the exhibit. Which logical topology best describes the exhibited network?

- ⦾ star
- ⦾ ring
- ⦾ point-to-point
- ⦿ multiaccess
- ⦾ mesh
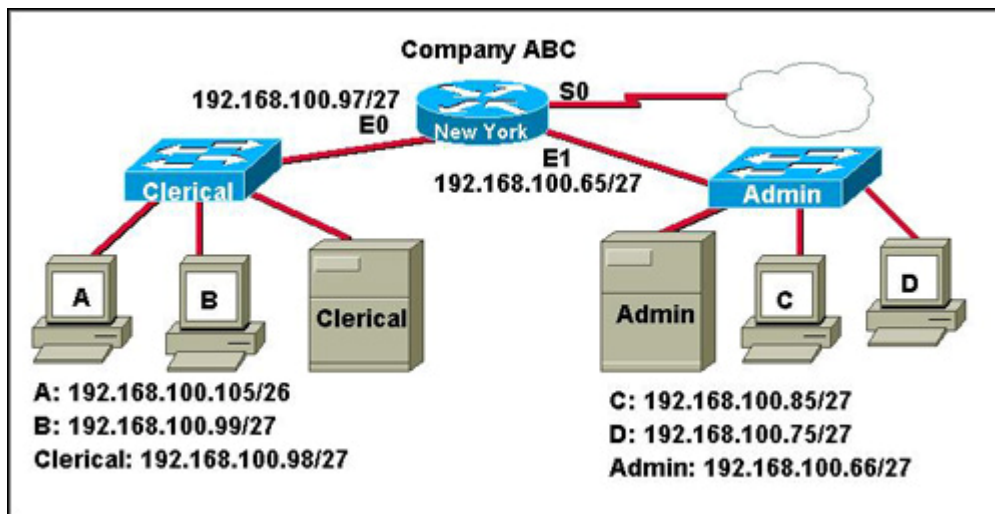
Examine the graphic with current configurations. Host A in the Clerical offices failed and was replaced. Although a ping to 127.0.0.1 was successful, the replacement computer can not access the company network. What is the likely cause of the problem?

- ⦾ IP address incorrectly entered
- ⦾ network cables unplugged
- ⦿ subnet mask incorrectly entered
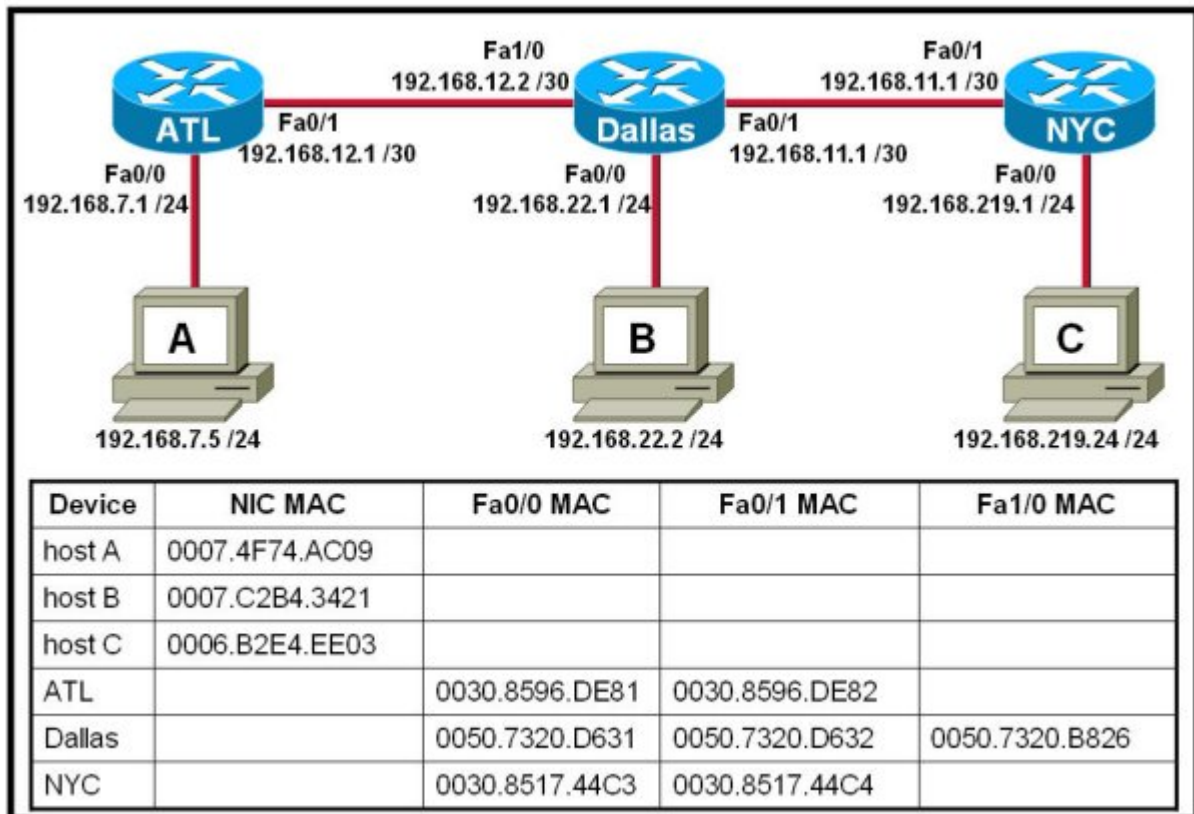- ⦾ network card failure
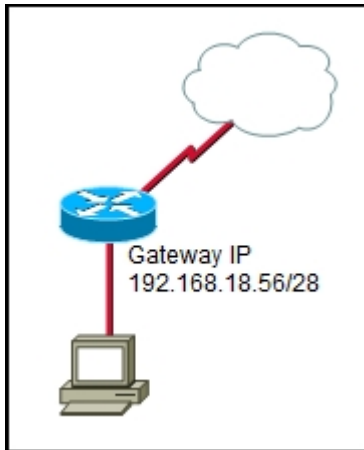
Refer to the exhibit. With the router running NAT, what IP addresses can be applied to the computer to allow access to the Internet? (Choose three.)

- ☐ 192.168.18.38
- ☐ 192.168.18.48
- ☑ 192.168.18.49
- ☑ 192.168.18.52
- ☑ 192.168.18.59
- ☐ 192.168.18.63
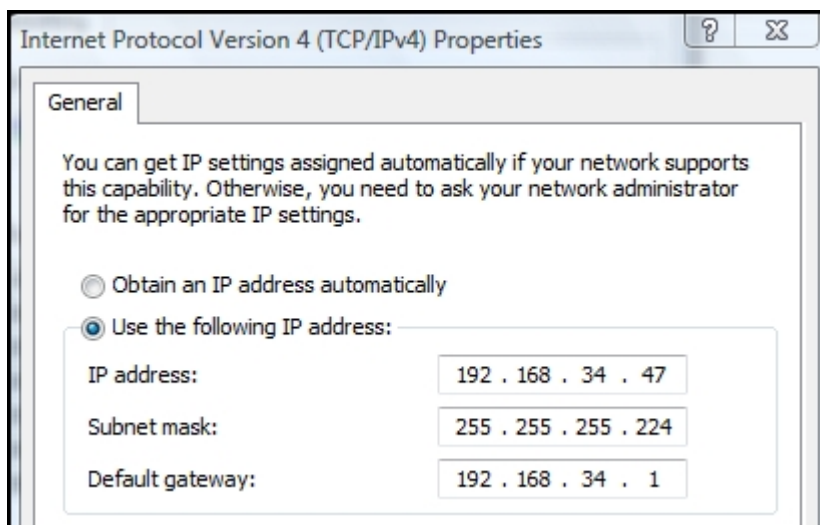
Refer to the exhibit. What three statements are true about the IP configuration that is shown? (Choose three.)

- ☑ The address that is assigned to the computer represents private addressing.
- ☑ The computer is unable to communicate outside of the local network.
- ☐ The network of this computer can have 126 hosts.
- ☑ The prefix of the computer address is /27.
- ☐ The IP address that is assigned to the computer is routable on the Internet.
- ☐ The IP address that is assigned to the computer is a broadcast address.

Device	NIC MAC	Fa0/0 MAC	Fa0/1 MAC	Fa1/0 MAC
host A	0007.4F74.AC09			
host B	0007.C2B4.3421			
host C	0006.B2E4.EE03			
ATL		0030.8596.DE81	0030.8596.DE82	
Dallas		0050.7320.D631	0050.7320.D632	0050.7320.B826
NYC		0030.8517.44C3	0030.8517.44C4	

Refer to the exhibit. Host A attempts to establish a TCP/IP session with host C. During this attempt, a frame was captured with the source MAC address 0050.7320.D632 and the destination MAC address 0030.8517.44C4. The packet inside the captured frame has an IP source address 192.168.7.5, and the destination IP address is 192.168.219.24. At which point in the network was this packet captured?

○ leaving host A

○ leaving ATL

◉ leaving Dallas

○ leaving NYC

Which of the following OSI layers offers reliable, connection-oriented data communication services?

☐ application

☐ presentation

☐ session

◉ transport

☒ network