Which three statements are true regarding the encapsulation and de-encapsulation of packets when traveling through a router? (Choose three.)
- The router modifies the TTL field, decrementing it by one.
- The router maintains the same source and destination IP.
- The router changes the source physical address to the physical address of the exit interface.

Which of the following are primary functions of a router? (Choose two.)
- packet switching
- path selection

Refer to the exhibit. Which statement is true concerning the routing configuration?
- Packets routed to the R2 ethernet interface require two routing table lookups.

Refer to the exhibit. The results of the show ip route command are displayed in the graphic for Router R2. Which route will be selected for a packet with a destination address of 10.1.4.1?
- 0.0.0.0/0 via 192.168.0.1

Refer to the exhibit. Packets destined to which two networks will require the router to perform a recursive lookup? (Choose two.)
- 10.0.0.0/8
- 192.168.2.0/24

Refer to the exhibit. Pings are failing between HostA and HostB. The network administrator discovers that Router1 does not have a route to the 172.16.0.0 network. Assuming Router2 is configured correctly, which two static routes could be configured on Router1 to enable Host A to reach network 172.16.0.0? (Choose two.)
- ip route 172.16.0.0 255.255.0.0 S0/0
- ip route 172.16.0.0 255.255.0.0 192.168.0.2

What can be determined from the output shown in the exhibit? (Choose two.)
- Montgomery has Layer 2 connectivity with Cumberland.
- Brant, Fisherman, and Potomac are directly connected to Montgomery.

Refer to the exhibit. Which path will traffic from the 172.16.1.0/24 network take to get to the 10.0.0.0/24 network?
- It will load balance the traffic between ADC and ABC

Which two statements are true regarding link-state routing protocols? (Choose two.)
- They are aware of the complete network topology.
- They offer rapid convergence times in large networks

Refer to the routing table shown in the exhibit. What is the meaning of the highlighted value 192?
- It is the metric, which is cost

A router has learned about a network through static and dynamic routing processes. Which route will be used to reach network 192.168.168.0?
- S 192.168.168.0/24 [1/0] via 192.168.200.1

When presented with multiple valid routes to a destination, what criteria does a router use to determine which routes to add to the routing table?
- The router first selects routes with the lowest administrative distance. The resulting routes are then prioritized by metric and the routes with the best metric are added to the routing table.

What does RIP use to reduce convergence time in a larger network?
- It uses triggered updates to announce network changes if they happen in between the periodic updates.

Which three statements are true of holddown timers? (Choose three.)
- prevent update messages from reinstating a route that may have gone bad
- allow routers to still forward packets to destination networks that are in holddown
- permit lower metric updates received from any neighboring router to reinstate the route to a possibly down network

Refer to the exhibit. The network is using the RIPv2 routing protocol. If network 10.0.0.0 goes down, what mechanism will prevent Router1 from advertising false routing information back to Router2?
- split horizon

Refer to the exhibit. The network is running the RIP routing protocol. Network 10.0.0.0 goes down. Which statement is true regarding how the routers in this topology will respond to this event?
- Router5 will send Router4 a triggered update with a metric of 16 for network 10.0.0.0.

What is the purpose of the TTL field within an IP packet header?
- limits the period of time or number of hops a packet can traverse through the network before it should be discarded

A network administrator has enabled RIP on routers B and C in the network diagram. Which of the following commands will prevent RIP updates from being sent to Router A?
- B(config)# router rip
- B(config-router)# passive-interface S0/0

Which statement is true regarding routing metrics?
- Routers compare metrics to determine the best route

Refer to the exhibit. When troubleshooting a network, it is important to interpret the output of various router commands. On the basis of the exhibit, which three statements are true? (Choose three.)
- The missing information for Blank 1 is the command show ip route
- The missing information for Blank 2 is the number 120
- The missing information for Blank 3 is the letter C

Refer to the exhibit. What is the most efficient summarization of the routes attached to router R1?
- 198.18.48.0/21

The network shown in the diagram is having problems routing traffic. It is suspected that the problem is with the addressing scheme. What is the problem with the addressing used in the topology?
- The subnetwork configured on the serial link between Router1 and Router2 overlaps with the subnetwork assigned to Ethernet0 of Router3

Refer to the exhibit. How many routes are both level 1 and qualify for use as an ultimate route?
- 2

The Suffolk router is directly connected to the networks shown in the graphic and has a default route that points to the Richmond router. All interfaces are active and properly addressed. However, when the workstation on network 172.29.5.0/24 sends a packet to destination address 172.29.198.5, it is discarded by the Suffolk router. What can be a reason for this result?
- The ip classless command is not enabled on the Suffolk router

Which three statements describe the operation of routing with EIGRP? (Choose three.)
- As new neighbors are discovered, entries are placed in a neighbor table.
- If hello packets are not received within the hold time, DUAL must recalculate the topology
- The reported distance is the distance to a destination as advertised by a neighbor

Refer to exhibit. Given the topology shown in the exhibit, what three commands are needed to configure EIGRP on the Paris router? (Choose three.)
- Paris(config)# router eigrp 100
- Paris(config-router)# network 192.168.7.0
- Paris(config-router)# network 192.168.8.0

Refer to the exhibit. What two statements are true based on the output shown? (Choose two.)
- neighbors 192.168.10.9 and 192.168.10.5 have auto summary disabled

- router 3 is load balancing traffic to the 172.16.3.0 network across its serial interfaces

Refer to the exhibit. A new PC was deployed in the Sales network. It was given the host address of 192.168.10.31 with a default gateway of 192.168.10.17. The PC is not communicating with the network properly. What is the cause?
- 192.168.10.31 is the broadcast address for this subnet

Refer to the exhibit. Which three statements are true of the routing table for Router1? (Choose three.)
- The AD of EIGRP routes has been manually changed to a value other than the default value.
- Router1 is running both the EIGRP and OSPF routing process.
- No default route has been configured.

Which of the following could describe the devices labeled "?" in the graphic? (Choose three.)
- DCE
- CSU/DSU
- modem

Using default settings, what is the next step in the router boot sequence after the IOS loads from flash?
- Locate and load the startup-config file from NVRAM

Refer to the exhibit. What are the effects of the exhibited commands on the router?
- Only the enable password is encrypted

When the show cdp neighbors command is issued from Router C, which devices will be displayed in the output?
- B, D

Refer to exhibit. A company network engineer enters the following commands in the routers:
- R1(config)# ip route 10.1.1.0 255.255.255.0 192.168.0.2
R2(config)# ip route 10.1.2.0 255.255.255.0 192.168.0.1

When the engineer enters the show ip route command on R1, the routing table does not display the static route to the 10.1.1.0 network. All R1 and R2 interfaces are correctly addressed per the graphic. What is a logical next step that the engineer could take in order to make the static route display in the routing table in R1?
- Enable the R1 and R2 serial interfaces

Which two router component and operation pair are correctly described? (Choose two.)
- NVRAM - stores the configuration file

- POST - runs diagnostics on hardware modules

What are three features of CDP? (Choose three.)
- tests Layer 2 connectivity
- enabled by default on each interface
- provides information on directly connected devices that have CDP enabled

Refer to the exhibit. R1 knows two routes, Path A and Path B, to the Ethernet network attached to R3. R1 learned Path A to network 10.2.0.0/16 from a static route and Path B to network 10.2.0.0/16 from EIGRP. Which route will R1 install in its routing table?
- The route via Path A is installed because the static route has the lowest administrative distance to network 10.2.0.0/16.

What command would the network administrator apply to a router that is running OSPF to advertise the entire range of addresses included in 172.16.0.0/19 in area 0?
- R1(config-router)# network 172.16.0.0 0.0.31.255 area 0

Refer to the exhibit. What will happen if interface Serial0/0/1 goes down on Router1?
- DUAL will query neighbors for a route to network 192.168.1.0.

What is the function of the OSPF LSU packet?
- used to announce new OSPF information and to reply to certain types of requests

Refer to the exhibit. Hosts on the BOS Fa0/0 LAN are able to ping the Fa0/1 interface on the JAX router and all interfaces on the BOS and ORL routers. Why would hosts from the 10.0.0.0/24 network not be able to ping hosts on the Fa0/0 LAN of the JAX router?
- The JAX router needs the network 192.168.3.0 0.0.0.255 area 0 command.

What are two tasks that must be completed before two routers can use OSPF to form a neighbor adjacency? (Choose two.)
- The routers must agree on the network type.
- The routers must use the same dead interval

Which three statements about routing protocols are true? (Choose three.)
- OSPF elects designated routers on multiaccess links
- EIGRP supports unequal cost load balancing
- RIP does not advertise a route beyond a hop count of 15

A network administrator has configured a default route on Router_A but it is not being shared with adjacent Router_B and the other routers in the OSPF area. Which command will save the administrator the time and trouble of configuring this default route on

Router_B and all of the other routers in the OSPF area?
- Router_A(config-router)# default-information originate

Which of the following are required when adding a network to the OSPF routing process configuration? (Choose three.)
- network address
- wildcard mask
- area ID

Which of the following should be considered when troubleshooting a problem with the establishment of neighbor relationships between OSPF routers? (Choose three.)
- OSPF interval timers mismatch
- interface network type mismatch
- inconsistent authentication configuration

Refer to the exhibit. The routers in the exhibit are running the EIGRP routing protocol. What statement is true regarding how packets will travel from the 172.16.1.0/16 network to the 192.168.200.0/24 network?
- The router installs all the equal cost paths in the routing table and performs equal cost load balancing to send packets out multiple exit interfaces

What is the first step OSPF and IS-IS routers take in building a shortest path first database?
- learn about directly connected networks

Refer to the exhibit. Routers 1 and 2 are directly connected over a serial link. Pings are failing between the two routers. What change by the administrator will correct the problem?
- Change the IP address on Serial 0/1/0 on router 2 to 192.168.0.1/30.

Refer to the exhibit. The network administrator issues the command no ip classless on Router1. What forwarding action will take place on a packet that is received by Router1 and is destined for host 192.168.0.26?
- The packet will be dropped.

The network administrator configures the router with the ip route 172.16.1.0 255.255.255.0 172.16.2.2 command. How will this route appear in the routing table?
- S 172.16.1.0 [1/0] via 172.16.2.2

Refer to the exhibit. The network administrator is testing network connectivity by issuing the tracert command from host A to host B. Given the exhibited output on host A, what are two possible routing table issues on the network? (Choose two.)

- Router2 is missing a route to the 172.16.0.0 network
- Router3 is missing a route to the 10.0.0.0 network

Refer to the exhibit. All routers in the network are running RIPv2 and EIGRP with default routing protocol settings and have interfaces configured with the bandwidths that are shown in the exhibit. Which protocol will be used and how will traffic between the Router1 LAN and Router5 LAN be routed through the network?
- EIGRP traffic will use the path Router1, Router3, Router4, Router5 because it has the best metric

Refer to the exhibit. All router interfaces are configured with an IP address and are operational. If no routing protocols or static routes are configured, what information will be included in the show ip route command output for router A?
- Routes to networks 192.168.1.0/24, 192.168.2.0/24, and 192.168.3.0/24 will be in the routing table.

Refer to the exhibit. What summary address can Router2 advertise to Router1 to reach the three networks on Routers 3, 4, and 5 without advertising any public address space or overlapping the networks on Router1?
- 172.16.0.0/13