**Chapter 8 - Quiz**

1. Refer to the **show ip route** output below. Which three types of routes are displayed in this routing table? (Choose three.)

<output omitted>

172.16.0.0/16 is variably subnetted, 4 subnets

S 172.16.4.0 is directly connected, Serial0/0/1

R 172.16.1.0 [120/1] via 172.16.2.1, 00:00:08, Serial0/0/0

C 172.16.4.0 is directly connected, Serial0/0/0

C 172.16.3.0 is directly connected, FastEthernet0/0

10.1.0.0 is directly connected, Serial0/0/1

S 10.1.0.0 is directly connected, Serial0/0/1

C 192.168.1.0/24 is directly connected, Serial0/0/1

S 192.168.100.0/24 is directly connected, Serial0/0/1

<output omitted>

1. networks local to this router
2. default route for this router
3. static routes on this router
4. mobile routes
5. routes learned from dynamic routing protocols
6. routes learned from a non-Cisco router RIP v2
7. What characteristic can be used to determine if a route is an ultimate route?
8. The route displays a subnet mask.
9. The route is a parent route.
10. The route was configured by an administrator.
11. The route includes an exit interface.
12. Refer to the **show ip route** output below. Which two routes are considered parent routes? (Choose two.)

172.16.0.0/24 is subnetted, 4 subnets

S 172.16.4.0 is directly connected, Serial0/0/1

R 172.16.1.0 [120/1] via 172.16.2.1, 00:00:08, Serial0/0/0

C 172.16.2.0 is directly connected, Serial0/0/0

C 172.16.3.0 is directly connected, FastEthernet0/0

10.0.0.0/16 is subnetted, 1 subnets

S 10.1.0.0 is directly connected, Serial0/0/1

C 192.168.1.0/24 is directly connected, Serial0/0/1

S 192.168.100.0/24 is directly connected, Serial0/0/1

1. 172.16.0.0/24
2. 172.16.4.0
3. 172.16.1.0
4. 10.0.0.0/16
5. 192.168.1.0/24
6. 192.168.100.0/24
7. Router R1 is configured with the commands

R1(config)#**ip classless** and R1(config)#**ip route 0.0.0.0 0.0.0.0 s0/0/0** What will R1 do with a packet that matches a parent route, but does not match any associated child routes?

1. forward the packet using the longest parent route match
2. forward the packet via the default route
3. return the packet with an ICMP "destination unreachable" message to the source address
4. drop the packet
5. What action enables classful routing behavior on a router?
6. configuring RIP v1 on IGRP
7. configuring a link-state routing protocol
8. using only classful netmasks on all networks
9. issuing the **no ip classless** command
10. In the route lookup process, what constitutes the preferred route?
11. ultimate route
12. longest match of leftmost bits
13. shortest prefix length
14. first route that resolves to an exit interface
15. If a packet matches a level 1 parent route in the routing table, what occurs next in the lookup process?
16. The router drops the packet because level 1 requires an exit interface.
17. The router looks for the level 2 child route with an exit interface.
18. The router sends the packet out all interfaces, except the one in which it was received.
19. The router uses ARP on all connected networks to find the interface with the destination on it.
20. What do the **ip classless** and **no ip classless** commands do?
21. determine the address lookup behavior of the routing process
22. specify whether the router accepts subnet masks in routing updates
23. restrict the use of classful or classless routing protocols
24. allow the router to accept or not accept VLSM for interface addresses
25. Router R1 is configured with the commands   
    R1(config)#**no ip classless** and R1(config)#**ip** **route 0.0.0.0 0.0.0.0 s0/0/0**

What will R1 do with a packet that matches a parent route, but does not match any associated child routes?

1. forward the packet using the longest parent route match
2. forward the packet via the default route
3. return the packet with an ICMP "destination unreachable" message to the source address
4. drop the packet
5. Refer the **show ip route** output below. Router C is running Cisco IOS Release 12.3. The router receives a packet with a destination of 172.16.1.130. Which route does router C use to forward the packet?

RouterC#**show ip route**

-output omitted-

Gateway of last resort is 0.0.0.0 to network 0.0.0.0

172.16.0.0/13 is subnetted, 1 subnets

S 172.16.0.0 is directly connected, FastEthernet0/0

172.16.0.0/16 is variably subnetted, 3 subnets, 2 masks

R 172.16.0.0/24 [120/3] via 172.16.1.1, 00:00:03, FastEthernet0/0

C 172.16.1.0/25 is directly connected, FastEthernet0/0

172.17.0.0/25 is subnetted, 1 subnets

C 172.17.1.0 is directly connected, FastEthernet0/1

S\* 0.0.0.0/0 is directly connected, FastEthernet0/0

RouterC#

1. 172.16.1.0/25
2. 172.16.0.0/16
3. 192.16.0.0/24
4. 172.16.0.0/13
5. default route