Chapter 2
Review Questions

The following questions are designed to test your understanding of this chapter's material. For more information on how to get additional questions, please see www.lammle.com/ccna.

You can find the answers to these questions in Appendix B, "Answers to Review Questions."

1. What is the maximum number of IP addresses that can be assigned to hosts on a local subnet that uses the 255.255.255.224 subnet mask?

   A. 14

   B. 15

   C. 16

   D. 30

   E. 31

   F. 62

2. You have a network that needs 29 subnets while maximizing the number of host addresses available on each subnet. How many bits must you borrow from the host field to provide the correct subnet mask?

   A. 2

   B. 3

   C. 4

   D. 5

   E. 6

   F. 7

3. What is the subnetwork address for a host with the IP address 200.10.5.68/28?

   A. 200.10.5.56

   B. 200.10.5.32

   C. 200.10.5.64

   D. 200.10.5.0

4. The network address of 172.16.0.0/19 provides how many subnets and hosts?

   A. 7 subnets, 30 hosts each

   B. 7 subnets, 2,046 hosts each

   C. 7 subnets, 8,190 hosts each

   D. 8 subnets, 30 hosts each

   E. 8 subnets, 2,046 hosts each

   F. 8 subnets, 8,190 hosts each

5. Which two statements describe the IP address 10.16.3.65/23? (Choose two.)

   A. The subnet address is 10.16.3.0 255.255.254.0.

   B. The lowest host address in the subnet is 10.16.2.1 255.255.254.0.

   C. The last valid host address in the subnet is 10.16.2.254 255.255.254.0.

   D. The broadcast address of the subnet is 10.16.3.255 255.255.254.0.

   E. The network is not subnetted.

6. If a host on a network has the address 172.16.45.14/30, what is the subnetwork this host belongs to?

   A. 172.16.45.0

   B. 172.16.45.4

   C. 172.16.45.8

   D. 172.16.45.12

   E. 172.16.45.16

7. Which mask should you use on point-to-point links in order to reduce the waste of IP addresses?

   A. /27

   B. /28

   C. /29

   D. /30

   E. /31

8. What is the subnetwork number of a host with an IP address of 172.16.66.0/21?

   A. 172.16.36.0

   B. 172.16.48.0

   C. 172.16.64.0

   D. 172.16.0.0

9. You have an interface on a router with the IP address of 192.168.192.10/29. Including the router interface, how many hosts can have IP addresses on the LAN attached to the router interface?

   A. 6

   B. 8

   C. 30

   D. 62

   E. 126

10. You need to configure a server that is on the subnet 192.168.19.24/29. The router has the first available host address. Which of the following should you assign to the server?

    A. 192.168.19.0 255.255.255.0

    B. 192.168.19.33 255.255.255.240

    C. 192.168.19.26 255.255.255.248

    D. 192.168.19.31 255.255.255.248

    E. 192.168.19.34 255.255.255.240

11. You have an interface on a router with the IP address of 192.168.192.10/29. What is the broadcast address the hosts will use on this LAN?

    A. 192.168.192.15

    B. 192.168.192.31

    C. 192.168.192.63

    D. 192.168.192.127

    E. 192.168.192.255

12. You need to subnet a network that has 5 subnets, each with at least 16 hosts. Which classful subnet mask would you use?

    A. 255.255.255.192

    B. 255.255.255.224

    C. 255.255.255.240

    D. 255.255.255.248

13. You configure a router interface with the IP address 192.168.10.62 255.255.255.192 and receive the following error:

    ```
    Bad mask /26 for address
    ```

    `192.168.10.62` A. Why did you receive this error?

    A. You typed this mask on a WAN link and that is not allowed.

    B. This is not a valid host and subnet mask combination.

    C. ip subnet-zero is not enabled on the router.

    D. The router does not support IP.

14. If an Ethernet port on a router were assigned an IP address of 172.16.112.1/25, what would be the valid subnet address of this interface?

    A. 172.16.112.0

    B. 172.16.0.0

    C. 172.16.96.0

    D. 172.16.255.0

    E. 172.16.128.0

15. Using the following illustration, what would be the IP address of E0 if you were using the eighth subnet? The network ID is 192.168.10.0/28 and you need to use the last available IP address in the range. The zero subnet should not be considered valid for this question.

A. 192.168.10.142

B. 192.168.10.66

C. 192.168.100.254

D. 192.168.10.143

E. 192.168.10.126

16. Using the illustration from the previous question, what would be the IP address of S0 if you were using the first subnet? The network ID is 192.168.10.0/28 and you need to use the last available IP address in the range. Again, the zero subnet should not be considered valid for this question.

A. 192.168.10.24

B. 192.168.10.62

C. 192.168.10.30

D. 192.168.10.127

17. You have a network in your data center that needs 310 hosts. Which mask should you use so you waste the least amount of addresses?

A. 255.255.255.0

B. 255.255.254.0

C. 255.255.252.0

D. 255.255.248.0

18. You have a network with a host address of 172.16.17.0/22. From the following options, which is another valid host address in the same subnet?

A. 172.16.17.1 255.255.255.252

B. 172.16.0.1 255.255.240.0

C. 172.16.20.1 255.255.254.0

D. 172.16.16.1 255.255.255.240

E. 172.16.18.255 255.255.252.0

F. 172.16.0.1 255.255.255.0

19. Your router has the following IP address on Ethernet0: 172.16.2.1/23. Which of the following can be valid host IDs on the LAN interface attached to the router? (Choose two.)

    A. 172.16.0.5

    B. 172.16.1.100

    C. 172.16.1.198

    D. 172.16.2.255

    E. 172.16.3.0

    F. 172.16.3.255

20. Given an IP address 172.16.28.252 with a subnet mask of 255.255.240.0, what is the correct network address?

    A. 172.16.16.0

    B. 172.16.0.0

    C. 172.16.24.0

    D. 172.16.28.0