1. What is the first Valid host on the subnetwork that the node 172.19.49.43/21 belongs to?
2. 172.19.48.1
3. 172.19.48.3
4. 172.19.48.255
5. 172.19.48.0
6. What are the network address, broadcast address and valid host address for IP address 193.22.45.173/26?
7. 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?
8. 14
9. 16
10. 15
11. 30
12. You need to subnet a network that has 6 subnets, each with at least 27 hosts. Which classful subnet mask would you use?
13. 255.255.255.192
14. 255.255.255.224
15. 255.255.255.240
16. 255.255.255.248
17. 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 host?
18. 172.16.112.0
19. 172.16.0.0
20. 172.16.96.0
21. 172.16.255.0
22. If your current Network ID is 223.40.35.0 with the default subnet mask and you need to have 15 subnets and maximizing the number of valid node IP addresses what would be the most appropriate subnet mask?
23. 255.255.224.0
24. 255.255.255.224
25. 255.255.240.0
26. 255.255.255.240
27. On a VLSM network, which mask should you use on point-to-point WAN links to reduce the waste of IP addresses?
28. /27
29. /30
30. /28
31. /29
32. What is the subnetwork number of a host with an IP address of 172.16.66.0/21?
33. 172.16.36.0
34. 172.16.64.0
35. 172.16.252.0
36. 172.16.0.0
37. Given the following IP address from the Class B address range using the default subnet mask: 100.110.0.0. Your network plan requires no more than 64 hosts on a subnet. When you configure the IP address in Cisco IOS software, which value should you use as the subnet mask?
38. 255.255.0.0
39. 255.255.128.0
40. 255.255.255.128
41. 255.255.255.252
42. Given an IP address of 131.107.2.104 and a subnet mask of 255.255.255.224, which of the following is the other form of representing this address?
    1. 131.107.2.104/26
    2. 131.107.2.104/24
    3. 131.107.2.104/25
    4. 131.107.2.104/27
    5. 131.107.2.104/19

1. Identify how many valid host addresses can you have on 192.168.27.32 network with a subnet mask of 255.255.255.240.
2. (2^4) - 2
3. (2^3) – 2
4. (2^2) - 2
5. (2^1) - 2
6. A new network is being designed for your company, Delta, Inc. If you use a Class C IP network, which subnet masks will provide one usable subnet per department while allowing enough usable host addresses for each department specified in the table? (Choose three)

| Department | Number of Users |
| --- | --- |
| IT | 52 |
| Customer Support | 60 |
| Sales | 21 |
| HR | 5 |
| Engineering | 4 |

1. 255.255.255.0
2. 255.255.255.128
3. 255.255.255.192
4. 255.255.255.224
5. 255.255.255.240
6. 255.255.255.248
7. 255.255.255.252

|  |
| --- |
| 1. The network address of 173.18.0.0/22 provides how many subnets and hosts? |

1. 7 subnets, 30 hosts each
2. 64 subnets, 1024 hosts each
3. 16 subnets, 4,094 hosts each
4. 7 subnets, 2,046 hosts each

|  |
| --- |
| 1. You need to configure a server that is on the subnet 192.168.19.24/29. The router has the last available host address. Which of the following should you assign to the server? |
|  |

1. 192.168.19.0 255.255.255.0
2. 192.168.19.33 255.255.255.240
3. 192.168.19.26 255.255.255.248
4. 192.168.19.30 255.255.255.248