Subnetting Practice Questions

1. What is the subnet mask for a network with 64 hosts?

A. 255.255.255.192
B. 255.255.255.224
C. 255.255.255.240
D. 255.255.255.248

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2. How many usable host addresses are there in a /27 subnet?

A. 32
B. 30
C. 64
D. 62

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3. What is the broadcast address of the 192.168.10.64/26 subnet?

A. 192.168.10.63
B. 192.168.10.65
C. 192.168.10.127
D. 192.168.10.127

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4. Which of the following subnet masks would allow for exactly 6 usable host addresses?

A. 255.255.255.248
B. 255.255.255.252
C. 255.255.255.240
D. 255.255.255.254

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5. Which IP address is the first usable address in the 10.0.0.0/28 subnet?

A. 10.0.0.0
B. 10.0.0.1
C. 10.0.0.14
D. 10.0.0.15

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6. A network engineer needs 510 hosts on a single subnet. Which subnet mask should be used?

A. 255.255.254.0
B. 255.255.255.0
C. 255.255.255.128
D. 255.255.252.0

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7. What is the CIDR notation for a subnet mask of 255.255.255.224?

A. /25
B. /26
C. /27
D. /28

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8. Which of the following IPs is a valid host in the 172.16.32.0/20 network?

A. 172.16.48.1
B. 172.16.31.255
C. 172.16.33.10
D. 172.16.16.1

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9. How many subnets can be created from a /24 network using a /26 subnet mask?

A. 2
B. 4
C. 6
D. 64

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10. What is the network address for the IP 192.168.1.130/25?

A. 192.168.1.0
B. 192.168.1.128
C. 192.168.1.64
D. 192.168.1.192

Question 1:

✅ **Answer: A** (64 hosts = /26 subnet = 255.255.255.192)

Question 2:

✅ **Answer: B** (2^5 = 32 addresses, 30 usable)

Question 3:

✅ **Answer: D** (Subnet range: 192.168.10.64–192.168.10.127)

Question 4:

✅ **Answer: A** (/29 = 8 addresses, 6 usable)

Question 5:

✅ **Answer: B** (Network: .0, Usable range: .1–.14)

Question 6:

✅ **Answer: A** (/23 = 510 usable addresses)

Question 7:

✅ **Answer: C**

Question 8:

✅ **Answer: C** (Valid range: 172.16.32.1 to 172.16.47.254)

Question 9:

✅ **Answer: B** ($2^{(26-24)}$ = 4 subnets)

Question 10:

✅ **Answer: B**