



Subnetting Questions

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Question 1

Given: IP address 192.168.1.10/24

Requirement: Subnet to support at least 10 hosts.

Solution:

- Minimum bits needed: $2^4 = 16$ (14 usable)
- Subnet mask: /**28** = 255.255.255.240
- Subnet range: 192.168.1.0 – 192.168.1.15
- Usable IPs: 192.168.1.1 – 192.168.1.14
- Broadcast address: 192.168.1.15

Question 2

Given: Network 192.168.0.0/16

Requirement: Subnet to support at least 500 hosts.

Solution:

- Minimum bits needed: $2^9 = 512$ (510 usable)
- Subnet mask: /**23** = 255.255.254.0
- Subnet range: 192.168.0.0 – 192.168.1.255
- Usable IPs: 192.168.0.1 – 192.168.1.254