

IPv4 Applied Subnetting Problems (50mks)

1. A company has the network **192.168.10.0/24** and requires at least **30 hosts per subnet**.
 - o What subnet mask should be used?
 - o How many subnets will be created?
 - o How many usable hosts per subnet?
2. Given the IP address **192.168.20.75/26**:
 - o Determine the network address
 - o Determine the broadcast address
 - o State the valid host range
3. A network **10.0.0.0/24** is subnetted into **/28** networks.
 - o How many subnets are created?
 - o How many usable hosts per subnet?
4. Determine the subnet (network address), broadcast address, and valid host range for:
172.16.4.130/25
5. A school network uses **192.168.1.0/24** and needs **8 equal subnets**.
 - o What new subnet mask is required?
 - o How many hosts per subnet?
6. Given the address **192.168.5.190/27**:
 - o Identify the subnet address
 - o Identify the broadcast address
 - o Give the usable host range
7. A company has network **172.16.0.0/16** and needs at least **500 hosts per subnet**.
 - o What prefix length should be used?
 - o How many hosts will each subnet support?
8. Determine the network address and broadcast address for:
10.10.10.200/29
9. A network **192.168.100.0/24** is divided into **/26** subnets.
 - o How many subnets result?
 - o How many usable hosts per subnet?
10. Given the IP address **172.16.8.14/28**:
 - Determine the subnet address
 - Determine the broadcast address
 - Provide the host range