UNIT 1. Review IPv4 Subnetting

1. Fill out the following table. The first line is an example.

IP Address	Mask	ID Networking	Broadcasting address	Subnet Mask split it into 4 subnets	Host address range for subnet nº 3
129.102.197.23	255.255.0.0	129.102.0.0	129.102.255.255	255.255.192.0	129.102.128.1-129.102.191.254
131.107.2.1	255.255.0.0				
199.32.123.54	255.255.255.0				
32.12.54.23	255.0.0.0				
1.1.1.1	255.0.0.0				
221.22.64.7	255.255.255.0				
93.44.127.235	255.0.0.0				
23.46.92.184	255.0.0.0				
152.79.234.12	255.255.0.0				
192.168.2.200	255.255.255.0				
168.192.3.26	255.255.0.0				
200.100.50.25	255.255.255.0				
172.71.243.2	255.255.0.0				
163.37.212.32	255.255.0.0				
76.35.61.23	255.0.0.0				

2. For a given IP address 140.220.15.245 and mask 255.255.255.240, answer the following questions:

- What is the subnet IP address?
- What is the broadcast IP address?
- What is the valid range for hosts' IP addresses?

3. Given the following network mask 255.255.240.0. How many hosts are allowed on the subnet?

4. Fill out the table with the appropriate values

IP ADDRESS	MASK	NETWORK ID	BROADCASTING ADDRESS
190.33.109.133	255.255.255.128		
192.168.20.25	255.255.255.240		
192.168.20.25	255.255.255.224		
192.168.20.25	255.255.255.192		
140.190.20.10	255.255.192.0		
140.190.130.10	255.255.192.0		
140.190.220.10	255.255.192.0		

5. Given the following network address 150.10.0.0/16. Try to split it into 3 subnets.
   - What is the subnet mask address?
   - How many hosts are allowed on the subnet?
   - What is the network ID and the broadcast address for each subnet?

6. Given the following IP address and network mask 150.27.35.255/22. Which is the correct answer?:
   a) It's the broadcast address
   b) It's the network id
   c) It's the first host address on the network
   d) It's the last host address on the network

7. The following network mask /20 is equal to...
   a) 255.255.240.0
   b) 255.240.0.0
   c) 255.252.240.0
   d) 255.255.252.0

8. Find out which of the following IP addresses belong to the same network. (Caution: There may be more than one correct answer).
   a) 172.166.78.3/22 and 172.166.92.5 /22
   b) 88.99.32.54 /15 and 88.98.72.32 /15
   c) 64.32.28.1 /25 and 64.32.28.72 /25
   d) 35.98.54.33/30 and 35.98.54.22/30

9. Given the following IP address and mask: 199.77.44.28/26. What is the broadcast address?
   a) 199.77.44.127/26
   b) 199.77.44.31/26
   c) 199.77.44.63/26
   d) 199.77.44.255/26

10. Given the following network 199.77.44.24/29. Which of these shows the first host address and the last host address on the network?
    a) 199.77.44.25 /29 and 199.77.44.29 /29
    b) 199.77.44.26 /29 and 199.77.44.30/29
    c) 199.77.44.25 /29 and 199.77.44.30 /29
    d) 199.77.44.25 /29 and 199.77.44.31 /29