Lab 4

I could not find questions similar to yours on the internet so I went for interview style questions for general subnetting.

Q1. Subnet the Class C IP Address 195.1.1.0 So that you have 10 subnets each with a maximum 12 hosts on each subnet. List the Address on host 1 on subnet 0,1,2,3,10

Current mask= 255.255.255.0

Bits needs for 10 subnets =4 $=2^4$ =16 possible subnets

Bits needs for 12 hosts = 4 = 2^4 = 16-2=14 possible hosts.

So our mask in binary =**11110000**= **240** decimal

Final Mask =**255.255.255.240**

Q2. Subnet the Class C IP Address 195.1.1.0 So that you have at least 2 subnets each subnet must have room for 48 hosts.

What are the two possible subnet masks?

Current mask= 255.255.255.0

Bits needs for 48 hosts = 6 = 2^6 = 64-2=62 possible hosts.

Bits needs for 2 subnets =1 $=2^1$ =2 possible subnets

Total of 7 bits needed so therefore we can use either 1 bit or 2 bits for the subnet. So we could have

1 bit subnet 7 bits hosts or 2 bits subnet 6 bit host

masks are 10000000 and 11000000 =128 decimal and 192 decimal.

Final possible masks are:

255.255.255.128 and **255.255.255.192**

Hosts on Subnets 0,1,2,3,10

- Subnet 0 host 1 IP address = 195.1.1.1 **0000 0001**
- Subnet 1 host 1 IP address = 195.1.1.17 **0001 0001**
- Subnet 2 host 1 IP address = 195.1.1.33 **0010 0001**
- Subnet 3 host 1 IP address = 195.1.1.49 **0011 0001**
- Subnet 10 host 1 IP address = 195.1.1.161 **1010 0001**