# Network Task

## Subnet Mask Calculation

1. What is the subnet mask for a Class B address that has five subnet bits added?

* Class B is 255.255.0.0 , after added 5 subnet bits the subnet will be 255.255.248.0

1. What is the subnet mask if we add 15 bits to the default Class A subnet mask?

* 255.255.254.0

## Subnets and Hosts Calculation:

1. What happens to the number of hosts per subnet each time we add an additional subnet bit?

* The number of hosts per subnet will be decrease by half total number , if we calculate the number of hosts to class C (/24) so the formula will be 2number of host bits -2 ,so 216 -2= 65,534 , 215 – 2 = 32,766

1. In order to construct five subnets, how many subnet bits are required?

* To construct 5 subnets, you need 3 subnet bits. And the formula to calculate it is 2number of subnet bits >=  5

1. In order to construct eleven subnets, how many subnet bits are required?

* 4 subnet bits.

## Subnets and Hosts Available:

1. How many subnets and hosts are available in network 155.16.0.0 with the subnet mask 255.255.240.0? 2^4, 2^12

* 24=16 subnets
* 212−2 = 4094

## Class Address and Subnet Requirements:

1. You have a network ID of 192.117.10.0 and you need to divide it into nine subnets. Which subnet mask should you assign? 255.255.255.11110000 → 255.255.255.240

* Subnet Mask to Assign: 255.255.255.240

## Next Higher Subnet Calculation:

1. Given a subnet address of 135.100.7.0 with a subnet mask of 255.255.252.0, what is the subnet address of the next higher subnet? 135.100.12.0

* Next Higher Subnet Address: 135.100.12.0

## Subnet Mask Identification:

1. Suppose that we have the following subnet addresses: 153.93.4.0, 153.93.8.0, 153.93.12.0, 153.93.16.0. What is the correct subnet mask associated with these subnets?

* Subnet Mask: 255.255.252.0