

Cyber Security Essentials | Batch 1 | Day 2 | LetsUpgrade

Classwork

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Q1. Calculate subnet mask for 50 nodes.
Q2. Calculate Subnet mask for 62 nodes.
Q3. Calculate Subnet mask for 124 nodes.

Binayak P Gupta

Q1. Calculate the subnet mask for 50 nodes.

$$2^{\text{bits off}} - 2 = 50$$

$$\text{i.e. } 2^{\text{bits off}} = 52$$

$$\text{i.e. } \log 2^{\text{bits off}} = \log 52$$

$$\text{i.e. bits off } \log 2 = \log 52$$

i.e. bits off = 5.7 which is nearly equals to 6

Therefore the subnet mask is ,

11111111.11111111.11111111.11000000

Or 255.255.255.192

Q2. Calculate the subnet mask for 62 nodes

$$2^{\text{bits off}} - 2 = 62$$

$$\text{i.e. } 2^{\text{bits off}} = 64$$

$$\text{i.e. } 2^{\text{bits off}} = 2^6$$

$$\text{i.e. bits off} = 6$$

Therefore the subnet mask is ,

11111111.11111111.11111111.11000000

Or 255.255.255.192

Q3. Calculate the subnet mask for 124 nodes

$$2^{\text{bits off}} - 2 = 124$$

$$\text{i.e. } 2^{\text{bits off}} = 126$$

$$\text{i.e. } \log 2^{\text{bits off}} = \log 126$$

$$\text{i.e. bits off } \log 2 = \log 126$$

$$\text{i.e. bits off} = \log 126 / \log 2$$

$$\text{i.e. bits off} = 6.9 \text{ which is nearly equal to } 7.$$

Therefore the subnet mask is,

11111111.11111111.11111111.10000000

Or 255.255.255.128

Note: All answers are given considering class 3 IP address

Assignment submitted by Prashnik Das