

# Cyber Security Essentials | Batch 1 | Day 2 |

## LetsUpgrade

### Classwork

Q1. Calculate the subnet mask for 50 nodes.

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

$$2^{\text{bits off}} = 52$$

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

$$\text{bits off } \log 2 = \log 52$$

User 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

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

$$2^{\text{bits off}} = 64$$

$$2^{\text{bits off}} = 2^6$$

$$\text{bits off} = 6$$

Therefore the subnet mask is ,

**11111111.11111111.11111111.11000000**

**Or 255.255.255.192**

Q3. Calculate the subnet mask for 124 nodes

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

$$2^{\text{bits off}} = 126$$

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

$$\text{bits off} \log 2 = \log 126$$

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

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

Therefore the subnet mask is,

**11111111.11111111.11111111.10000000**

**Or 255.255.255.128**