Lab 10.3.5c Subnetting a Class B Network

Objective

The objective of this lab is to provide a subnetting scheme using a Class B network

Background / Preparation

This is a written lab and is to be performed without the aid of an electronic calculator.

ABC Manufacturing has acquired a Class B address, 172.16.0.0. The company needs to create a subnetting scheme to provide the following:

- 36 subnets with at least 100 hosts
- 24 subnets with at least 255 hosts
- 10 subnets with at least 50 hosts

It is not necessary to supply an address for the WAN connection since it is supplied by the Internet service provider.

Step 1 Given this Class B network address and these requirements answer the following questions

How many subnets are needed for this network? _____

What is the minimum number of bits that can be borrowed? _____

What is the subnet mask for this network? _____

1. Dotted decimal _____
2. Binary _____ _____ _____ _____
3. Slash format _____

How many usable subnetworks are there? _____

How many usable hosts are there per subnet? _____

Step 2 Complete the following chart listing the first three subnets and the last 4 subnets

Subnetwork #	Subnetwork ID	Host Range	Broadcast ID

What is the host range for subnet two? _____

What is the broadcast address for the 126th subnet? _____

What is the broadcast address for the major network? _____

