



Lab 10.3.5d Subnetting a Class C Network

Objective

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

Background / Preparation

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

The Classical Academy has acquired a Class C address, 192.168.1.0. The academy needs to create subnets to provide low level security and broadcast control on the LAN. It is not necessary to supply an address for the WAN connection. It is supplied by the Internet service provider.

The LAN consists of the following, each of which will require its own subnet:

- Classroom #1 28 nodes
- Classroom #2 22 nodes
- Computer lab 30 nodes
- Instructors 12 nodes
- Administration 8 nodes

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

How many subnets are needed for this network? _____

What is the subnet mask for this network?

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

How many usable hosts are there per subnet? _____

Step 2 Complete the following chart

Subnetwork #	Subnetwork IP	Host Range	Broadcast ID

What is the host range for subnet six? _____

What is the broadcast address for the 3rd subnet? _____

What is the broadcast address for the major network? _____