

IP Addressing

- Determine the class, network address, host address, broadcast address and default subnet mask for the following IPv4 addresses:

Host IP Address	Address Class	Network Address	Host Address	Network Broadcast Address	Default Subnet Mask
216.14.55.137					
123.1.1.15					
150.127.221.244					
194.125.35.199					
175.12.239.244					

- Given an IP address of 142.226.0.15 and a subnet mask of 255.255.0.0, answer the following questions:

What is the binary equivalent of the second octet? _____

What is the class of the address? _____

What is the network address of this IP address? _____

Is this a valid IP host address (Y/N)? _____

Why or why not? _____

- Determine the class, network number and broadcast address for the following IP addresses:

a. IP address: **207.21.54.240** Address Class: _____

Subnet mask: **255.255.255.0** Network Number: _____

Broadcast Address: _____

Possible # of Hosts: _____

b. IP address: **60.41.211.5** Address Class: _____

Subnet mask: **255.0.0.0** Network Number: _____
Broadcast Address: _____
Possible # of Hosts: _____

c. IP address: **190.101.2.199** Address Class: _____
Subnet mask: **255.255.0.0** Network Number: _____
Broadcast Address: _____
Possible # of Hosts: _____

d. IP address: **192.191.25.11** Address Class: _____
Subnet mask: **255.255.255.0** Network Number: _____
Broadcast Address: _____
Possible # of Hosts: _____

4. Why would you want to subnet (break into smaller networks) the networks in b and c in the previous step? _____

5. Determine the class and major network number (not subnet number) for the following IPv4 addresses. Use the subnet masks to determine the number of subnets created for the address, and the number of hosts permitted on each subnet:

a. IP address: **207.21.54.140** Address Class: _____
Subnet mask: **255.255.255.224** Network Number: _____
Possible # of Subnets: _____
Possible # of Hosts: _____

b. IP address: **60.41.211.5** Address Class: _____
Subnet mask: **255.255.255.0** Network Number: _____
Possible # of Subnets: _____
Possible # of Hosts: _____

c. IP address: **190.101.2.199** Address Class: _____
Subnet mask: **255.255.255.224** Network Number: _____
Possible # of Subnets: _____
Possible # of Hosts: _____

d. IP address: **182.191.25.11** Address Class: _____
Subnet mask: **255.255.254.0** Network Number: _____
Possible # of Subnets: _____

Possible # of Hosts: _____

e. IP address: **107.21.54.100** Address Class: _____
Subnet mask: **255.255.255.224** Network Number: _____
Possible # of Subnets: _____
Possible # of Hosts: _____

f. IP address: **96.96.11.78** Address Class: _____
Subnet mask: **255.255.255.240** Network Number: _____
Possible # of Subnets: _____
Possible # of Hosts: _____

g. IP address: **96.96.11.78** Address Class: _____
Subnet mask: **255.255.252.0** Network Number: _____
Possible # of Subnets: _____
Possible # of Hosts: _____

h. IP address: **171.91.5.1** Address Class: _____
Subnet mask: **255.255.252.0** Network Number: _____
Possible # of Subnets: _____
Possible # of Hosts: _____

i. IP address: **195.91.5.1** Address Class: _____
Subnet mask: **255.255.255.240** Network Number: _____
Possible # of Subnets: _____
Possible # of Hosts: _____

6. Determine the subnetwork number and broadcast address for each of the following hosts subnets:

a. IP address: **201.19.100.140** Subnet Number: _____
Subnet mask: **255.255.255.224** Broadcast Address: _____
Possible # of Subnets: _____
Possible # of Hosts: _____

b. IP address: **75.60.11.5** Subnet Number: _____
Subnet mask: **255.255.255.0** Broadcast Address: _____
Possible # of Subnets: _____

Possible # of Hosts: _____

c. IP address: **190.101.2.140** Subnet Number: _____
Subnet mask: **255.255.255.192** Broadcast Address: _____
Possible # of Subnets: _____
Possible # of Hosts: _____

d. IP address: **182.191.25.11** Subnet Number: _____
Subnet mask: **255.255.255.224** Broadcast Address: _____
Possible # of Subnets: _____
Possible # of Hosts: _____

e. IP address: **107.21.54.100** Subnet Number: _____
Subnet mask: **255.255.254.0** Broadcast Address: _____
Possible # of Subnets: _____
Possible # of Hosts: _____