Practice 4

**P11.**

Prefix: 223.1.17/24

Subnet 1: 125 interfaces

Subnet 2 and 3: 60 interfaces each.

The requirements for each network is:

Subnet #1, 125 rounded up to the nearest power of two is 128 so, we need 7 bits

Subnet #2 and subnet #3 needs 60 addresses so again, rounding up to 64 so, we need 6 bits.

Subnet 1: 223.1.17.0/25  223.1.17.00000000/25    223.1.17.0  to 223.1.17.127      = 128

Subnet 2: 223.1.17.128/26  223.1.17.10000000/26    223.1.17.128 to 223.1.17.191  =  64

Subnet 3: 223.1.17.192/26  223.1.17.11000000/26    223.1.17.192 to 223.1.17.255 =  64

**2.**

a) A to B: 4

B to A: 4

C to A: 1

A to C: 1

B to C: 5

C to B: 5

b) A to B: 41

B to A: 41

C to A: 1

A to C: 1

B to C: 40

C to B: 40

c) 3

d) Nothing. The shortest distance is still through C and costs 41.

e) If link AB breaks, minimum distance will still be through C.