**IP Networking**

For IP networking I changed the subnet a and subnet b to network A by changing IP addresses to 192.168.1.101 - 192.168.1.108. Also, the printer from subnet b changed to 192.168.1.151 and the other printer from subnet A stayed at 192.168.1.150. In network 3 we changed the IP addresses from 192.168.5.101 to 192.168.11.101 through 192.168.11.105. We also changed the printer to 192.168.11.151 and server to 192.168.11.254. Also, we disposed of the switch to subnet B, so that all computers can communicate on the same switch and send ping requests to each other.

**Subnet Masks**

The subnets stayed the same for all the changed IP addresses in the network as they are still class C subnet masks. In the static routing for network A and network 3 we manually added 192.168.1.0 and 192.168.11.0 so that the ping requests could send a response back to the host on the other network.

**Networking DHCP infrastructure**

The DHCP infrastructure was changed to default gateway 192.168.11.1 so that the server was on the same network as the hosts requesting IP addresses. The starting IP address is 192.168.11.100. The maximum number of users is 50 so that printer is not one of these that needs to be dynamically assigned a new IP address every time. The printer be assigned an IP address from a DHCP server is bad practice as it is extra network traffic and is useless to assign a new IP address on the network.

**NAT and PAT**

NAT could be assigned to both subnets creating one public IP address for all services on the network. This is good practice in networking as you are saving public IPV4 addresses. NAT translates local IP address into inside global addresses. PAT is a form of dynamic NAT. Using it on this network you can take unregistered private addresses and translate them into registered public IP addresses. Multiple hosts can be assigned having the same IP but different port numbers.