**Exercise 1**

**Part A**

1. 208.230.197.239/24

Address in binary: **11010000.11100110.11000101**.11101111

1. Network address: 208.230.197.0
2. Broadcast address: 208.230.197.255
3. Range of available hosts: 2^8 - 2 = 254 hosts

Available hosts 🡪 from 208.230.197.1 to 208.230.197.254

1. Mask: 255.255.255.0
2. 28.31.250.10/26

Address in binary: **00011100.00011111.11111010.00**001010

1. Network address: 28.31.250.0
2. Broadcast address: 28.31.250.63
3. Range of available hosts: 2^6 - 2 = 62 hosts

Available hosts 🡪 from 28.31.250.1 to 28.31.250.62

1. Mask: 255.255.255.192
2. 219.103.31.182/25

Address in binary: **11011011.01100111.00011111.1**0110110

1. Network address: 219.103.31.128
2. Broadcast address: 28.31.250.255
3. Range of available hosts: 2^7 - 2 = 126 hosts

Available hosts 🡪 from 219.103.31.129 to 219.103.31.254

1. Mask: 255.255.255.128

**Part B**

IP 208.230.197.239/24

Address in binary 🡪 **11010000.11100110.11000101**.11101111

Subnet 1:

1. Network address: 208.230.197.0/26
2. Broadcast address: 208.230.197.63
3. Range of available hosts: 2^6 - 2 = 62 hosts

Available hosts 🡪 from 208.230.197.1 to 208.230.197.62

1. Mask: 255.255.255.192

Subnet 2:

1. Network address: 208.230.197.64/26
2. Broadcast address: 208.230.197.127
3. Range of available hosts: 2^6 - 2 = 62 hosts

Available hosts 🡪 from 208.230.197.65 to 208.230.197.126

1. Mask: 255.255.255.192

Subnet 3:

1. Network address: 208.230.197.128/26
2. Broadcast address: 208.230.197.191
3. Range of available hosts: 2^6 - 2 = 62 hosts

Available hosts 🡪 from 208.230.197.129 to 208.230.197.190

1. Mask: 255.255.255.192

Subnet 4:

1. Network address: 208.230.197.192/26
2. Broadcast address: 208.230.197.255
3. Range of available hosts: 2^6 - 2 = 62 hosts

Available hosts 🡪 from 208.230.197.193 to 208.230.197.254

1. Mask: 255.255.255.192