Austin Hall

1)
Binary Result: 10001010 01100101 00000000 00000000
IP Address: 138.101.0.0

2)
Binary Result: 10001010 01100101 11111111 11111111
IP Address: 138.101.255.255

2.a)
How many hosts did you get?
65,534

3)
Binary Result: 10001010 01100101 01110010 11000000
IP Address: 138.101.114.192

4)
Count the bits between the lines for major network and host part, how many bits?
10

5)
How many hosts will this subnet support?
62

6)
First IP address of host on subnetwork: 138.101.114.193
Last IP address of host on subnetwork: 138.101.114.254
Broadcast Address of subnetwork: 138.101.114.255

7)
Finally, determine the number of usable subnets
9

8)
Hosts per subnet:
62

Answer the Questions
1. What is the benefit of subnetting? Is there a benefit?
    • Enhances routing efficiency, Network management control, and it improves network
      security
2. Briefly, what is the benefit of CIDR over Classful addressing?
    • Classful addressing only allowed for 3 sizes of networks, which is not economic because if
      a small company needed 300 IP addresses, they would have to pay for over 65,000. CIDR
      effectively manages available IP space and reduces the number of routing tables.