In this lab scenario, you are the network administrator for the new startup MMORPG developer, *Rowdy Gamerz*. The organization has obtained the block of public IPv4 network addresses represented by 129.115. .0/24, where the third octet is equal to the last two digits of your myUTSA ID (abc123). For example, if your myUTSA ID is xyz574, then the third octet for your assignment is 74, so you have the block of network addresses 129.115.74.0/24.

Write down your assigned network address: **129.115.64.0/24**

To complete the assignment, **upload a Word (.docx) or Adobe (.pdf) file with answers to the questions below as your submission to this assignment in Blackboard**.

1. What is your assigned network address?

**My assigned network address is** **129.115.64.0/24**

2. What is the subnet mask (dotted decimal form) for this network?

**The subnet mask for this network is 255.255.255.0**

1. What is the broadcast address for this network?

**The broadcast address for this network is 129.115.64.225**

1. How many addressable hosts are available for this network?

**There are 254 addressable hosts available for this network.**

Following good network design practices, you decide to segment this network into 4 equal subnets, to be used or shared among the different *Rowdy Gamerz* departments: Software Development, Technical Support, Marketing/Sales, and Management & Human Resources.

5. To create 4 subnets, you must borrow how many bits from the host portion of the network? (Hint: solve 4 = 2n)

**I must borrow 2 bits from the host portion of the network**

6. What is the subnet mask (dotted decimal form) for these new subnets?

**The subnet mask for these subnets is 255.255.255.192**

7. Write the network addresses, using CIDR notation, of the four subnets:

129.115.64.0 /26 129.115.64.64 /26 129.115.64.128 /26 129.115.64.192 /26