Lab 4 - Subnetting Classless Worksheet

┐ᴧ Use the **Subnetting Worksheet** to show and record all work for each problem

1.

Host IP Address	142.20.33.17
Major Network Mask	**255.255.0.0**
Major (Base) Network Address	142.20.0.0
Major Network Broadcast Address	142.20.33.17
Total Number of Host Bits	8
Number of Hosts	(2^8) -2
Subnet Mask	**255.255.255.0**
Number of Subnet Bits	24
Number of Useable Hosts per Subnet	2^8 - 2
Subnet Address for this IP Address	142.20.33.0
IP Address for the 1st Host on this Subnet	142.20.33.1
IP Address for the Last Host on this Subnet	142.20.33.254
Broadcast Address for this Subnet	142.20.33.255

2.

Host IP Address	192.36.34.130
Major Network Mask	**255.255.0.0**
Major (Base) Network Address	192.36.0.0
Major Network Broadcast Address	192.36.255.255
Total Number of Host Bits	16
Number of Hosts	2^16 -2 =
Subnet Mask	**255.255.255.0**
Number of Subnet Bits	24
Number of Host Bits	8
Number of Useable Hosts per Subnet	2^8-2 = 254
Subnet Address for this IP Address	192.36.34.0
IP Address for the 1st Host on this Subnet	192.36.34.1
IP Address for the Last Host on this Subnet	192.36.34.254
Broadcast Address for this Subnet	192.36.34.255

3.

Host IP Address	142.20.33.17
Major Network Mask	**255.255.255.0**
Major (Base) Network Address	142.20.33.0/24
Major Network Broadcast Address	142.20.33.255/24
Total Number of Host Bits	8
Number of Hosts	$2^8 - 2 = 254$
Subnet Mask	**255.255.255.252**
Number of Subnet Bits	30
Number of Host Bits	2
Number of Useable Hosts per Subnet	4-2=2
Subnet Address for this IP Address	142.20.33.16 /30
IP Address for the 1st Host on this Subnet	142.20.33.17/30
IP Address for the Last Host on this Subnet	142.20.33.18/30
Broadcast Address for this Subnet	142.20.33.255/30

4.

Host IP Address	142.20.33.201
Major Network Mask	**255.255.255.0**
Major (Base) Network Address	142.20.33.0
Major Network Broadcast Address	142.20.33.255
Total Number of Host Bits	8
Number of Hosts	$2^8 - 2$
Subnet Mask	**255.255.255.248**
Number of Subnet Bits	5
Number of Host Bits	3
Number of Useable Hosts per Subnet	$2^3 - 2 = 6$
Subnet Address for this IP Address	142.20.33.200/29
IP Address for the 1st Host on this Subnet	142.20.33.201/29
IP Address for the Last Host on this Subnet	142.20.33.206/209
Broadcast Address for this Subnet	142.20.33.207

5.

Host IP Address	192.64.34.193
Major Network Mask	**255.255.255.224**
Major (Base) Network Address	192.64.34.0/27
Major Network Broadcast Address	192.64.34.255/27
Total Number of Host Bits	5
Number of Hosts	30
Subnet Mask	**255.255.255.252**
Number of Subnet Bits	30
Number of Host Bits	2
Number of Useable Hosts per Subnet	4-2=2
Subnet Address for this IP Address	192.64.34.192
IP Address for the 1st Host on this Subnet	192.64.34.193
IP Address for the Last Host on this Subnet	192.64.34.195
Broadcast Address for this Subnet	192.54.34.196

6.

Host IP Address	171.68.99.71
Major Network Mask	**255.255.0.0**
Major (Base) Network Address	171.68.0.0
Major Network Broadcast Address	171.68.255.255
Total Number of Host Bits	16
Number of Hosts	14
Subnet Mask	**255.255.240.0**
Number of Subnet Bits	20
Number of Host Bits	12
Number of Useable Hosts per Subnet	10
Subnet Address for this IP Address	171.68.96.0
IP Address for the 1st Host on this Subnet	171.68.96.1
IP Address for the Last Host on this Subnet	171.68.111.254

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Broadcast Address for this Subnet	171.68.111.255