Custom Subnet Masks

Problem 7

Number of needed subnets **2000**
Number of needed usable hosts **15**
Network Address **178.100.0.0**

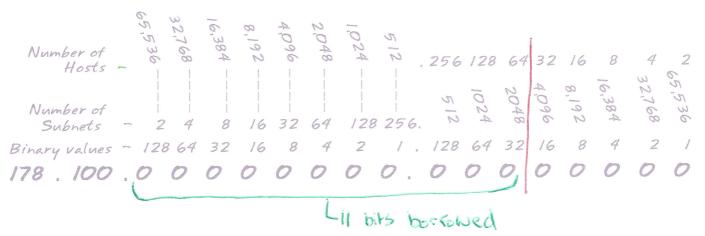Address class ___B___

Default subnet mask __255.255.0.0__

Custom subnet mask __255.255.255.224__

Total number of subnets __2048__

Total number of host addresses __32__

Number of usable addresses __30__

Number of bits borrowed __11__

Show your work for Problem 7 in the space below.

Number of Hosts –	65,536	32,768	16,384	8,192	4,096	2,048	1,024	512		256	128	64	32	16	8	4	2
												512	4,096	8,192	16,384	32,768	65,536
Number of Subnets –	2	4	8	16	32	64	128	256		1024	2048						
Binary values –	128	64	32	16	8	4	2	1	.	128	64	32	16	8	4	2	1

178 . 100 . 0 0 0 0 0 0 0 0 . 0 0 0 | 0 0 0 0 0

└ 11 bits borrowed

Custom Subnet mask: 128   128
                      64   64
                      32   + 32
                      16   ———
                       8   224
                       4
                    + 2
                    ——————
                     255

total host: 32
Usable host: 32-2=30