Custom Subnet Masks

Problem 4

Number of needed usable subnets **6**
Number of needed usable hosts **30**
Network Address **210.100.56.0**

Address class C

Default subnet mask 255.255.255.0

Custom subnet mask 255.255.255.224

Total number of subnets 8

Number of usable subnets 6

Total number of host addresses 32

Number of usable addresses 30

Number of bits borrowed 3

Show your work for Problem 4 in the space below.

Number of Subnets	256	128	64	32	16	8	4	2	Number of Hosts
-	2	4	8	16	32	64	128	256	
	128	64	32	16	8	4	2	1	Binary values
210 . 100 . 56 .	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	

Custom Subnet Masks

Problem 5

Number of needed usable subnets **6**

Number of needed usable hosts **30**

Network Address **195.85.8.0**

Address class C

Default subnet mask 255.255.255.0

Custom subnet mask 255.255.255.224

Total number of subnets 8

Number of usable subnets 6

Total number of host addresses 32

Number of usable addresses 30

Number of bits borrowed 3

Show your work for Problem 5 in the space below.

Number of	256	128	64	32	16	8	4	2	-	*Number of Hosts*
Subnets	-	2	4	8	16	32	64	128	256	
	128	64	32	16	8	4	2	1	-	*Binary values*
195 . 85 . 8 .	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***		

Custom Subnet Masks

Problem 6

Number of needed usable subnets **126**

Number of needed usable hosts **131,070**

Network Address **118.0.0.0**

Address class A

Default subnet mask 255.0.0.0

Custom subnet mask 255.254.0.0

Total number of subnets 128

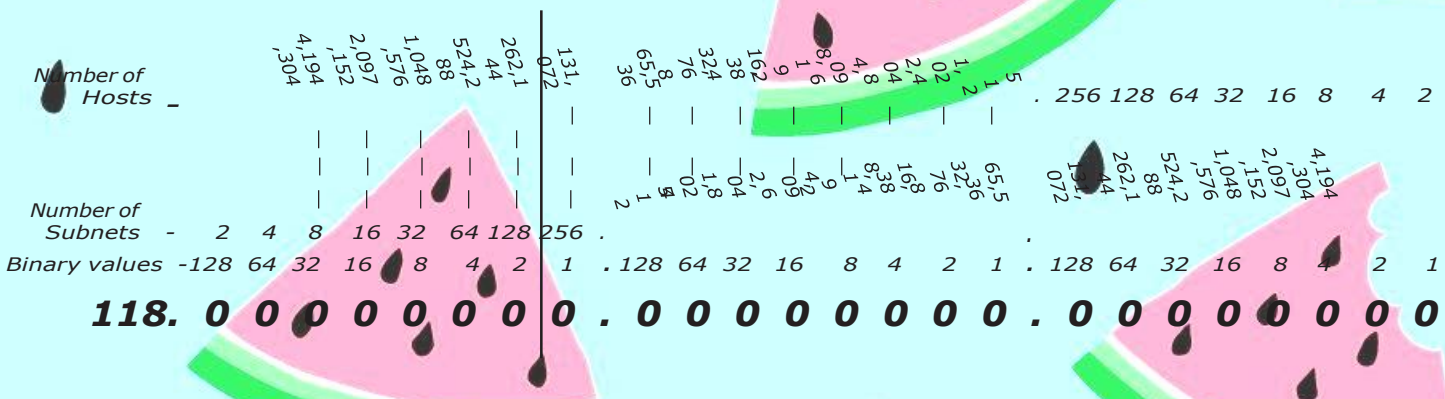
Number of usable subnets 126

Total number of host addresses 131,072

Number of usable addresses 131,072

Number of bits borrowed 7

Show your work for Problem 6 in the space below.



Custom Subnet Masks

Problem 7

Number of needed usable 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 255.255.255.192

Total number of subnets 2046

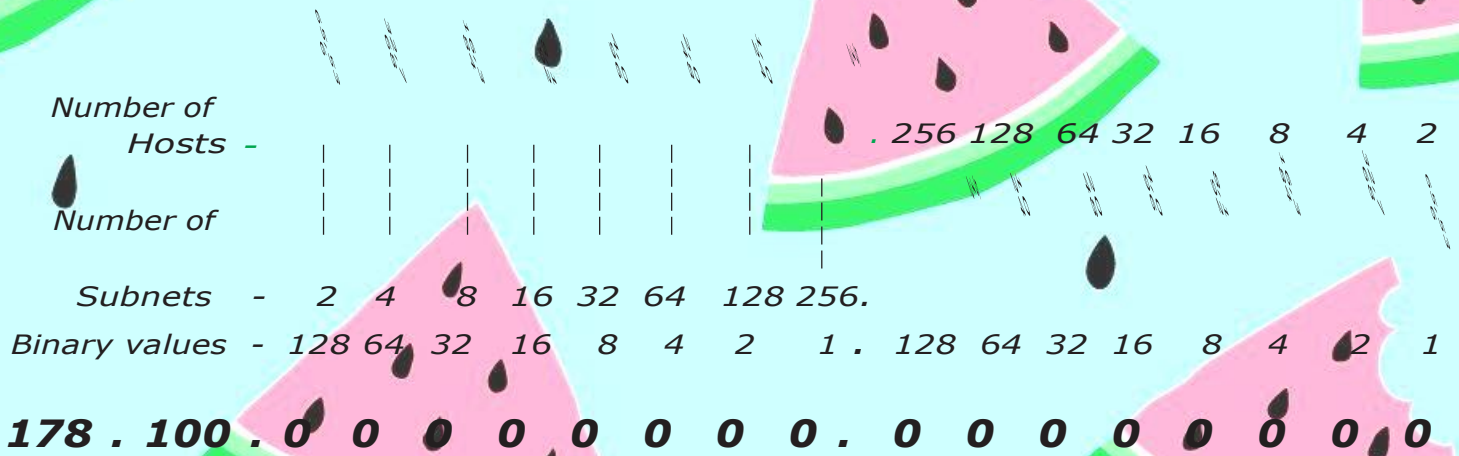
Number of usable subnets 2044

Total number of host addresses 32

Number of usable addresses 30

Number of bits borrowed 10

Show your work for Problem 7 in the space below.



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

Custom Subnet Masks

Problem 8

Number of needed usable subnets **1**

Number of needed usable hosts **45**

Network Address **200.175.14.0**

Address class C

Default subnet mask 255.255.255.0

Custom subnet mask 255.255.255.6

Total number of subnets 4

Number of usable subnets 2

Total number of host addresses 64

Number of usable addresses 62

Number of bits borrowed 2

Show your work for Problem 8 in the space below.

Custom Subnet Masks

Problem 9

Number of needed usable subnets **60**

Number of needed usable hosts **1,000**

Network Address **128.77.0.0**

Address class B

Default subnet mask 255.255.0.0

Custom subnet mask 255.255.252.0

Total number of subnets 64

Number of usable subnets 62

Total number of host addresses 1024

Number of usable addresses 1022

Number of bits borrowed 6

Show your work for Problem 9 in the space below.

Custom Subnet Masks

Problem 10

Number of needed usable hosts **60**

Network Address **198.100.10.0**

Address class C

Default subnet mask 255.255.255.0

Custom subnet mask 255.255.255.192

Total number of subnets 4

Number of usable subnets 2

Total number of host addresses 64

Number of usable addresses 62

Number of bits borrowed 2

Show your work for Problem 10 in the space below.

Custom Subnet Masks

Problem 11

Number of needed usable subnets **250**

Network Address **101.0.0.0**

Address class A

Default subnet mask 255.0.0.0

Custom subnet mask 255.254.0.0

Total number of subnets 256

Number of usable subnets 254

Total number of host addresses 65,536

Number of usable addresses 65,534

Number of bits borrowed 8

Show your work for Problem 11 in the space below.

Custom Subnet Masks

Problem 12

Number of needed usable subnets **5**

Network Address **218.35.50.0**

Address class C

Default subnet mask 255.255.255.0

Custom subnet mask 255.255.255.224

Total number of subnets 8

Number of usable subnets 6

Total number of host addresses 32

Number of usable addresses 30

Number of bits borrowed 3

Show your work for Problem 12 in the space below.

Custom Subnet Masks

Problem 13

Number of needed usable hosts **25**

Network Address **218.35.50.0**

Address class C

Default subnet mask 255.255.255.0

Custom subnet mask 255.255.255.224

Total number of subnets 8

Number of usable subnets 6

Total number of host addresses 32

Number of usable addresses 30

Number of bits borrowed 3

Show your work for Problem 13 in the space below.

Custom Subnet Masks

Problem 14

Number of needed usable subnets **10**

Network Address **172.59.0.0**

Address class B

Default subnet mask 255.255.0.0

Custom subnet mask 255.255.240.0

Total number of subnets 16

Number of usable subnets 14

Total number of host addresses 4,096

Number of usable addresses 4,094

Number of bits borrowed 4

Show your work for Problem 14 in the space below.

Custom Subnet Masks

Problem 15

Number of needed usable hosts **50**

Network Address **172.59.0.0**

Address class B

Default subnet mask 255.255.0.0

Custom subnet mask 255.255.128.0

Total number of subnets 512

Number of usable subnets 510

Total number of host addresses 128

Number of usable addresses 126

Number of bits borrowed 7

Show your work for Problem 15 in the space below.

Custom Subnet Masks

Problem 16

Number of needed usable hosts **29**

Network Address **23.0.0.0**

Address class A

Default subnet mask 255.0.0.0

Custom subnet mask 255.255.255.224

Total number of subnets 524,288

Number of usable subnets 524,286

Total number of host addresses 32

Number of usable addresses 30

Number of bits borrowed 18

Show your work for Problem 16 in the space below.