

Worksheet 7B

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Worksheet 7b

Subnetting - 2

Problem 6

Number of needed subnets **10**

Network Address **192.70.10.0**

Address class C

255.255.255.0 /24

Default subnet mask _____

Custom subnet mask 255.255.255.240 /28

Total number of subnets $16 \cdot 2^4$

Total number of host addresses $16 \cdot 2^4$

Number of usable addresses $14 (16 - 2)$

Number of bits borrowed 4

What is the 9th subnet range? 192.170.10.144 - 192.170.10.143 (Broadcasts)

Multiplier = $256 - 240 = 16$

What is the subnet number for the 4th subnet? 192.70.10.48 /28

1. 192.70.10.0 (+16)

2. 192.70.10.16

3. 192.70.10.32

4. 192.70.10.48

5. 192.170.10.64

9. 192.170.10.128 (143)

What is the subnet broadcast address for the 12th subnet? 192.170.10.208 - 192.170.10.223

What are the assignable addresses for the 10th subnet? 192.170.10.144 - 159

Problem 10

Number of needed subnets **45**

Network Address **220.100.100.0**

Address class C

Default subnet mask 255.255.255.0 /24

Custom subnet mask 255.255.255.192 /26

Total number of subnets 4

Total number of host addresses 64

Number of usable addresses 62

Number of bits borrowed 2

What is the 5th
subnet range? .16 - .19

What is the subnet number
for the 4th subnet? 220.100.100.12

What is the subnet
broadcast address for
the 13th subnet? .51

What are the assignable
addresses for the 12th
subnet? .45 - .46

Problem 12

Number of needed usable hosts **45**

Network Address **198.125.50.0**

Address class C

Default subnet mask 255.255.255.0 /24

Custom subnet mask 255.255.255.192 /26 (+2 borrowed bits)

Total number of subnets 4 (2^2)

Total number of host addresses 64 (2^6)

Number of usable addresses 62 (64-2)

Number of bits borrowed 2

What is the 2nd subnet range? 198.125.50.64 - 198.125.50.127

What is the subnet number for the 2nd subnet? 198.125.50.64 /26

What is the subnet broadcast address for the 4th subnet? 192.125.60.255

What are the assignable addresses for the 3rd subnet? 198.125.50.128 - 198.125.50.190

Multiplier =

$256 - 192 = 64$

1. 192.125.50.0

2. 198.125.50.64

Broadcasts

198.125.60.63
.127

Problem 14

Number of needed usable hosts **16**

Network Address **200.10.10.0**

Address class C

Default subnet mask 255.255.255.0 /24

Custom subnet mask 255.255.255.248 /27

Total number of subnets 8

Total number of host addresses 32

Number of usable addresses 30

Number of bits borrowed 3

What is the 7th subnet range? .192 - .223

What is the subnet number for the 5th subnet? .128

What is the subnet broadcast address for the 4th subnet? .127

What are the assignable addresses for the 6th .161 - .190

Note: Usable hosts you take the 1 and the subnets you take the 0.

What are the assignable addresses for the 6th subnet? .161 - .190