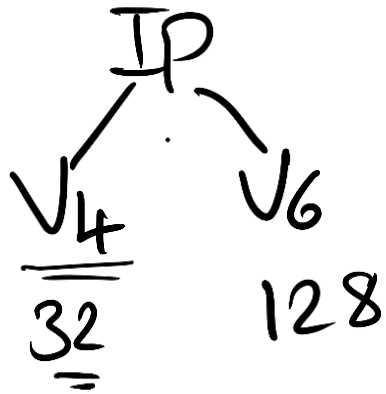
IP V4

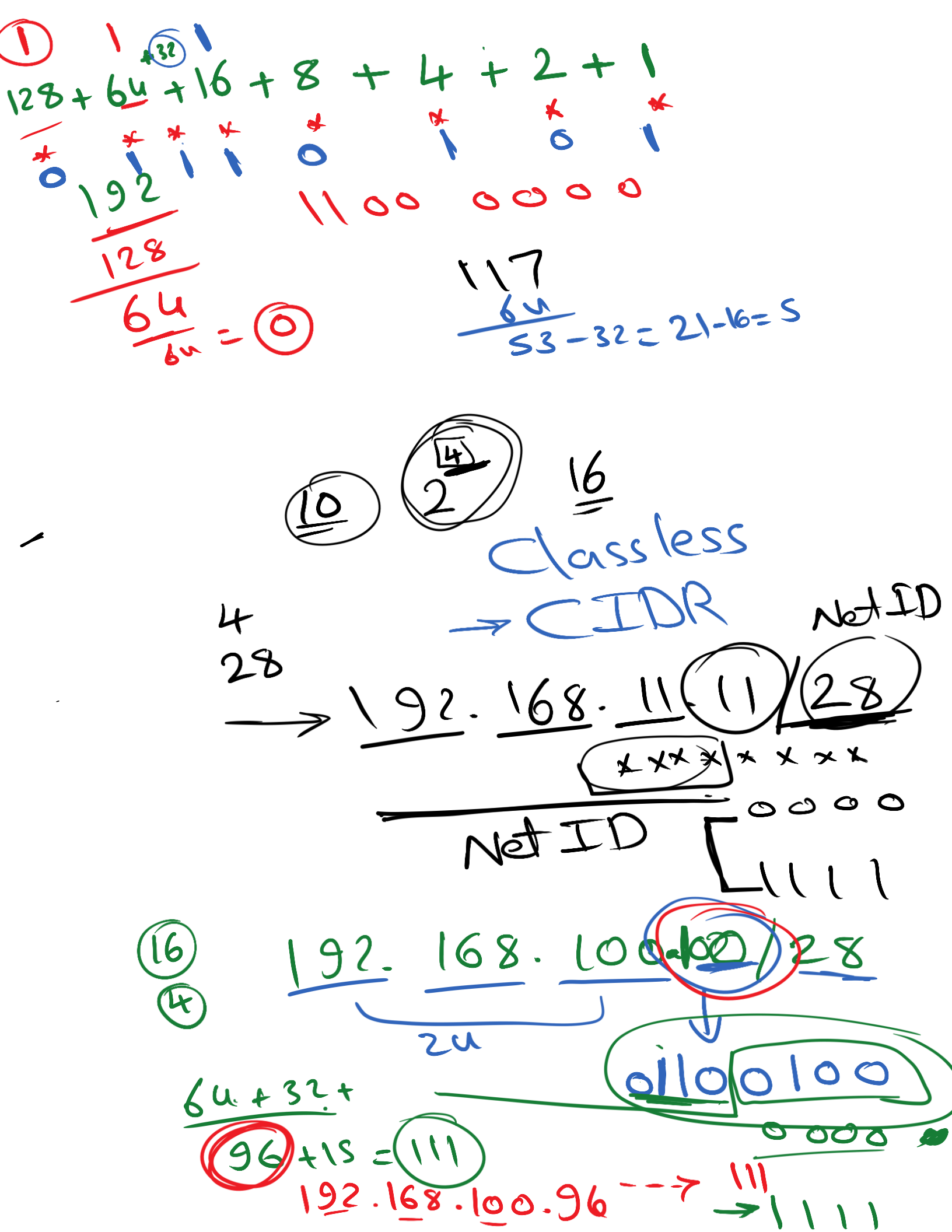


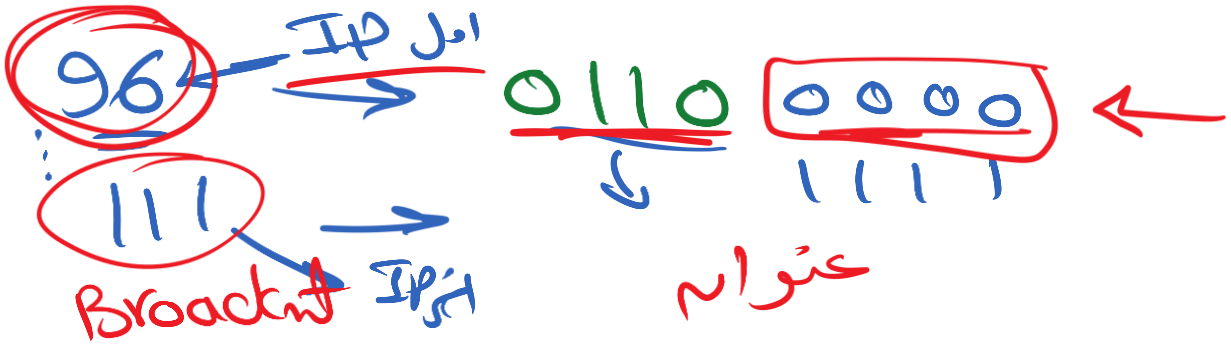
Mac
48

Classes

			Net_ID	Host_ID
A	0xxx xxxx	0 → 127	$8 = 2^8 = 256$	2^{24}
B	10xx xxxx	128 — 191	16 2^{16}	2^{16}
C	110x xxxx	192 - 223	2^{24}	2^8
D	1110 xxxx	224 — 239	→ Multicon	
E	1111 xxxx	240 — 255	→ Exper—	

IP

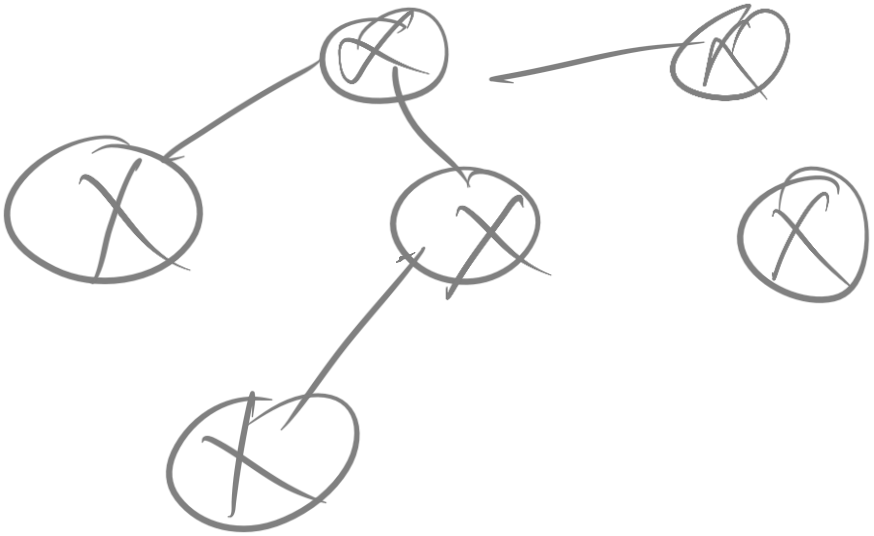

128 + 64 + 16 + 8 + 4 + 2 + 1
1 1 1 1 0 1 0 1
192
11000000
128
64
64 = 0
117
64
53 - 32 = 21 - 16 = 5
10
2
4
16
Classless
CIDR
4
28
192.168.11.11/28
Net ID
Net ID
16
4
192.168.100.100/28
2u
01100100
64 + 32 +
96 + 15 = 111
192.168.100.96 --> 111 -> 1111

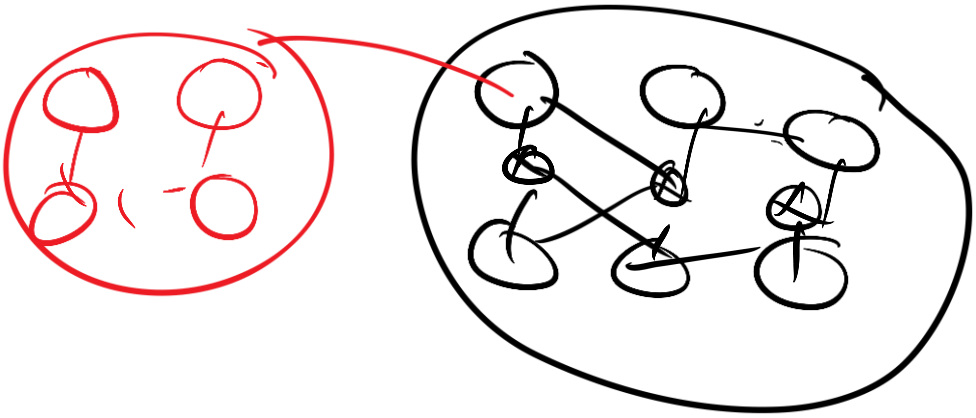


IP ال — Broadcast IP address

switch → Netw of Node

Router → Net of Netw





ee

$2^5 = 32$ 192.168.70.100/27

N1 N2 N3

2 + 6 Pc 10 + 2 = 12 (2^4) 3 (2^3)

8 (2^3) 5

. 0 1 1 | 0 0 | 1 0 0 / 29 000

Host 111

255.255.255.248 11111 000

0 1 1 0 0 0 0 0 0 96 → Net Add

97 ⋮ 102

0 1 1 0 0 1 1 1 103 → Bra--

0 1 1 0 0 0 0 0

0 0 1 1 1 1

N3 → 0 1 1 | 0 1 | 0 0 0 / 29

0 0 0

1 1 1

→ 104 → Net Add 255.255.255.248

105 ⋮ 110

111 → Broad

0 1 1 0 1 1 1 1

N2

01110000 /28

255.255.255.240

1111

112 → Net
113
126
127 → B

200.11.70.10 /30

11.11.11.11

8

24

Subnetmask

1111...

Net address

11.0.0.0

18

11111111

10010 → 255.0.0.0

11111

10010

2 . 2 . 2

16 16

255.255.0.0 ← B

255.255.255.0

192.168.11.100/27

111.111.111.111.11100000

→ 255.255.255.224