10.1.113.75/19

Nr biți gazdă : 32 - 19 = 13

Nr. IP-uri gazdă posibile : $2^{13} - 2 =$ 8192 - 2 = 8190

$2^{10} = 1024 \cdot 2 = 2048 \cdot 2 = 4096$

2^{11} 2^{12}

$\frac{}{8192}$

0000 1010 . 0000 0001 . 0111 0001 . 0100 1011
1111 1111 . 1111 1111 . 1110 0000 . 0000 0000
_____
0000 1010 . 0000 0001 . 0110 0000 . 0000 0000

③

10 . 1 . 96 . 0 — adresă de rețea

10 . 1 . 127 . 255 — adresa de broadcast

10.1.96.1 — 10.1.127.254 — interval

_____

B 62 — subrețele

Adresa ip gazdă : 172.16.0.0

Masca de rețea originală : 255.255.0.0

62 subrețele => min 64 = 2^6 — 6 biți pt subrețele

1111 1111 . 1111 1111 . 0000 0000 . 0000 0000

255 . 255 . 10 . 0   Netmask

172.16.0.0 — adresa de rețea

172.16.0.4 — adresa de broadcast

172.16.104.99/27

Nr. biți gazdă: 32 - 27 = 5

Nr. iP-uri gazdă posibile: $2^5 - 2 = 30$

10101100.000 10000. 01101000. 01100011
11111111.11111111 11111111 11100000   AND
_____

10101100.00010000.011 01000.01100000

172 .   16   - 1 04 . 96 Adresa de rețea
172   16   104   127 Adresa de broadcast.
172 = 16 . 104. 97 - 172.16.104.126 - interval
01100001   -   01111111

① (circled)

_____

198.133.219. 250/24

Nr. biți gazdă: 32 - 24 = 8

Nr. iP-uri gazdă posibile : $2^8 - 2 = 254$

② (circled)

198.133.219. 0 - rețea
198.133.219. 255 - Broadcast

...0000.0000

B

11111111.11111111.11111100.00000000 ⟵ 10 biti host

255 . 255 . 252 . 0   => $2^{10}-2 = 1022$ adrese gazda

172.16.0.0

10101100.00010000.00000000.00000000   172.16.0.1 — 17.16.3.254
                    ‾‾‾‾‾   172.16.0.0 — retea
                    subretea   172.16.0.255 — broadcast
                     (0)'
                      :
                      :

10101100.00010000.00000100.00000000   172.16.4.0 — 172.16.7.254
                    ‾‾‾‾‾   172.16.4.0 — retea
                     (1)   172.16.7.255 — broadcast
                      :
                      :
                      :

10101100.00010000.11111100.00000000   172.16.252.1 — 172.16.255.254
                    ‾‾‾‾‾   172.16.252.0 — retea
                     (63)   172.16.255.255 — broadcast

D. 250 subretele => minim 256 => 8 biti pt subretele => 24-8 = 16 biti gazda

IP: 10.0.0.0

Masca: 255.0.0.0

00001010.00000000.00000000.00000000
         ‾‾‾‾‾‾‾‾
         subretea   ‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾
                                gazda

C.29 gazde / subnet - minim 32 d gazdă => 2^5 - 5 biti => 8-5=3 subrute

192. 168. 200. 0 - adresa iP

255. 255. 255. 0 - masca

                                    subruta
11000000. 10101000. 11 001 000.000 00000 - 192.68.200.1 -
                                   └─────┘   192.168.200.254
                                    garda.   192. 168. 200. 0 R
                                                192. 168. 200.3̶2̶ B.

11000000. 10101000. 11 001 000. 11100000 - 192. 168.200.225 —
                                              192. 168 -200. 254
                                              192. 168 -200.224 Retea
                                              192. 168. 200. 255 broadcast

_____

D. 0000 1010. 00000000. 00000000. 00000000 .10. 0.0.1 - 10.0. 255.254
                                              10-0.0.0 - Retea
                                              10.0. 255.255 - B

0000 1010. 00011111. 00000000. 0000 0000 10. 155. 0.1 - 10. 255.243254
                                              10.255. 0.0 - Retea
                                              10. 255. 255. 255 B