

00100011 01100001 01011000 10001001
 11111111 11111111 11111111 11110000
 AND Operation

00100011 01100001 01011000 10000000
 $\Rightarrow 35.94.88.128$

\Rightarrow IP address belongs to 8th subnet

2) IP address: 144.56.221.29/21

10101110 00111000 11011010 00010101
 11111111 11111111 11111000 00000000
 AND operation

10101110 00111000 11011000 00000000

144.56.216.0 - Network address

Also, subnet mask: 255.255.248.0

5 bits borrowed $\Rightarrow 2^5 = 32$ subnets

Hosts: $2^{11} - 2$

Valid subnets: $256 - 248 = 8 \Rightarrow 0, 8, 16, 32$ etc. up to 248

The last few subnets: 216, 224, 232, 248

$\Rightarrow 144.56.216.0 - 144.56.223.255$

network

broadcast

\Rightarrow 28th subnet