EXERCÍCIOS DE APLICAÇÃO – CÁLCULO DE SUB-REDES

1. Which of the following is the valid host range for the IP address 192.168.168.188 255.255.255.192?

    a. 192.168.168.129-190
    b. 192.168.168.129-191
    c. 192.168.168.128-190
    d. 192.168.168.128-192

Classe C = /24

192-128 = 64

2 bits emprestados

Nº de hosts: 64-2=62

Nº de subredes: $2^2 = 4$

Intervalo de todos (com IPs rede e IPs Broadcast):

- 192.168.168.0 – 192.168.168.63
- 192.168.168.64 -192.168.168.127
- 192.168.168.128-192.168.168.191
- 192.168.168.192-192.168.168.255

2. What is the subnet address of the IP address 192.168.100.30 255.255.255.248?

    a. 192.168.100.32
    b. 192.168.100.24
    c. 192.168.100.0
    d. 192.168.100.16

248-128=120-64=56-32=24-16=8

5 bits

Nº de subredes: $2^5 = 32$

Intervalo de todos:

- 192.168.100.0 - 192.168.100.7
- 192.168.100.8 - 192.168.100.15
- 192.168.100.16 - 192.168.100.23

- 192.168.100.24 - 192.168.100.31 ←
- 192.168.100.32 - 192.168.100.39
- …

3. What is the valid host range the IP address 172.16.10.22 255.255.255.240 is a part of?

    a. 172.16.10.20-172.16.10.22

    b. 192.16.10.1-172.16.10.255

    c. 192.16.10.16-192.16.10.23

    d. 172.16.10.17-172.16.10.31

    e. 172.16.10.17-172.16.10.30

240-128=112-64=48-32=16

Nº de subredes: $2^4 = 16$

Intervalo de todos:

- 172.16.10.22.0 - 172.16.10.22.15
- 172.16.10.22.16 - 172.16.10.22.31 ←
- 172.16.10.22.32 - 172.16.10.22.47
- 172.16.10.22.48 - 172.16.10.22.63
- 172.16.10.22.64 - 172.16.10.22.79
- 172.16.10.22.80 - 172.16.10.22.95
- 172.16.10.22.96 - 172.16.10.22.111
- 172.16.10.22.112 - 172.16.10.22.128
- …

4. Which of the following is the broadcast address for a Class B network ID using the default subnet mask?

    a. 172.16.10.255

    b. 172.16.255.255

    c. 172.255.255.255

    d. 255.255.255.255

5. What is the broadcast address of the subnet address 10.254.255.19 255.255.255.248?

    a. 10.254.255.23

    b. 10.254.255.24

    c. 10.254.255.255

    d. 10.255.255.255

248-128=120-64=56-32=24-16=8

5 bits

Nº de subredes: $2^5 = 32$

Intervalo de todos:

- 10.254.255.0 - 10.254.255.7
- 10.254.255.8 - 10.254.255.15
- 10.254.255.16 - 10.254.255.23 ←

6. What is the broadcast address of the subnet address 172.16.99.99 255.255.192.0?

    a. 172.16.99.255

    b. 172.16.127.255

    c. 172.16.255.255

    d. 172.16.64.127

192-128 = 64

2 bits

Nº de subredes: $2^2 = 4$

Intervalos:

- 172.16.0.0 - 172.16.63.255
- 172.16.64.0 - 172.16.127.255 ←
- 172.16.128.0 - 172.16.191.255
- 172.16.192.0 - 172.16.255.255