**3. Calcular la dirección de red y dirección de broadcast de las máquinas con las siguientes direcciones IP y máscaras de subred:**

•190.33.109.133 / 255.255.255.128:

•192.168.20.25 / 255.255.255.240:

•192.168.20.25 / 255.255.255.224:

•192.168.20.25 / 255.255.255.192:

•140.190.20.10 / 255.255.192.0:

•140.190.130.10 / 255.255.192.0:

•140.190.220.10 / 255.255.192.0:

|  |  |  |
| --- | --- | --- |
| Address: | 190.33.109.133 | 10111110.00100001.01101101.1 0000101 |
| Netmask: | 255.255.255.128 = 25 | 11111111.11111111.11111111.1 0000000 |
| Wildcard: | 0.0.0.127 | 00000000.00000000.00000000.0 1111111 |
| => | | |
| Network: | 190.33.109.128/25 | 10111110.00100001.01101101.1 0000000 |
| HostMin: | 190.33.109.129 | 10111110.00100001.01101101.1 0000001 |
| HostMax: | 190.33.109.254 | 10111110.00100001.01101101.1 1111110 |
| Broadcast: | 190.33.109.255 | 10111110.00100001.01101101.1 1111111 |
| Hosts/Net: | 126 | Class B |

|  |  |  |
| --- | --- | --- |
| Address: | 192.168.20.25 | 11000000.10101000.00010100.0001 1001 |
| Netmask: | 255.255.255.240 = 28 | 11111111.11111111.11111111.1111 0000 |
| Wildcard: | 0.0.0.15 | 00000000.00000000.00000000.0000 1111 |
| => | | |
| Network: | 192.168.20.16/28 | 11000000.10101000.00010100.0001 0000 |
| HostMin: | 192.168.20.17 | 11000000.10101000.00010100.0001 0001 |
| HostMax: | 192.168.20.30 | 11000000.10101000.00010100.0001 1110 |
| Broadcast: | 192.168.20.31 | 11000000.10101000.00010100.0001 1111 |
| Hosts/Net: | 14 | Class C, [Private Internet](http://www.ietf.org/rfc/rfc1918.txt) |

|  |  |  |
| --- | --- | --- |
| Address: | 192.168.20.25 | 11000000.10101000.00010100.000 11001 |
| Netmask: | 255.255.255.224 = 27 | 11111111.11111111.11111111.111 00000 |
| Wildcard: | 0.0.0.31 | 00000000.00000000.00000000.000 11111 |
| => | | |
| Network: | 192.168.20.0/27 | 11000000.10101000.00010100.000 00000 |
| HostMin: | 192.168.20.1 | 11000000.10101000.00010100.000 00001 |
| HostMax: | 192.168.20.30 | 11000000.10101000.00010100.000 11110 |
| Broadcast: | 192.168.20.31 | 11000000.10101000.00010100.000 11111 |
| Hosts/Net: | 30 | Class C, [Private Internet](http://www.ietf.org/rfc/rfc1918.txt) |

|  |  |  |
| --- | --- | --- |
| Address: | 192.168.20.25 | 11000000.10101000.00010100.00 011001 |
| Netmask: | 255.255.255.192 = 26 | 11111111.11111111.11111111.11 000000 |
| Wildcard: | 0.0.0.63 | 00000000.00000000.00000000.00 111111 |
| => | | |
| Network: | 192.168.20.0/26 | 11000000.10101000.00010100.00 000000 |
| HostMin: | 192.168.20.1 | 11000000.10101000.00010100.00 000001 |
| HostMax: | 192.168.20.62 | 11000000.10101000.00010100.00 111110 |
| Broadcast: | 192.168.20.63 | 11000000.10101000.00010100.00 111111 |
| Hosts/Net: | 62 | Class C, [Private Internet](http://www.ietf.org/rfc/rfc1918.txt) |
| Address: | 140.190.20.10 | 10001100.10111110.00 010100.00001010 |
| Netmask: | 255.255.192.0 = 18 | 11111111.11111111.11 000000.00000000 |
| Wildcard: | 0.0.63.255 | 00000000.00000000.00 111111.11111111 |
| => | | |
| Network: | 140.190.0.0/18 | 10001100.10111110.00 000000.00000000 |
| HostMin: | 140.190.0.1 | 10001100.10111110.00 000000.00000001 |
| HostMax: | 140.190.63.254 | 10001100.10111110.00 111111.11111110 |
| Broadcast: | 140.190.63.255 | 10001100.10111110.00 111111.11111111 |
| Hosts/Net: | 16382 | Class B |

|  |  |  |
| --- | --- | --- |
| Address: | 140.190.130.10 | 10001100.10111110.10 000010.00001010 |
| Netmask: | 255.255.192.0 = 18 | 11111111.11111111.11 000000.00000000 |
| Wildcard: | 0.0.63.255 | 00000000.00000000.00 111111.11111111 |
| => | | |
| Network: | 140.190.128.0/18 | 10001100.10111110.10 000000.00000000 |
| HostMin: | 140.190.128.1 | 10001100.10111110.10 000000.00000001 |
| HostMax: | 140.190.191.254 | 10001100.10111110.10 111111.11111110 |
| Broadcast: | 140.190.191.255 | 10001100.10111110.10 111111.11111111 |
| Hosts/Net: | 16382 | Class B |

|  |  |  |
| --- | --- | --- |
| Address: | 140.190.220.10 | 10001100.10111110.11 011100.00001010 |
| Netmask: | 255.255.192.0 = 18 | 11111111.11111111.11 000000.00000000 |
| Wildcard: | 0.0.63.255 | 00000000.00000000.00 111111.11111111 |
| => | | |
| Network: | 140.190.192.0/18 | 10001100.10111110.11 000000.00000000 |
| HostMin: | 140.190.192.1 | 10001100.10111110.11 000000.00000001 |
| HostMax: | 140.190.255.254 | 10001100.10111110.11 111111.11111110 |
| Broadcast: | 140.190.255.255 | 10001100.10111110.11 111111.11111111 |
| Hosts/Net: | 16382 | Class B |