**10.70.14.102 /24**

Subnet mask: 255.0.0.0 => **11111111.00000000.00000000.00000000**

Subnetwork: 255.255.255.0 => **11111111.11111111.11111111.00000000**

IP address: 10.70.14.102 => **00001010.01000110.00001110.01100110**

1) Number of bits taken for subnetting : **16**

2) Number of Subnets possible: 2^16 = **65,536**

3) Number of host bits remaining : **8**

4) Number of hosts possible in each subnet: 2^8 - 2 = 256-2 = **254**

5) First Host Address: **10.70.14.1**

6) Last Host Address: **10.70.14.254**

7) Network Address of this IP Address: **10.70.14.0**

8) Previous Subnet to the current subnet: **10.70.13.0**

9) Next Subnet to the Current Subnet: **10.70.15.0**

10) Broadcast Address: **10.70.14.255**

11) Previous IP Address: **10.70.14.101**

12) Next IP Address: **10.70.14.103**

**10.5.41.55 /26**

Subnet mask: 255.0.0.0 => **11111111.00000000.00000000.00000000**

Subnetwork: 255.255.255.192 => **11111111.11111111.11111111.11000000**

IP address: 10.70.14.102 => **00001010.00000101.00101001.00110111**

1) Number of bits taken for subnetting : **18**

2) Number of Subnets possible: 2^18 = **2,62,144**

3) Number of host bits remaining : **6**

4) Number of hosts possible in each subnet: 2^6 - 2 = 64-2 = **62**

5) First Host Address: **10.5.41.1**

6) Last Host Address: **10.5.41.62**

7) Network Address of this IP Address: **10.5.41.0**

8) Previous Subnet to the current subnet: **10.5.40.192**

9) Next Subnet to the Current Subnet: **10.5.41.64**

10) Broadcast Address: **10.5.41.63**

11) Previous IP Address: **10.5.41.54**

12) Next IP Address: **10.5.41.56**

**172.20.17.102 /20**

**Subnet mask: 255.255.0.0 => 11111111.11111111.00000000.00000000**

**Subnetwork: 255.255.240.0 => 11111111.11111111.11110000.00000000**

**IP address: 172.20.17.102 => 10101100.00010100.00010001.01100110**

1) Number of bits taken for subnetting : **4**

2) Number of Subnets possible:2^4 = **16**

3) Number of host bits remaining : **12**

4) Number of hosts possible in each subnet: 2^12 - 2 = 4096-2 = **4094**

5) First Host Address: **172.20.16.1**

6) Last Host Address: **172.20.16.254**

7) Network Address of this IP Address: **172.20.16.0**

8) Previous Subnet to the current subnet: **172.20.0.0**

9) Next Subnet to the Current Subnet: **172.20.32.0**

10) Broadcast Address: **172.20.31.255**

11) Previous IP Address: **172.20.17.101**

12) Next IP Address: **172.20.17.103**

**172.16.14.21 /24**

**Subnet mask: 255.255.0.0 => 11111111.11111111.00000000.00000000**

**Subnetwork: 255.255.255.0 => 11111111.11111111.11111111.00000000**

**IP address: 172.20.17.102 => 10101100.00010000.00001110.00010101**

1) Number of bits taken for subnetting : **8**

2) Number of Subnets possible:2^8 = **256**

3) Number of host bits remaining : **8**

4) Number of hosts possible in each subnet: 2^8 - 2 = 256-2 = **254**

5) First Host Address: **172.16.14.1**

6) Last Host Address: **172.16.14.254**

7) Network Address of this IP Address: **172.16.14.0**

8) Previous Subnet to the current subnet: **172.16.13.0**

9) Next Subnet to the Current Subnet: **172.16.15.0**

10) Broadcast Address: **172.16.14.255**

11) Previous IP Address: **172.16.14.20**

12) Next IP Address: **172.16.14.22**

**192.168.26.34 /28**

**Subnet mask: 255.255.255.0 => 11111111.11111111.11111111.00000000**

**Subnetwork: 255.255.255.240 => 11111111.11111111.11111111.11110000**

**IP address: 172.20.17.102 => 11000000.10101000.00011010.00100100**

1) Number of bits taken for subnetting : **4**

2) Number of Subnets possible:2^4 = **16**

3) Number of host bits remaining : **4**

4) Number of hosts possible in each subnet: 2^4 - 2 = 16-2 = **14**

5) First Host Address: **192.168.26.33**

6) Last Host Address: **192.168.26.46**

7) Network Address of this IP Address: **192.168.26.32**

8) Previous Subnet to the current subnet: **192.168.26.16**

9) Next Subnet to the Current Subnet: **192.168.26.48**

10) Broadcast Address: **192.168.26.47**

11) Previous IP Address: **192.168.26.33**

12) Next IP Address: **192.168.26.35**

**192.168.61.46 /30**

**Subnet mask: 255.255.255.0 => 11111111.11111111.11111111.00000000**

**Subnetwork: 255.255.255.252 => 11111111.11111111.11111111.11111100**

**IP address: 172.20.17.102 => 11000000.10101000.00011010.00100100**

1) Number of bits taken for subnetting : **6**

2) Number of Subnets possible:2^6 = **64**

3) Number of host bits remaining : **2**

4) Number of hosts possible in each subnet: 2^2 - 2 = 4-2 = **2**

5) First Host Address: **192.168.61.45**

6) Last Host Address: **192.168.61.46**

7) Network Address of this IP Address: **192.168.61.44**

8) Previous Subnet to the current subnet: **192.168.61.40**

9) Next Subnet to the Current Subnet: **192.168.61.48**

10) Broadcast Address: **192.168.61.47**

11) Previous IP Address: **192.168.61.45**

12) Next IP Address: **192.168.61.47**