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## **BASIC IP SUBNETTING**

### **Class B**

Using the Class B network 175.2.0.0, subnet the network so that you will have 254 usable subnets and at least 200 hosts in each subnet. List the first 6 subnets, their subnet address and the broadcast address for each of the subnets, as well as the usable host range available in the subnet.

Number of bits borrowed for the subnet **8**      Number of bits for hosts **8**

Subnet Mask **255.255.255.0**      Number useable hosts per subnet **254**

Subnet Number	Subnet Address	Broadcast Address	Usable Host Range
1	175.2.1.0	172.2.1.255	172.2.1.1-172.2.1.254
2	175.2.2.0	172.2.2.255	172.2.2.1-172.2.2.254
3	175.2.3.0	172.2.3.255	172.2.3.1-172.2.3.254
4	175.2.4.0	172.2.4.255	172.2.4.1-172.2.4.254
5	175.2.5.0	172.2.5.255	172.2.5.1-172.2.5.254
6	175.2.6.0	172.2.6.255	172.2.6.1-172.2.6.254

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## BASIC IP SUBNETTING

### Class C - Part I

Using the Class C network 199.176.45.0, subnet the network so that you will have 6 usable subnets and at least 23 hosts in each subnet. List the subnet address and the broadcast address for each of the subnets, as well as the usable host range available in the subnet.

Number of bits borrowed for the subnet    **3**                      Number of bits for hosts    **5**

Subnet Mask    **255.255.255.224**                      Number useable hosts per subnet    **30**

Subnet Number	Subnet Address	Broadcast Address	Usable Host Range
1	199.176.45.32	199.176.45.63	199.176.45.33 - 199.176.45.62
2	199.176.45.64	199.176.45.95	199.176.45.65 - 199.176.45.94
3	199.176.45.96	199.176.45.127	199.176.45.97 - 199.176.45.126
4	199.176.45.128	199.176.45.159	199.176.45.129 - 199.176.45.158
5	199.176.45.160	199.176.45.191	199.176.45.161 - 199.176.45.190
6	199.176.45.192	199.176.45.223	199.176.45.193 - 199.176.45.222

Using the Class C network 209.94.72.0, subnet the network so that you will have 2 usable subnets and at least 58 hosts in each subnet. List the subnet address and the broadcast address for each of the subnets, as well as the usable host range available in the subnet.

Number of bits borrowed for the subnet    **2**                      Number of bits for hosts    **6**

Subnet Mask    **255.255.255.192**                      Number useable hosts per subnet    **62**

Subnet Number	Subnet Address	Broadcast Address	Usable Host Range
1	209.94.72.64	209.94.72.127	209.94.72.65 - 209.94.72.126
2	209.94.72.128	209.94.72.191	209.94.72.129 - 209.94.72.190

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## **BASIC IP SUBNETTING**

### **Class C - Part II**

Using the Class C network 201.45.98.0, subnet the network so that you will have 30 usable subnets and at least 5 hosts per subnet. List the first 10 subnets, their subnet address and the broadcast address for each of the subnets, as well as the usable host range available in the subnet.

Number of bits borrowed for the subnet    **5**                      Number of bits for hosts    **3**

Subnet Mask    **255.255.255.248**                      Number usable hosts per subnet    **6**

Subnet Number	Subnet Address	Broadcast Address	Usable Host Range
1	201.45.98.8	201.45.98.15	201.45.98.9 - 201.45.98.14
2	201.45.98.16	201.45.98.23	201.45.98.17 - 201.45.98.22
3	201.45.98.24	201.45.98.31	201.45.98.25 - 201.45.98.30
4	201.45.98.32	201.45.98.39	201.45.98.33 - 201.45.98.38
5	201.45.98.40	201.45.98.47	201.45.98.41 - 201.45.98.46
6	201.45.98.48	201.45.98.55	201.45.98.49 - 201.45.98.54
7	201.45.98.56	201.45.98.63	201.45.98.57 - 201.45.98.62
8	201.45.98.64	201.45.98.71	201.45.98.65 - 201.45.98.70
9	201.45.98.72	201.45.98.79	201.45.98.73 - 201.45.98.78
10	201.45.98.80	201.45.98.87	201.45.98.81 - 201.45.98.86

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## ADVANCED IP SUBNETTING

### Class B - Part I

Using the Class B network 154.17.0.0, subnet the network so that you will have 1022 usable subnets and at least 58 hosts in each subnet. List the first 15 subnets, their subnet address and the broadcast address for each of the subnets, as well as the usable host range available in the subnet.

Number of bits borrowed for the subnet **10**

Number of bits for hosts **6**

Subnet Mask **255.255.255.192**

Number useable hosts per subnet **62**

Subnet Number	Subnet Address	Broadcast Address	Usable Host Range
1	154.17.0.64	154.17.0.127	154.17.0.65 - 154.17.0.126
2	154.17.0.128	154.17.0.191	154.17.0.129 - 154.17.0.190
3	154.17.0.192	154.17.0.255	154.17.0.193 - 154.17.0.254
4	154.17.1.0	154.17.1.63	154.17.1.1 - 154.17.1.62
5	154.17.1.64	154.17.1.127	154.17.1.65 - 154.17.1.126
6	154.17.1.128	154.17.1.191	154.17.1.129 - 154.17.1.190
7	154.17.1.192	154.17.1.255	154.17.1.193 - 154.17.1.254
8	154.17.2.0	154.17.2.63	154.17.2.1 - 154.17.2.62
9	154.17.2.64	154.17.2.127	154.17.2.65 - 154.17.2.126
10	154.17.2.128	154.17.2.191	154.17.2.129 - 154.17.2.190
11	154.17.2.192	154.17.2.255	154.17.2.193 - 154.17.2.254
12	154.17.3.0	154.17.3.63	154.17.3.1 - 154.17.3.62
13	154.17.3.64	154.17.3.127	154.17.3.65 - 154.17.3.126
14	154.17.3.128	154.17.3.191	154.17.3.129 - 154.17.3.190
15	154.17.3.192	154.17.3.255	154.17.3.193 - 154.17.3.254

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## ADVANCED IP SUBNETTING Class B - Part II

Using the Class B network 161.67.0.0, subnet the network so that you will have 30 usable subnets and at least 2000 hosts in each subnet. List the first 15 subnets, their subnet address and the broadcast address for each of the subnets, as well as the usable host range available in the subnet.

Number of bits borrowed for the subnet **5**

Number of bits for hosts **11**

Subnet Mask **255.255.248.0**

Number usable hosts per subnet **2046**

Subnet Number	Subnet Address	Broadcast Address	Usable Host Range
1	161.67.8.0	161.67.15.255	161.67.8.1 - 161.67.15.254
2	161.67.16.0	161.67.23.255	161.67.16.1 - 161.67.23.254
3	161.67.24.0	161.67.31.255	161.67.24.1 - 161.67.31.254
4	161.67.32.0	161.67.39.255	161.67.32.1 - 161.67.39.254
5	161.67.40.0	161.67.47.255	161.67.40.1 - 161.67.47.254
6	161.67.48.0	161.67.55.255	161.67.48.1 - 161.67.55.254
7	161.67.56.0	161.67.63.255	161.67.56.1 - 161.67.63.254
8	161.67.64.0	161.67.71.255	161.67.64.1 - 161.67.71.254
9	161.67.72.0	161.67.79.255	161.67.72.1 - 161.67.79.254
10	161.67.80.0	161.67.87.255	161.67.80.1 - 161.67.87.254
11	161.67.88.0	161.67.95.255	161.67.88.1 - 161.67.95.254
12	161.67.96.0	161.67.103.255	161.67.96.1 - 161.67.103.254
13	161.67.104.0	161.67.111.255	161.67.104.1 - 161.67.111.254
14	161.67.112.0	161.67.119.255	161.67.112.1 - 161.67.119.254
15	161.67.120.0	161.67.127.255	161.67.120.1 - 161.67.127.254