Working With Class B Address **128.10.0.0**

Max # Of Subnets	# Of Bits	Subnet #	Host #	Max # Of Hosts	128.10.X.Y
200	8	193	129	254	128.10.193.129

200 Subnets			
Network ID		Subnet	Host
NNNN NNNN	NNNN NNNN	SSSS SSSS	HHHH HHHH
1000 0000	0000 1010	1100 0001	1000 0001
128	10	193	129

128	64	32	16	8	4	2	1	
1	1	0	0	0	0	0	1	193
1	0	0	0	0	0	0	1	129

Subnet Mask			
Network ID		Subnet	Host
1111 1111	1111 1111	1111 1111	0000 0000
255	255	255	0

124

# Of Bits	Max # Of Subnets
2	$2^2 - 2 = 2$
3	$2^3 - 2 = 6$
4	$2^4 - 2 = 14$
5	$2^5 - 2 = 30$
6	$2^6 - 2 = 62$
7	$2^7 - 2 = 126$
8	$2^8 - 2 = 254$
9	$2^9 - 2 = 510$
10	$2^{10} - 2 = 1022$
11	$2^{11} - 2 = 2046$
12	$2^{12} - 2 = 4094$
13	$2^{13} - 2 = 8190$

Working With Class B Address **128.10.0.0**

Max # Of Subnets	# Of Bits	Subnet #	Host #	Max # Of Hosts	128.10.X.Y
120	7	119	68	510	128.10.238.68
120	7	105	352	510	128.10.211.96

352 − 256 = 96

120 Subnets			
Network ID		Subnet/Host	Host
NNNN NNNN	NNNN NNNN	SSSS SSSH	HHHH HHHH
1000 0000	0000 1010	1110 1110	0100 0100
128	10	238	68

256	128	64	32	16	8	4	2	1
[redacted]		1	1	1	0	1	1	1
0	0	1	0	0	0	1	0	0

120 Subnets			
Network ID		Subnet/Host	Host
NNNN NNNN	NNNN NNNN	SSSS SSSH	HHHH HHHH
1000 0000	0000 1010	1101 1001	0110 0000
128	10	211	96

256	128	64	32	16	8	4	2	1
[redacted]		1	1	0	1	0	0	1
1	0	1	1	0	0	0	0	0

Subnet Mask			
Network ID		Subnet/Host	Host
1111 1111	1111 1111	1111 1110	0000 0000
255	255	254	0

/23

# Of Bits	Max # Of Subnets
2	$2^2 - 2 = 2$
3	$2^3 - 2 = 6$
4	$2^4 - 2 = 14$
5	$2^5 - 2 = 30$
6	$2^6 - 2 = 62$
7	$2^7 - 2 = 126$
8	$2^8 - 2 = 254$
9	$2^9 - 2 = 510$
10	$2^{10} - 2 = 1022$
11	$2^{11} - 2 = 2046$
12	$2^{12} - 2 = 4094$
13	$2^{13} - 2 = 8190$

Working With Class B Address **128.10.0.0**

Max # Of Subnets	# Of Bits	Subnet #	Host #	Max # Of Hosts	128.10.X.Y
58	6	45	98	1022	128.10.180.98
58	6	48	598	1022	128.10.194.86

598 − 512 = 86
86 − 64 = 22
22 − 16 = 6

58 Subnets			
Network ID		Subnet/Host	Host
NNNN NNNN	NNNN NNNN	SSSS SSHH	HHHH HHHH
1000 0000	0000 1010	1011 0100	0110 0010
128	10	180	98

512	256	128	64	32	16	8	4	2	1
0	0	0	1	1	0	1	0	1	0

58 Subnets			
Network ID		Subnet/Host	Host
NNNN NNNN	NNNN NNNN	SSSS SSHH	HHHH HHHH
1000 0000	0000 1010	1100 0010	0101 0110
128	10	194	86

512	256	128	64	32	16	8	4	2	1
1	0	0	1	0	1	0	1	1	0

Subnet Mask			
Network ID		Subnet/Host	Host
1111 1111	1111 1111	1111 1100	0000 0000
255	255	252	0

/22

# Of Bits	Max # Of Subnets
2	$2^2 - 2 = 2$
3	$2^3 - 2 = 6$
4	$2^4 - 2 = 14$
5	$2^5 - 2 = 30$
6	$2^6 - 2 = 62$
7	$2^7 - 2 = 126$
8	$2^8 - 2 = 254$
9	$2^9 - 2 = 510$
10	$2^{10} - 2 = 1022$
11	$2^{11} - 2 = 2046$
12	$2^{12} - 2 = 4094$
13	$2^{13} - 2 = 8190$

Working With Class B Address **128.10.0.0**

Max # Of Subnets	# Of Bits	Subnet #	Host #	Max # Of Hosts	128.10.X.Y
29	5	28	59	2046	128.10.224.59
29	5	25	1069	2046	

29 Subnets			
Network ID		Subnet/Host	Host
NNNN NNNN	NNNN NNNN	SSSH SHHH	HHHH HHHH
1000 0000	0000 1010	11100000	00111011
128	10	224	59

1024	512	256	128	64	32	16	8	4	2	1
						1	1	1	0	0
0	0	0	0	0	1	1	1	0	1	1

29 Subnets			
Network ID		Subnet/Host	Host
NNNN NNNN	NNNN NNNN	SSSS SHHH	HHHH HHHH
1000 0000	0000 1010		
128	10		

1024	512	256	128	64	32	16	8	4	2	1

Subnet Mask			
ID Network		Subnet/Host	Host
1111 1111	1111 1111	1111 1000	0000 0000
255	255	248	0

121

# Of Bits	Max # Of Subnets
2	$2^2 - 2 = 2$
3	$2^3 - 2 = 6$
4	$2^4 - 2 = 14$
5	$2^5 - 2 = 30$
6	$2^6 - 2 = 62$
7	$2^7 - 2 = 126$
8	$2^8 - 2 = 254$
9	$2^9 - 2 = 510$
10	$2^{10} - 2 = 1022$
11	$2^{11} - 2 = 2046$
12	$2^{12} - 2 = 4094$
13	$2^{13} - 2 = 8190$

Working With Class A Address **9.0.0.0**

Max # Of Subnets	# Of Bits	Subnet #	Host #	Max # Of Hosts	128.10.X.Y
2000	11	1953	1119	8190	9.244.36.95
2000	11	1949	704	8190	9.243.162.64

2000 Subnets			
Network ID	Subnet	Subnet/Host	Host
NNNN NNNN	SSSS SSSS	SSSH HHHH	HHHH HHHH
0000 1001	1111 0100	0010 0100	0100 1111
9	244	36	95

4096	2048	1024	512	256	128	64	32	16	8	4	2	1
0	0	1	0	0	0	1	0	0	1	1	1	1

2000 Subnets			
Network ID	Subnet	Subnet/Host	Host
NNNN NNNN	SSSS SSSS	SSSH HHHH	HHHH HHHH
0000 1001	1111 0011	1010 0010	0100 0000
9	243	162	64

4096	2048	1024	512	256	128	64	32	16	8	4	2	1
0	0	0	1	0	0	1	0	0	0	0	0	0

Subnet Mask			
Network ID	Subnet	Subnet/Host	Host
1111 1111	1111 1111	1110 0000	0000 0000
255	255	224	0

19

# Of Bits	Max # Of Subnets
2	$2^2 - 2 = 2$
3	$2^3 - 2 = 6$
4	$2^4 - 2 = 14$
5	$2^5 - 2 = 30$
6	$2^6 - 2 = 62$
7	$2^7 - 2 = 126$
8	$2^8 - 2 = 254$
9	$2^9 - 2 = 510$
10	$2^{10} - 2 = 1022$
11	$2^{11} - 2 = 2046$
12	$2^{12} - 2 = 4094$
13	$2^{13} - 2 = 8190$

704
512
192
128
64