

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

193
128

65
64

1
-1

0

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

129
128

1

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

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

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
11111111	1	1	1	0	1	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 0011	0110 0000
128	10	211	96

256	128	64	32	16	8	4	2	1
11111111	1	1	0	1	0	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

# 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	$2^{13} - 2 = 8190$

68
 64
 4
 128
 64
 32
 14
 238
 352
 256
 96
 64
 32
 32
 00

119
 64
 55
 32
 23
 16
 7
 105
 64
 41
 32
 9

123

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

58 Subnets			
Network ID		Subnet/Host	Host
NNNN NNNN	NNNN NNNN	SSSS SSHH	HHHH HHHH
1000 0000	0000 1010	10110100	01110010
128	10	180	86

512	256	128	64	32	16	8	4	2	1
6	0	0	1	1	0	1	1	0	1
6	0	0	1	1	0	0	0	1	0

58 Subnets			
Network ID		Subnet/Host	Host
NNNN NNNN	NNNN NNNN	SSSS SSHH	HHHH HHHH
1000 0000	0000 1010	10060010	01010110
128	10	194	

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

# 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	128.10.204.45

28
16
12

59
32
27
16
11

29 Subnets			
Network ID		Subnet/Host	Host
NNNN NNNN	NNNN NNNN	SSSS SHHH	HHHH HHHH
1000 0000	0000 1010	11100000	0011 1011
128	10	224	59

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

25
16
9

1069
1024
45
32
13

29 Subnets			
Network ID		Subnet/Host	Host
NNNN NNNN	NNNN NNNN	SSSS SHHH	HHHH HHHH
1000 0000	0000 1010	11001100	0010 1101
128	10	204	45

1024	512	256	128	64	32	16	8	4	2	1
1	0	0	0	0	1	0	1	1	0	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	1-244.31.95
2000	11	1949	704	8190	9.244.226.192

1953

1024

929

512

417

256

161

128

33

32

1

1949

4024

925

512

413

256

167

128

39

32

7

2000 Subnets			
Network ID	Subnet	Subnet/Host	Host
NNNN NNNN	SSSS SSSS	SSSH HHHH	HHHH HHHH
0000 1001	1111 0100	00100100	01011111
9	244	36	95

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

2000 Subnets			
Network ID	Subnet	Subnet/Host	Host
NNNN NNNN	SSSS SSSS	SSSH HHHH	HHHH HHHH
0000 1001	1111 0100	1110 0010	1100 0000
9	244	226	192

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

# 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	$2^{13} - 2 = 8190$

1119
1024
95
64
31
16
15

/19

704
512
192
128
64