

Network Mask—32 bits, ones followed by zeroes. The ones correspond to the network bits of the address, the zeroes correspond to the host bits.

C I D R

CIDR (Classless InterDomain Routing)—For our purposes, refers to the netmask shorthand `/##`, giving the number of network bits. For example, `255.255.255.0` corresponds to binary `1111 1111 1111 1111 1111 1111 0000 0000`, hence the CIDR notation would be `/24`.

Classless Addressing—Ignores classes (A, B, C) and just looks at the mask to determine the number of network and host bits.

Classful Addressing—Clings to the concept of certain addresses belonging to a class and having a default mask with a fixed number of network bits. Differences between that mask and the actual mask are explained with "subnet bits."

B I N A R Y C O N V E R S I O N S

Be able to convert back and forth between binary and decimal mask notations one octet at a time. It's probably best to memorize the table to the right. This is one of the few times when flash cards make a lot of sense.

Combining knowledge of classful address ranges and classful network masks, be able to spot subnetting when it has happened, tell how many subnet bits are in play, and calculate various things like how many subnets exist, how many hosts per subnet, etc.

BINARY	CIDR (LAST OCTET)	DECIMAL
1111 1111	/32	255
1111 1110	/31	254
1111 1100	/30	252
1111 1000	/29	248
1111 0000	/28	240
1110 0000	/27	224
1100 0000	/26	192
1000 0000	/25	128
0000 0000	/24	0