Subnet Mask Quick Reference

Complete CIDR to Dotted Decimal Conversion

■ Complete Subnet Mask Table

CIDR	Subnet Mask	Usable Hosts	Networks (Class C)
/30	255.255.255.252	2	64
/29	255.255.255.248	6	32
/28	255.255.255.240	14	16
/27	255.255.255.224	30	8
/26	255.255.255.192	62	4
/25	255.255.255.128	126	2
/24	255.255.255.0	254	1
/23	255.255.254.0	510	N/A
/22	255.255.252.0	1,022	N/A
/21	255.255.248.0	2,046	N/A
/20	255.255.240.0	4,094	N/A
/19	255.255.224.0	8,190	N/A
/18	255.255.192.0	16,382	N/A
/17	255.255.128.0	32,766	N/A
/16	255.255.0.0	65,534	N/A

■ The 'Magic Number' Method

1. Identify the interesting octet (where subnet mask isn't 255 or 0)
2. Subtract subnet mask octet from 256
3. Result = increment between subnets (the 'magic number')
4. Count by magic number to find subnet ranges

Example: 192.168.1.0/26

- Subnet mask: 255.255.255.192
- Magic number: 256 - 192 = 64
- Subnets: 0, 64, 128, 192
- First subnet: 192.168.1.0-63 (usable: .1-.62)

■ Most Common Exam Subnets

Mask	Hosts	Use Case	Example
/30 (.252)	2	Point-to-point links	Router to router
/29 (.248)	6	Small office	5-6 devices
/28 (.240)	14	Department	10-14 users
/27 (.224)	30	Medium office	25-30 devices
/26 (.192)	62	Large department	50-60 users
/24 (.0)	254	Standard network	Full Class C

Essential Formulas

Usable Hosts: 2^(host bits) - 2
Number of Subnets: 2^(borrowed bits)
Magic Number: 256 - subnet mask octet
Broadcast Address: Next subnet - 1
Network Address: First IP in range (all host bits = 0)
Why subtract 2 hosts?
• 1 for network address (all 0s)
• 1 for broadcast address (all 1s)