The SubNet Wheel

1 Subnetting

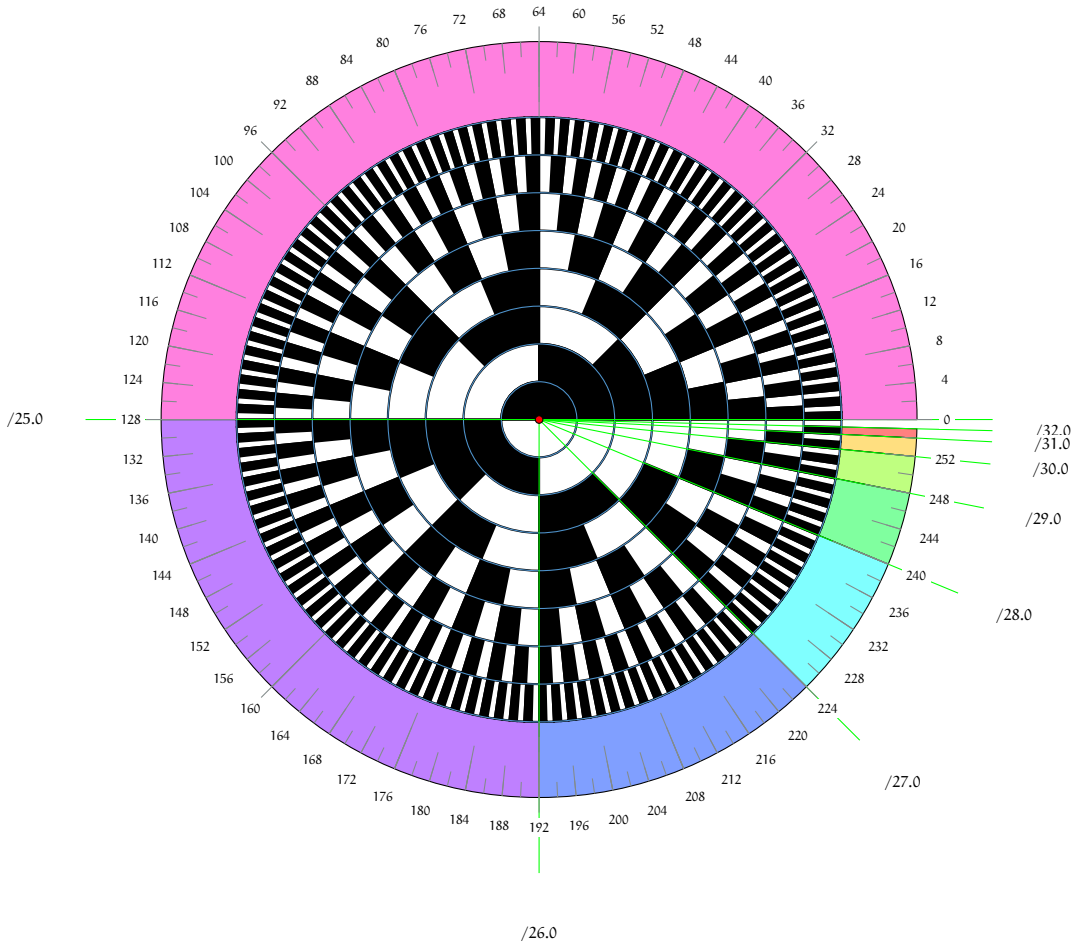
An alternate method of subnet visualization can be based on a wheel. The wheel is broken into 256 subdivisions where a value is addressed by $\theta = n_{bits} * 360/256$. Basic fomulas for network values are found by:

Host bits:	h
Network bits:	$n = 32 - h$
Number of hosts:	$2^h - 2$
Increment:	$2^{n \bmod 8}$ or $2^{8-h \bmod 8}$
Netmask:	$2^8 - 2^{n \bmod 8}$

Applying the CIDR values of n from $24 \cdots 32$, the diagram shows that the increment decreases by powers of two from 128 when viewing the black and white arc-regions, starting from the origin. It also shows that each increasing CIDR value is derived by dividing every region in half, following the colored regions, counter-clockwise. So a /24 subnet holds the whole circle, while a /25 subnet contains two regions between $0 - 128$ and $129 - 255$.

2 Binary

Also included in the chart is a binary conversion for the 8 significant bits within this octet. Bits are read from the outside in.



The numbering is reversed in direction from what I'd like, need to go back and adjust the LaTeX