Excercise Subnetting

Please use a subnet calculator for doing this exercise.

For example Bitcricket IP Calculator.

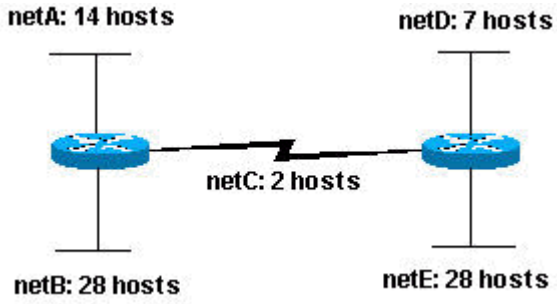
1. Given a Class C network and the net bits identified (CIDR), complete the following table to identify the subnet mask and the number of host addresses possible for each mask.

Classful Address	Subnet Mask	Number of Hosts per Subnet ($2^x - 2$)
/24	**255.255.255.0**	**254** (1 network)
/25	**255.255.255.128**	**126** (2 networks)
/26	**255.255.255.192**	**62** (4 networks)
/27	**255.255.255.224**	**30** (8 networks)
/28	**255.255.255.240**	**14** (16 networks)
/29	**255.255.255.248**	**6** (32 networks)
/30	**255.255.255.252**	**2** (64 networks)

2. Complete and write the subnet, broadcast address, and a valid host range.

Host IP address	Subnet	Host range	Broadcast address
192.168.100.25/ 30	.24	25-26	.27
192.168.100.33/ 28	.32	33-46	.47
192.168.100.65/ 27	.64	65-94	.95
192.168.100.17/ 29	.16	17-22	.23
192.168.100.129/ 25	.128	129-254	.255
192.168.100.1/ 24	.0	1-254	.255

3. Given the Class C network of **204.15.5.0/24**, complete the subnets in order to create the network in Figure that meet the host requirements shown below.



Net	Subnet ID	Host range	Broadcast adress	Subnet Mask
B	204.15.5.0	204.15.5.1-30	204.15.5.31	/27
E	204.15.5.32	204.15.5.33-62	204.15.5.63	/27
A	204.15.5.64	204.15.5.65-78	204.15.5.79	/28
D	204.15.5.80	204.15.5.81-94	204.15.5.95	/28
C	204.15.5.96	204.15.5.97-98	204.15.5.99	/30

4. You need to subnet a network that has 8 subnets, each with a maximum of 30 hosts. Which subnet mask would you use?

A. 255.255.255.192
B**. 255.255.255.224**
C. 255.255.255.240
D. 255.255.255.248

5. Which mask should you use on a point-to-point WAN link in order to reduce the waste of IP addresses (the minimum host IP addresses)?

A. /27
B. /28
C. /29
D. **/30**
E. /24