1. You have been allocated a class A network address of 29.0.0.0. You need to create at least 20 networks and each network will support a maximum of 160 hosts. Would the following two subnet masks Work? Show your calculations.

   255.255.0.0 and or 255.255.255.0

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2. You have been allocated a class B network address of 135.1.0.0 and need to create 4 subnets each with around 200 hosts what is the easiest mask to use to satisfy the criteria?

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3. Write the IP address 222.1.1.20 mask 255.255.255.192 in CIDR notation.

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4. Write the IP address 135.1.1.25 mask 255.255. 248.0 in CIDR notation.

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5. You have been allocated a class C network address of 211.1.1.0 and are using the default subnet mask of 255.255.255.0 how may hosts can you have?

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6. Subnet the Class C IP Address 195.1.1.0 So that you have 10 subnets each with a maximum 12 hosts on each subnet. List the Address on host 1 on subnet 0,1,2,3,10.

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7. Subnet the Class C IP Address 205.11.2.0 so that you have 30 subnets.

    i. What is the subnet mask for the maximum number of hosts?

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    ii. How many hosts can each subnet have?

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    iii. What is the IP address of host 3 on subnet 2?

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8. Subnet the Class C IP Address 195.1.1.0 So that you have at least 2 subnets each subnet must have room for 48 hosts.

    What are the two possible subnet masks?

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9. You have the following address: 192.16.5.133/29

    How many total bits are being used to identify the network, and how many total bits identify the host?

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10. What is the full subnet mask for address 172.16.5.10/28?

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11. You currently use the default mask for your IP network 192.168.1.0. You need to subnet your network so that you have 30 additional networks, and 4 hosts per network. Is this possible, and what subnet mask should you use?

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12. You still are using the default mask for your IP network 192.168.1.0. You need to subnet your network so that you have 5 additional networks, and 60 hosts per network. Is this possible, and what subnet mask should you use?

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13. You have sub-netted your class C network 192.168.1.0 with a subnet mask of 255.255.255.240. Please list the following: number of networks, number of hosts per network, the full range of the first three networks, and the usable address range from those first three networks.

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14. You have sub-netted your class C network 200.138.1.0 with a subnet mask of 255.255.255.252. Please list the following: number of networks, number of hosts per network, the full range of the first three networks, and the usable address range from those first three networks. Additionally, identify the broadcast addresses for each network.

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15. Assume that you have been assigned the 132.45.0.0/16 network block. You need to establish eight subnets.

    a. _____ binary digits are required to define eight subnets.

    b. Specify the extended-network-prefix that allows the creation of 8 subnets.

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    c. Express the subnets in binary format and dotted decimal notation:

#0 _____

#1 _____

#2 _____

#3 _____

#4 _____

#5 _____

#6 _____

#7 _____

d. List the range of host addresses that can be assigned to Subnet #3 (132.45.96.0/19).

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e. What is the broadcast address for Subnet #3 (132.45.96.0/19).

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16. Assume that you have been assigned the 200.35.1.0/24 network block.

a. Define an extended-network-prefix that allows the creation of 20 hosts on each subnet.

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b. What is the maximum number of hosts that can be assigned to each subnet?

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c. What is the maximum number of subnets that can be defined?

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d. Specify the subnets of 200.35.1.0/24 in binary format and dotted decimal notation.

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e. List range of host addresses that can be assigned to Subnet #6 (200.35.1.192/27)

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f.   What is the broadcast address for subnet 200.35.1.192/27?

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