TCP/IP PRACTICE QUESTIONS -<u>KEY</u>
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Directions: Based on the given information fill in all appropriate blanks.

1: Given an IP address of 155.47.199.3 and knowing the client needs 21 subnets.
    A: The default subnet mask is 255.255.0.0
    B: The network address is 155.47.0.0.
    C: The required subnet mask is 255.255.248.0.
    D: The maximum number of subnets that are available with this subnet mask is 30.
    E: List all available subnets: 155.47. ____ 8, 16, 24, 32, 40, 48, 56, 64, 72 ,80, 88, 96, 104, 112, 120, 128, 136, 144, 152 ,160, 168, 176, 184, 192, 200, 208, 216, 224, 232, 240.
    F: The subnet that this IP address falls on is 155.47.192.
    G: The host address is 7.3.
    H: The range of host IP addresses that occur on this subnet is 192.1-199.254.
    I: The maximum number of hosts that can occur on this subnet is 2046.
    J: The class of this IP address is B.

2: Given an IP address of 205.147.99.53 and knowing the client needs 15 subnets.
    A: The default subnet mask is 255.255.255.0
    B: The network address is 205.147.99.0.
    C: The required subnet mask is 255.255.255.248.
    D: The maximum number of subnets that are available with this subnet mask is 30.
    E: List all available subnets. 205.147.99. ___ 8, 16, 24, 32, 40, 48, 56, 64, 72 ,80, 88, 96, 104, 112, 120, 128, 136, 144, 152 ,160, 168, 176, 184, 192, 200, 208, 216, 224, 232, 240.
    F: The subnet that this IP address falls on is 205.147.99.48.
    G: The host address is 5.
    H: The range of host IP addresses that occur on this subnet is 205.147.99.49 – 205.147.99.54.
    I: The maximum number of hosts that can occur on this subnet is 6.
    J: The class of this IP address is C.

3: Given an IP address of 55.247.9.213 and knowing the client needs 123 subnets.
    A: The default subnet mask is 255.0.0.0.
    B: The network address is 55.0.0.0.

C: The required subnet mask is 255.254.0.0.

D: The maximum number of subnets that are available with this subnet mask is 126.

E: List all available subnets. 55.__ 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28 30, 32, 34, 36, 38 40, 42, 44, 46, 48, 50, 52, 54, 56, …240, 242, 244, 246, 248, 250, 252.

F: The subnet that this IP address falls on is 55.246.0.0.

G: The host address is 1.9.213.

H: The range of host IP addresses that occur on this subnet is 55.246.0.1 - 55.247.255.254.

I: The maximum number of hosts that can occur on this subnet is 131,070.

J: The class of this IP address is A.

4: Given an IP address of 25.47.199.3 and knowing the client needs 1000 hosts on a subnet.

A: The default subnet mask is 255.0.0.0.

B: The network address is 25.0.0.0.

C: The required subnet mask is 255.255.252.0.

D: The maximum number of subnets that are available with this subnet mask is 16,382.

E: List all available subnets. Multiples of 4 beginning in the third octet.

F: The subnet that this IP address falls on is 25.47.196.0.

G: The host address is 3.3.

H: The range of host IP addresses that occur on this subnet is 25.47.196.1 – 25.47.199.254.

I: The maximum number of hosts that can occur on this subnet is 1022.

J: The class of this IP address is A.

5: Given an IP address of 125.47.9.73 and knowing the client needs 18 subnets with 25 hosts on each subnet. Is this possible?

A: The default subnet mask is 255.0.0.0.

B: The network address is 125.0.0.0.

C: The required subnet mask is 255.248.0.0.

D: The maximum number of subnets that are available with this subnet mask is 30.

E: List all available subnets. 125. __ 8, 16, 24, 32, 40, 48, 56, 64, 72 ,80, 88, 96, 104, 112, 120, 128, 136, 144, 152 ,160, 168, 176, 184, 192, 200, 208, 216, 224, 232, 240.

F: The subnet that this IP address falls on is 125.40.0.0.

G: The host address is   7.9.73.

H: The range of host IP addresses that occur on this subnet is 125.40.0.1-125.47.255.254.

I: The maximum number of hosts that can occur on this subnet is 524,286.

J: The class of this IP address is A.

6: Given two hosts on a network with IP addresses of 125.47.9.73 and 125.49.9.74. Are these two on the same subnet? You are using a subnet mask of 255.240.0.0. Prove your position by answering the following for each address.

125.47.9.73

A: The default subnet mask is 255.0.0.0.
B: The network address is: 125.0.0.0.
C: The required subnet mask is 255.240.0.0.
D: The maximum number of subnets that are available with this subnet mask is 14.
E: List all available subnets. 125. ____ 16, 32, 48, 64, 80, 96, 112, 128, 144, 160, 176, 192, 208, 224.
F: The subnet that this IP address falls on is 125.32.0.0.
G: The host address is 15.9.73.
H: The range of host IP addresses that occur on this subnet is 125.32.0.1 – 125.47.255.254.
I: The maximum number of hosts that can occur on this subnet is 1,048,574.
J: The class of this IP address is A.

125.49.9.74

A: The default subnet mask is 255.0.0.0.
B: The network address is 125.0.0.0.
C: The required subnet mask is 255.240.0.0.
D: The maximum number of subnets that are available with this subnet mask is 14.
E: List all available subnets. 125. ____ 16, 32, 48, 64, 80, 96, 112, 128, 144, 160, 176, 192, 208, 224.
F: The subnet that this IP address falls on is 125.48.0.0.
G: The host address is 1.9.74.
H: The range of host IP addresses that occur on this subnet is 125.48.0.1 – 125.63.255.254.
I: The maximum number of hosts that can occur on this subnet is   1,048,574.
J: The class of this IP address is A.