VLSM

with
Class A and B Addresses
Problem 36
Part 1 of 3

The school system you are working for is using the private address of 172.32.0.0 to subnet the entire district. Use the **Class B** address chart to break down the sub-subnetwork addresses for the different schools and offices.

At this stage of the problem you are creating sub-subnets with the third octet of the IP address. Remember which octet of the IP address you are working in.

School System Address 172.32.**0**.0

Customer Name	Number of Addresses	Address Range (Include subnet & broadcast addresses)	CIDR
North High	2,400		
South High	2,000		
North Middle	1,200		
South Middle	1,000		
Central Elem.	550		
Southern Elem.	475		
Eastern Elem.	450		
Central Office	400		
Western Elem.	300		

VLSM

with
Class A and B Addresses
Problem 36
Part 2 of 3

Eastern Elementary has been given 512 hosts, with the address range of 172.32.42.0 / 21 (255.255.248.0).

Based on the information below supply the required address ranges and subnet masks for each school area. Use the **Class C** address chart to break down the sub-subnetworks.

Hint:

Another way to look at this problem is to see that with the third octet range of 42 to 43 you have access to 2 groups of 255 addresses (172.32.42.0 and 172.32.43.0). Think in terms of having two Class C VLSM charts.

Eastern Elementary School
Address Range 172.32.**42.0** to 172.32.**43.255**

Customer Name	Number of Addresses	Address Range (Include subnet & broadcast addresses)	CIDR
Students	250		
Printers	45		
Staff	40		
Network Devices	25		
Administrative	12		

VLSM
with
Class A and B Addresses
Problem 36
Part 3 of 3

South High in part 1 of this problem has been given 2,048 hosts, with the address range of 172.32.16.0 / 21 (255.255.248.0).

Based on the information below supply the required address ranges and subnet masks for each school area. Use both the **Class B** and **Class C** address charts to break down the sub-subnetwork addresses for the different areas of the network.

Hint:

With this problem you are creating sub-subnets with both the third and fourth octets of the IP address. You may need to use the Class B VLSM chart for the *Students* addressing information. All the other addresses will be using the Class C VLSM chart. Another way to look at this problem is to see that with the third octect range of 16 to 23 you have access to 8 groups of 255 addresses or eight Class C VLSM charts.

South High School
Address Range 172.32.**16.0** to 172.32.**23.255**

Customer Name	Number of Addresses	Address Range (Include subnet & broadcast addresses)	CIDR
Students	1,000		
Network Devices	250		
Printers	200		
Staff	150		
Administrative	50		