12. **8-12**

Subnet number	Network ID	Range of addresses	Broadcast address
1	192.168.43.0		
2	192.168.43.64		
3	192.168.43.128		
4	192.168.43.192		
5	192.168.44.0		
6	192.168.44.64		
7	192.168.44.128		
8	192.168.44.192		
9	192.168.45.0		

15. It creates 8 smaller subnets, and it is enough.

16. It creates 16 smaller subnets, and it is enough.
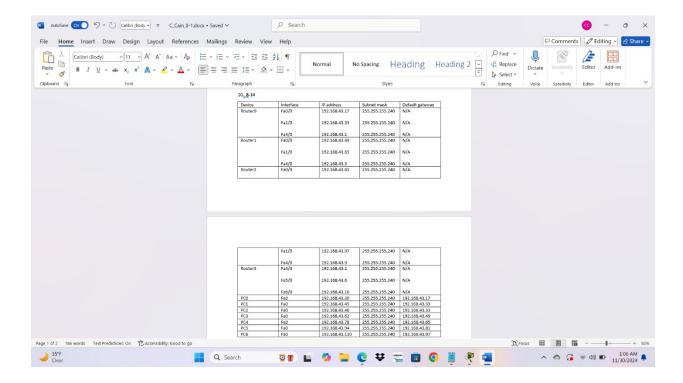
17. /28 or 255.255.255.240

18. 14 usable hosts

19. **8-13**

Subnet number	Network ID	Range of host addresses	Broadcast address
1A	192.168.43.0	192.168.43.1 – 192.168.43.2	192.168.43.3
1B	192.168.43.16	192.168.43.17 – 192.168.43.30	192.168.43.31
1C	192.168.43.32	192.168.43.33 – 192.168.43.46	192.168.43.47
1D	192.168.43.48	192.168.43.49 – 192.168.43.62	192.168.43.63

20. **8-14**

Device	Interface	IP address	Subnet mask	Default gateway
Router0	Fa0/0	192.168.43.1	255.255.255.240	N/A
	Fa1/0	192.168.43.17	255.255.255.240	N/A
	Fa4/0	192.168.43.33	255.255.255.240	N/A
Router1	Fa0/0	192.168.43.49	255.255.255.240	N/A
	Fa1/0	192.168.43.65	255.255.255.240	N/A
	Fa4/0	192.168.43.5	255.255.255.240	N/A
Router2	Fa0/0	192.168.43.81	255.255.255.240	N/A

	Fa1/0	192.168.43.97	255.255.255.240	N/A
	Fa4/0	192.168.43.9	255.255.255.240	N/A
Router3	Fa4/0	192.168.43.2	255.255.255.240	N/A
	Fa5/0	192.168.43.6	255.255.255.240	N/A
	Fa6/0	192.168.43.10	255.255.255.240	N/A
PC0	Fa0	192.168.43.30	255.255.255.240	192.168.43.17
PC1	Fa0	192.168.43.45	255.255.255.240	192.168.43.33
PC2	Fa0	192.168.43.46	255.255.255.240	192.168.43.33
PC3	Fa0	192.168.43.62	255.255.255.240	192.168.43.49
PC4	Fa0	192.168.43.78	255.255.255.240	192.168.43.65
PC5	Fa0	192.168.43.94	255.255.255.240	192.168.43.81
PC6	Fa0	192.168.43.110	255.255.255.240	192.168.43.97

28.

a. Yes, there was a response so the network is configured correctly.

b. Yes, there was a response.

c. It only worked for Fa4/0 192.168.45.33. For the others it states the host is unreachable.

d. No, host Is unreachable.

e. No, destination host unreachable.

f. No, destination host unreachable.

g. It could be an incorrect IP address, or an interface isn't connected.