Your company has been given the IP address 172 .112.0.0. The management has says they need to have 1500 nodes per subnet, but they also want you to allow for a $30 \%$ growth per subnet. Apply your addressing scheme to the topology diagram. Be sure to label each network (N1, N2, etc.) and interface (E0, E1, S0, or S1) and assign an address.

1. How many networks are needed (in the diagram)? $\qquad$
2. How many users (nodes) are needed per subnet? $\qquad$
3. How many bits do you need to borrow? $\qquad$
4. What is the subnet mask? $\qquad$

