2 1. Draw structures (Lewis, condensed or skeletal) of the following:

a) a three-membered ring with a nitrogen in it  
   b) an all carbon and hydrogen compound with three double bonds

c) $\text{C}_3\text{H}_5^+$  
   d) $\text{C}_3\text{H}_4$

2 2. Write Lewis structures of the two best resonance contributors for the following. Use lines for a pair of bonding electrons. Show lone pairs and formal charges.

sulfuric acid
$\text{H}_2\text{SO}_4$

$\text{O}_3$

2 3. Write the product(s) of the following reaction shown by the electron-pushing arrow. Don't forget formal charges if needed. Put in the lone pairs.

2 4. Draw four isomers for the formula $\text{C}_3\text{H}_7\text{N}$. Use Lewis, condensed or skeletal structures.

2 5. Give the hybridization of the indicated atoms for a and b and the angles for c and d. It probably would help to put the lone pairs in first.

a)  
   b)  
   c) What is the C-C-F angle in a?
   d) What is the C-C-C angle in b?