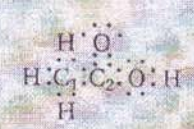
Name KEY Date _____ Class _____

3. Predict the shape of the CH_2CF_2 molecule. What hybridization is involved in the carbon-carbon bonds? sp^2 planar 120°

4. How many sigma and pi bonds are used by each of the carbon atoms in the following compound?



4 sigma
1 pi

SECTION 8.4 POLAR BONDS AND MOLECULES

1. What type of bond—nonpolar covalent, polar covalent, or ionic—will form between each pair of atoms?
   a. Na and O I b. O and O NPC c. P and O PC
2. Explain why most chemical bonds would be classified as either polar covalent or ionic. Unlike atoms
3. Would you expect carbon monoxide and carbon dioxide to be polar or nonpolar molecules? P NP
4. Draw the structural formulas for each molecule and identify polar covalent bonds by assigning the slightly positive (δ+) and slightly negative (δ−) symbols to the appropriate atoms.
   a. NH_3 NS^- HS^+ b. CF_3 FS^- CS^+
5. Which would you expect to have the higher melting point, CaO or CS_2?