

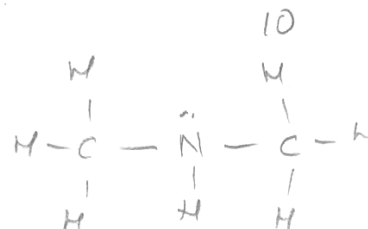
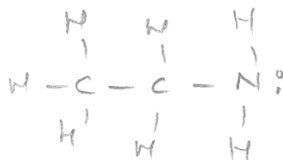
Quiz 1 (50 points)

Name Key

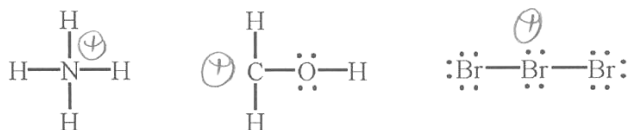
1. Consider the molecular formula C_2H_7N .

- a. How many valence electrons are present? 8
 b. Draw the two Lewis structures for this molecule (show any lone pairs of electrons)

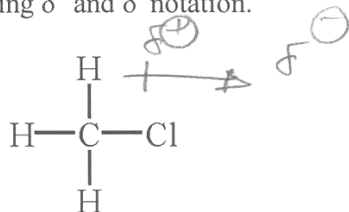
$$\begin{array}{rcl} 2 \text{ C} & = & 8 \\ 7 \text{ H} & = & 7 \\ 1 \text{ N} & = & 5 \\ \hline & & 20 \end{array}$$



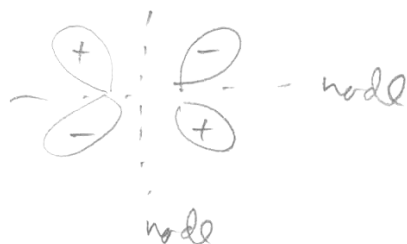
2. Show any formal charges on the structures below (all lone pairs are shown).



3. Show the polarity of the bond between C and Cl in the molecule below using the "polarity arrow" and using δ^+ and δ^- notation.



4. Draw the general shape of a pi anti-bonding (π^*) molecular orbital formed from two 2p atomic orbitals.



10 points