

HW Set #3

Due 9/16/10 (at the beginning of class)

Work the following problems from chapters 3

60, 64, 66, 70, 88, 90, 92, 96, 100, 105,

Other problems.

1. Which do think has a larger H-C-X bond angle,  $\text{CH}_3\text{Cl}$  or  $\text{CH}_3\text{I}$ ? Give two reasons why. Which would have the larger dipole?
2. Which of the following would you expect to have the largest dipole moment (or is there not way to know).  $\text{N}_2$ ,  $\text{CO}_2$ ,  $\text{HCl}$ ,  $\text{CCl}_4$
3. Draw the best Lewis Dot Structure, Find the formal charges. Predict the geometry (linear, bent, tetrahedral, etc...) Give an estimate of the Cl-Al-Cl bond angle (exactly  $120^\circ$ , less than  $90^\circ$ , etc...) , state if the molecule is polar or non-polar.