CEM143, Problem Set #1 Chapters 1-2

1. Draw Lewis dot structures and stick structures of the following compounds and calculate the formal charge for the indicated atoms:

	Lewis Structures	Stick Structures	Formal Charges
CH ₃ I			C =
NH ₃			N =
⊕ NH ₄			N =
CH₃NO₂			N =
CH ₂ N ₂			C =

2. Draw a resonance structure for the following compounds:

3. Convert the following structural (stick) formulas into line formulas and name the compounds:

$$\begin{array}{ccc} \mathrm{CH_3} & \mathrm{CH_3} \\ \mathrm{CH_3CH_2CHCH_2CCH_3} \\ \mathrm{CH_3} \end{array}$$

$$\begin{array}{c} \mathsf{CH_3} \ \, \mathsf{CH_2CH_2CH_3} \\ \mathsf{CH_3C} {\longleftarrow} \mathsf{CHCH_2CH_3} \\ \mathsf{CH_3} \end{array}$$

$$\begin{array}{c} \operatorname{Br} \\ \operatorname{Br-CH_2C-CHCH_2CH_3} \\ \operatorname{CH_3} \operatorname{CH_2CH_2CH_2CH_2CH_3} \end{array}$$

$$H_2$$
C- C H₂
 H_3 C- C C, C H₂
 H_4 CH₂CH₂CH₃

$$\begin{array}{c} \mathsf{CH_2CH_2CH_2CH_3} \\ \mathsf{H_2CHC} \\ \mathsf{H_2\dot{C}-\dot{C}H_2} \end{array}$$

4. Draw the structures that correspond to the following names:

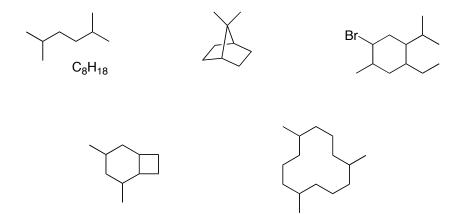
butyl bromide

t-butyl chloride

iso-propyl chloride

sec-butyl iodide

5. Provide the chemical formulas for:



6. Draw all possible Tribromopropanes: