

1. What are likely formulas for the following substances?

- a) CCl_7
- b) AlH_7
- c) CH_7Cl_2
- d) SiF_7
- e) CH_3NH_7

2. Provide Lewis structures for the following molecules, be sure to show all non-bonding electrons. Identify any atoms bearing formal charges.

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| a) CCl_4 | k) BH_3 |
| b) CH_3Br | l) CH_3Li |
| c) CH_3OH_2^+ | m) NaH |
| d) NH_2^- | n) MgCl_2 |
| e) CH_3NH_3^+ | o) CO_2 |
| f) H_2NNH_2 | p) CF_4 |
| g) PH_3 | q) BF_4^- |
| h) H_2S | r) Cl_2CO |
| i) $\text{CH}_3\text{CH}_2\text{OH}$ | s) H_2O |
| j) $\text{HOCH}_2\text{CH}_2\text{OH}$ | t) CH_2Cl_2 |

3. Which of these substances would you expect to have covalent bonds and which ionic bonds?

- a) CH_4 b) CH_2Cl_2 c) LiI d) KBr e) MgCl_2 f) Cl_2

4. Provide the hybridization for each carbon atom in the following molecules

