WS 6.2 Ionic and Covalent Formula Writing *Name:*_____*p.*_____

1. Ionic compounds.
Examples: $MgCl_2$, $NaNO_3$, Ag_2S, $Fe(NO_3)_3$, Fe_2O_3, K_2SO_4, Li_2CO_3, $AlPO_4$, Cu_2SO_4, NH_4Cl

a. Ionic compounds typically contain _____.

both metals and nonmetals *only metals* *only nonmetals*

b. Explain how ionic compounds form from elements. What is happening with the electrons?

2. Covalent compounds (aka "molecular compounds").
Examples: CO_2, CO, H_2O, CCl_4, C_8H_{18}, SO_3, SO_2, OF_2, PCl_5, NI_3, $C_6H_{12}O_6$, NO, NO_2, N_2O, N_2O_3, N_2O_4, N_2O_5

a. Covalent compounds typically contain _____.

both metals and nonmetals *only metals* *only nonmetals*

b. Explain how covalent compounds form from elements. What is happening with the electrons?

Prefixes!

1 = mono	6 = hexa
2 = di	7 = hepta
3 = tri	8 = octa
4 = tetra	9 = nona
5 = penta	10 = deca

3. Fill in the missing name or formula for these <u>covalent</u> compounds:

NO_2 _____ carbon tetraiodide_____

NO _____ CBr_2I_2 _____

P_2O_5 _____

4. Fill in the missing name or formula for these <u>ionic</u> compounds:

$BaCl_2$ _____ Al_2S_3 _____

PbO _____ Fe_2S_3 _____

ammonium sulfate _____ Tin (IV) carbonate _____

5. For each compound, classify it as ionic (I) or covalent(C), and then fill in the missing name or formula.

NCl_3 ____ _____

$AlCl_3$ ____ _____

CO ____ _____

CO_2 ____ _____

$NiBr_2$ ____ _____

SO_2 ____ _____

SF_6 ____ _____

gold (III) sulfide ____ _____

XeF_4 ____ _____

Li_2O ____ _____

N_2O_4 ____ _____

sulfur trioxide ____ _____

NI_3 ____ _____

B_2O_3 ____ _____

B_2O ____ _____

potassium peroxide ____ _____

PCl_5 ____ _____

Calcium hydride ____ _____

disilicon hexahydride ____ _____

Iron (III) phosphide ____ _____

Iron (II) phosphide ____ _____

Calcium phosphate ____ _____

Si_3N_4 ____ _____

Pb_3N_4 ____ _____

disulfur decafluoride ____ _____

silver sulfate ____ _____

P_4O_9 ____ _____

Se_2Br_2 ____ _____

$SeBr_2$ ____ _____

Te_2I ____ _____

Tin II oxalate ____ _____

sodium carbonate ____ _____

tetraphosphorus heptasulfide ____ _____

triselenium dinitride ____ _____

magnesium nitrate ____ _____

nickel bromate ____ _____

nickel phosphate ____ _____

nickel sulfate ____ _____