Names: _____

CHM 130 worksheet, (Nomenclature and balancing reactions)

1. When the following are ions what is their charge? (like +2, -3, +1, etc…)
    a. K_____ S_____ Al_____ Ca_____ Ag_____
    b. Zn_____ Cl_____ O_____ I_____ N_____
2. Write the ionic formula for when the following come together to form a compound:
    a. Example Na and O = _____Na_2O_____
    b. K and N = _____
    c. Ca and Br = _____
    d. Mg and P = _____
    e. Al and I = _____
    f. Al and S = _____
3. Write the correct name for the following ionic or covalent compounds:
    a. $CaCl_2$ = _____
    b. Li_2S = _____
    c. N_2O_4 = _____
    d. PI_3 = _____
    e. SnS_2 = _____
    f. $AuBr_3$ = _____
    g. $ZnSO_4$ = _____
    h. $Ca(NO_2)_2$ = _____
    i. $KC_2H_3O_2$ = _____
    j. $CoPO_4$ = _____
4. Write the correct ionic or covalent formula for these names:
    a. Lithium oxide = _____
    b. Magnesium iodide = _____
    c. Copper(III) sulfite = _____
    d. Lead(II) chromate = _____
    e. Dinitrogen pentasulfide = _____
    f. Phosphorus pentachloride = _____
    g. Potassium acetate = _____
    h. Calcium hydroxide = _____
    i. Dihydrogen monoxide = _____
    j. Aluminum fluoride = _____

5. Balance the following reactions AND tell me what type they are (combination = C, decomposition = D, combustion = CB, single replacement = SR, double replacement = DR, acid base neutralization = N)

Type	Balance these
	_____ N_2 (g) + _____ H_2 (g) → _____ NH_3 (g)
	_____ Zn (s) + _____ $AgNO_3$ (aq) → _____ $Zn(NO_3)_2$ (aq) + _____ Ag (s)
	_____ $Mg(OH)_2$ (aq) + _____ H_3PO_4 (aq) → _____ H_2O (l) + _____ $Mg_3(PO_4)_2$ (aq)
	_____ $Ba(HCO_3)_2$ (s) → _____ $BaCO_3$ (s) + _____ H_2O (g) + _____ CO_2 (g)
	_____ $BaCl_2$ (aq) + _____ Na_2SO_4 (aq) → _____ NaCl (aq) + _____ $BaSO_4$ (s)
	_____ N_2 (g) + _____ O_2 (g) → _____ N_2O_5 (g)
	_____ C_2H_4 (l) + _____ O_2 (g) → _____ H_2O (g) + _____ CO_2 (g)
	_____ KOH (aq) + _____ H_2CO_3 (aq) → _____ H_2O (l) + _____ K_2CO_3 (aq)
	_____ C_6H_8 (l) + _____ O_2 (g) → _____ H_2O (g) + _____ CO_2 (g)

Answer Key

CHM 130 worksheet, Nomenclature and Balancing Reactions

1. When the following are ions what is their charge? (like +2, -3, +1, etc…)
   a. K__+1_ S_-2__ Al_+3__ Ca_+2__ Ag_+1__
   b. Zn_+2__ Cl_-1__ O__-2_ I__-1__ N_-3__
2. Write the ionic formula for when the following come together to form a compound:
   a. Example Na and O = _____Na_2O_____
   b. K and N = ____K_3N_____
   c. Ca and Br = _____$CaBr_2$_____
   d. Mg and P = ____Mg_3P_2_____
   e. Al and I = _____AlI_3_____
   f. Al and S = _____Al_2S_3_____
3. Write the correct name for the following ionic or covalent compounds:
   a. $CaCl_2$ = _____calcium chloride_____
   b. Li_2S = _____lithium sulfide_____
   c. N_2O_4 = _____dinitrogen tetraoxide_____
   d. PI_3 = _____phosphorus triiodide_____
   e. SnS_2 = _____tin(IV) sulfide_____
   f. $AuBr_3$ = _____gold(III) bromide_____
   g. $ZnSO_4$ = _____zinc sulfate_____
   h. $Ca(NO_2)_2$ = _____calcium nitrite_____
   i. $KC_2H_3O_2$ = _____potassium acetate_____
   j. $CoPO_4$ = _____cobalt(III) phosphate_____
4. Write the correct ionic or covalent formula for these names:
   a. Lithium oxide = _____Li_2O_____
   b. Magnesium iodide = _____MgI_2_____
   c. Copper(III) sulfite = _____$Cu_2(SO_3)_3$_____
   d. Lead(II) chromate = _____$PbCrO_4$_____
   e. Dinitrogen pentasulfide = _____N_2S_5_____
   f. Phosphorus pentachloride = ____PCl_5_____
   g. Potassium acetate = _____$KC_2H_3O_2$_____
   h. Calcium hydroxide = _____$Ca(OH)_2$_____
   i. Dihydrogen monoxide = ____H_2O_____

j. Aluminum fluoride = _____AlF_3_____

5. Balance the following reactions AND tell me what type they are (combination = C, decomposition = D, combustion = CB, single replacement = SR, double replacement = DR, acid base neutralization = N)

Type	Balance these
C	__1___ N_2 (g) + __3___ H_2 (g) → ___2__ NH_3 (g)
SR	__1___ Zn (s) + ___2__ $AgNO_3$ (aq) → __1___ $Zn(NO_3)_2$ (aq) + __2___ Ag (s)
N	__3___ $Mg(OH)_2$ (aq) + __2__ H_3PO_4 (aq) → _6__ H_2O (l) + __1_ $Mg_3(PO_4)_2$ (aq)
D	__1__ $Ba(HCO_3)_2$ (s) → _1___ $BaCO_3$ (s) + __1__ H_2O (g) + __1__ CO_2 (g)
DR	___1_ $BaCl_2$ (aq) + _1___ Na_2SO_4 (aq) → __2__ NaCl (aq) + _1___ $BaSO_4$ (s)
C	___2__ N_2 (g) + __5___ O_2 (g) → ___2__ N_2O_5 (g)
CB	___1__ C_2H_4 (l) + __3___ O_2 (g) → ___2__ H_2O (g) + __2___ CO_2 (g)
N	___2__ KOH (aq) + __1___ H_2CO_3 (aq) → ___2__ H_2O (l) + ___1__ K_2CO_3 (aq)
CB	__1___ C_6H_8 (l) + __8___ O_2 (g) → ___4__ H_2O (g) + ___6__ CO_2 (g)