More Balancing Equations

Name - _____

Balance these equations!

1.) _____ $AlBr_3$ + _____ K → _____ KBr + _____ Al

2.) _____ FeO + _____ PdF_2 → _____ FeF_2 + _____ PdO

3.) _____ P_4 + _____ Br_2 → _____ PBr_3

4.) _____ LiCl + _____ Br_2 → _____ LiBr + _____ Cl_2

5.) _____ $PbBr_2$ + _____ HCl → _____ HBr + _____ $PbCl_2$

6.) _____ $CoBr_3$ + _____ $CaSO_4$ → _____ $CaBr_2$ + _____ $Co_2(SO_4)_3$

7.) _____ Na_3P + _____ CaF_2 → _____ NaF + _____ Ca_3P_2

8.) _____ Mn + _____ HI → _____ H_2 + _____ MnI_3

9.) _____ Li_3PO_4 + _____ NaBr → _____ Na_3PO_4 + _____ LiBr

10.) _____ CaF_2 + _____ Li_2SO_4 → _____ $CaSO_4$ + _____ LiF

11.) _____ HBr + _____ $Mg(OH)_2$ → _____ $MgBr_2$ + _____ H_2O

12.) _____ $LiNO_3$ + _____ $CaBr_2$ → _____ $Ca(NO_3)_2$ + _____ LiBr

13.) _____ $AgNO_3$ + _____ Li → _____ $LiNO_3$ + _____ Ag

14.) _____ $Si(OH)_4$ + _____ NaBr → _____ $SiBr_4$ + _____ NaOH

15.) _____ NaCN + _____ $CuCO_3$ → _____ Na_2CO_3 + _____ $Cu(CN)_2$

Review and Practice

1. Answer the following for the reaction of solid carbon with oxygen gas to produce carbon dioxide gas:
   a. Name the reactants.
   b. List some macroscopic properties of the reactants and products.
   c. Draw models that represent the reaction of the atoms (use Figure 5-7 as a guide).
   d. Write the equation for the reaction.
   e. Balance the equation.

2. Balance the following equations:
   a. $K + Cl_2 \longrightarrow KCl$
   b. $K + Br_2 \longrightarrow KBr$
   c. $K + F_2 \longrightarrow KF$
   d. $K + O_2 \longrightarrow K_2O$
   e. $Na + O_2 \longrightarrow Na_2O$
   f. $Na + N_2 \longrightarrow Na_3N$
   g. $Ca + O_2 \longrightarrow CaO$
   h. $Ba + Br_2 \longrightarrow BaBr_2$
   i. $Sr + N_2 \longrightarrow Sr_3N_2$

3. Balance the following equations:
   a. $K + H_2O \longrightarrow KOH + H_2$
   b. $Ca + H_2O \longrightarrow Ca(OH)_2 + H_2$
   c. $Mg + N_2 \longrightarrow Mg_3N_2$
   d. $Mg_3N_2 + H_2O \longrightarrow MgO + NH_3$
   e. $NH_4Cl + Ca(OH)_2 \longrightarrow NH_3 + H_2O + CaCl_2$
   f. $(NH_4)_2SO_4 + NaOH \longrightarrow NH_3 + H_2O + Na_2SO_4$
   g. $FeS_2 + O_2 \longrightarrow Fe_2O_3 + SO_2$
   h. $MoS_2 + O_2 \longrightarrow MoO_3 + SO_2$
   i. $MoO_3 + H_2 \longrightarrow Mo + H_2O$

4. Write and balance the following word equations:
   a. lithium + water ⟶ lithium hydroxide + hydrogen
   b. barium + water ⟶ barium hydroxide + hydrogen
   c. ammonium nitrate + sodium hydroxide ⟶ ammonia + water + sodium nitrate
   d. copper(I) sulfide + oxygen ⟶ copper(I) oxide + sulfur dioxide
   e. aluminum + iodine ⟶ aluminum iodide

5. Balance the following equations:
   a. $AgNO_3 + CuCl_2 \longrightarrow AgCl + Cu(NO_3)_2$
   b. $BaCl_2 + (NH_4)_2CO_3 \longrightarrow BaCO_3 + NH_4Cl$
   c. $Mg(ClO_3)_2 \longrightarrow MgCl_2 + O_2$
   d. $FeCl_2 + Na_3PO_4 \longrightarrow Fe_3(PO_4)_2 + NaCl$
   e. $ZnO + HCl \longrightarrow ZnCl_2 + H_2O$
   f. $CuSO_4 + Fe \longrightarrow Fe_2(SO_4)_3 + Cu$
   g. $Br_2 + KI \longrightarrow KBr + I_2$
   h. $Al + NaOH + H_2O \longrightarrow NaAl(OH)_4 + H_2$