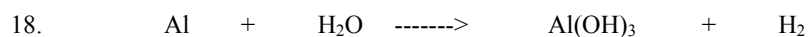
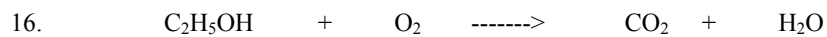
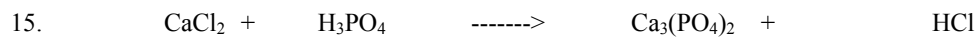
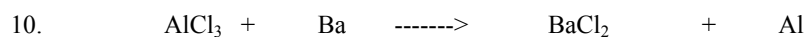
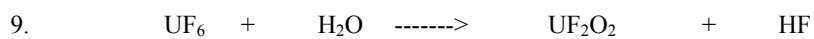
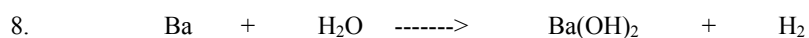
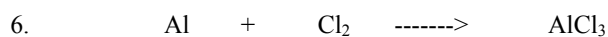
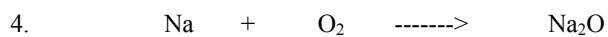
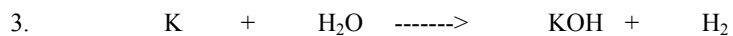
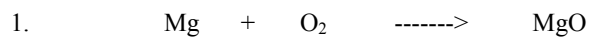
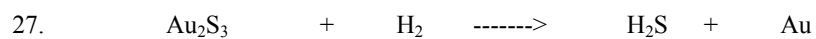
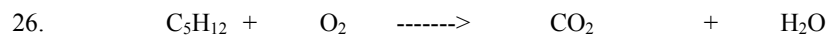
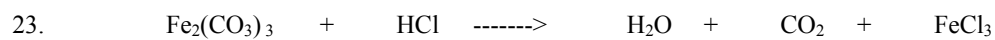
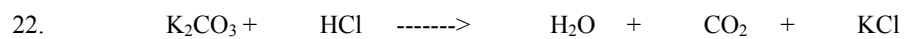


**Part I. Balance each reaction.** (Use the lowest possible integer coefficients.)





**Part II. Combination/Synthesis Reactions.**

1. Write a balanced chemical equation for each reaction, including subscripts on all reactants and products.

a. Liquid bromine reacts with aluminum powder. \_\_\_\_\_

b. Chlorine reacts with sodium. \_\_\_\_\_

c. Potassium reacts with oxygen. \_\_\_\_\_

d. Sulfur reacts with aluminum. \_\_\_\_\_

e. Magnesium reacts with sulfur. \_\_\_\_\_

f. Iodine reacts with potassium. \_\_\_\_\_

g. Sodium reacts with sulfur. \_\_\_\_\_

h. Phosphorus reacts with calcium. \_\_\_\_\_

i. Fluorine reacts with aluminum. \_\_\_\_\_

j. Potassium reacts with nitrogen. \_\_\_\_\_

k. Lithium reacts with oxygen. \_\_\_\_\_

l. Bromine reacts with sodium. \_\_\_\_\_

2a. Are the compounds that form in the above reactions ionic or covalent? \_\_\_\_\_

b. Justify your answer to (a): \_\_\_\_\_