**Quiz #4 Study Guide – Chemical Reactions**

1. Label the products, reactants, and yield sign in the following reaction:

P4 + 3 O2 🡪 2 P2O3

1. Explain the law of conservation of mass.
2. In the following chemical reaction, circle the coefficients and draw a square around the subscripts:

2C3H9O + 5O2 🡪 6CO2 + 9H2

1. In the following compounds, determine how many of each element you have:

H2SO4 4Li3N 2C6H12

1. Balance the following equations:

\_\_\_\_\_ NO2 🡪 \_\_\_\_\_\_ O2 + \_\_\_\_\_ N2

\_\_\_\_ Fe + \_\_\_\_ S2 🡪 \_\_\_\_\_ Fe2 S3  
\_\_\_\_ Fe2O3 + \_\_\_\_H2 🡪 \_\_\_\_ Fe + \_\_\_\_ H2O

\_\_\_\_ Cu2O + \_\_\_\_ C 🡪 \_\_\_\_ Cu + \_\_\_\_ CO2

\_\_\_\_CuCl2 + \_\_\_\_H2S → \_\_\_\_CuS + \_\_\_\_HCl

\_\_\_\_C4 H8 + \_\_\_\_ O2 🡪 \_\_\_\_CO2 + \_\_\_\_H2O

\_\_\_\_BaCl2 + \_\_\_\_ Na3 P 🡪 \_\_\_\_ Ba3 P2 + \_\_\_\_ NaCl  
\_\_\_\_ AlBr3 + \_\_\_ Cl2 🡪 \_\_\_\_ AlCl3+ \_\_\_ Br2

\_\_\_\_Ag2S 🡪 \_\_\_\_Ag + \_\_\_\_ S8

1. Indicate which type of chemical reaction (synthesis, decomposition, single-displacement, or double-displacement) is being represented

Reaction Type:

P4 + 3 O2 🡪 2 P2O3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
SeCl6 + O2 🡪 SeO2 + 3Cl2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
 AlBr3 + Cl2 🡪 AlCl3+ Br2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2 NO2 🡪 2 O2 + N2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
 2Be + O2 🡪 2BeO \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
CuCl2 +H2S → CuS + HCl \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

FeCl3 + Na2CO3  Fe2(CO3)3 + NaCl              \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_