**Chem 1311- Types of Reactions & Limiting Reactant**

List the type of reaction and balance each equation:

1. N2 + H2 → NH3
2. Cl2 + NaBr → NaCl + Br2
3. CH3OH + O2 → CO2 + H2O
4. Fe(OH)3 → Fe2O3 + H2O
5. Na2SO4 + SrCl2 → NaCl + SrSO4

Use the following equation for questions 6-9:

**\_\_\_\_ Al + \_\_\_\_ HBr → \_\_\_\_ AlBr3 + \_\_\_\_ H2**

1. When 3.22 moles of Al react with 4.96 moles of HBr, how many moles of H2 are formed?
2. What is the limiting reactant?
3. What kind of reaction is this?
4. The calculated yield of aluminum bromide is 4.05g, while the expected yield was 4.12g. What is the percent yield of aluminum bromide?

Use the following equation for questions 10-13:

**\_\_\_\_ Ag2CO3 → \_\_\_\_ Ag + \_\_\_\_ CO2 + \_\_\_\_ O2**

1. How many grams of oxygen will be produced if 65.9 grams of silver are produced?
2. If 12.5 grams of silver carbonate are used, how many formula units of oxygen gas is produced?
3. What kind of reaction is this?
4. The reaction was conducted in a lab and produced 12.03g of silver while the expected mass was 13.50g. How accurate was the experimental procedure?