**Name:**

**Limiting Reactants Problems #1**

**Pb(NO3)2 (aq) + NaI (aq)→ NaNO3(aq)+ PbI2 (s)**

1)If you start with 25.0 g of lead (II) nitrate and 15.0 g of sodium iodide, a. determine the limiting reactant, b. the reactant in excess, c. the mass of sodium nitrate produced, d. the mass of excess reactant that remains after the reaction is complete.

**FeS (s) + HCl (aq) → FeCl2 (aq) + H2S (g)**

2) If you start with 12.0g of FeS and 5.02 g HCl, a. determine the limiting reactant, b. the reactant in excess, c. the moles of iron (II) chloride produced, d. the mass of excess reactant that remains after the reaction is complete.

**NH3 (g) + O2 (g) → NO(g) + H2O (g)**

3) If a reaction started with 1.50 g of ammonia and 1.85 g of oxygen, which reactant is the limiting reactant, and which is the excess reactant?

b) How much nitrogen monoxide forms in grams from this reaction?

c) How much of the excess reactant if left over, in grams, after the reaction is complete?

**Na (l) + Al2O3 (s) → Al (l) + Na2O (s)**

4) What is the limiting reactant when 5.20 g of sodium is heated with 5.10 g of Al2O3, according to the following reaction?

b) What mass of aluminum can be produced?

c) What mass of excess reactant remains at the end of the reaction?