Name: _____ Date: _____ Period: ____

Worksheet 9.3

Limiting Reactant Practice - (Attach work on a separate sheet if necessary)

1. Consider the following reaction: $2\ Al + 6\ HBr \rightarrow 2\ AlBr_3 + 3\ H_2$
 a. When 3.22 moles of Al reacts with 4.96 moles of HBr, how many moles of H_2 are formed?
 b. What is the limiting reactant?
 c. For the reactant in excess, how many moles are left over at the end of the reaction?

2. Consider the following reaction: $3\ Si + 2\ N_2 \rightarrow Si_3N_4$
 a. When 21.44 moles of Si reacts with 17.62 moles of N_2, how many moles of Si_3N_4 are formed?
 b. What is the limiting reactant?
 c. For the reactant in excess, how many moles are left over at the end of the reaction?

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3. Consider the following reaction: $2\ CuCl_2 + 4\ KI \rightarrow 2\ CuI + 4\ KCl + I_2$

a. When 0.56 moles of $CuCl_2$ reacts with 0.64 moles of KI, how many moles of I_2 are formed?

b. What is the limiting reactant?

c. For the reactant in excess, how many moles are left over at the end of the reaction?

4. Consider the following reaction: $4\ FeS_2 + 11\ O_2 \rightarrow 2\ Fe_2O_3 + 8\ SO_2$

a. When 26.62 moles of FeS_2 reacts with 5.44 moles of O_2, how many moles of SO_2 are formed?

b. What is the limiting reactant?

c. For the reactant in excess, how many moles are left over at the end of the reaction?