Name: _____ **Date:** _____

Theoretical Yield and Limiting Reagents

1. For the reaction 3 H_2 (g) + N_2 (g) → 2 NH_3 (g), 3 mol H_2 is reacted with 6 mol N_2

   a: _____ mol of NH_3 is produced

   b: _____ mol H_2 remains

   c: _____ mol N_2 remains

2. For the reaction 2 N_2H_4 (l) + N_2O_4 (l) → 3 N_2 (g) + 4 H_2O (l),
   160 g N_2H_4 is mixed with 160 g N_2O_4

   a: _____ is the limiting reagent

   b: _____ g H_2O is produced

3. For the reaction Fe_2O_3 (s) + 3 CO (g) → 2 Fe (g) + 3 CO_2,
   224 g of CO is available to react with 400 g Fe_2O_3

   a: _____ is the limiting reagent

   b: _____ g of iron is produced

   c: _____ g of CO_2 is produced

4. For the reaction 2 C_4H_{10} (g) + 13 O_2 (g) → 8 CO_2 (g) + 10 H_2O (l)
   300 g of C_4H_{10} is combusted in 1000 g of O_2.

   a: _____ is the limiting reagent

   b: _____ g H_2O is formed