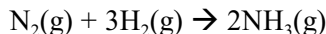
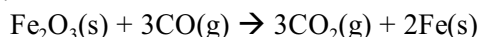


## Problems: Percent Yield

1. What is the limiting reagent when 50.0 g of nitrogen reacts with 10.7 g of hydrogen according to this balanced equation?



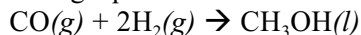
2. How many grams of CO are needed to react with an excess of  $\text{Fe}_2\text{O}_3$  to produce 558 g Fe? The equation for the reaction is:



3. How many grams of butane ( $\text{C}_4\text{H}_{10}$ ) must be burned in an excess of  $\text{O}_2$  to produce 15.0 g of  $\text{CO}_2$ ?



4. a) If 4.0 g of  $\text{H}_2$  are made to react with excess CO, how many grams of  $\text{CH}_3\text{OH}$  can theoretically be produced according to the following equation?



- b) If 28.0 g of  $\text{CH}_3\text{OH}$  are actually produced, what is the percent yield?

5. Ammonium nitrate solution,  $\text{NH}_4\text{NO}_3$ , reacts with barium chromate solution,  $\text{BaCrO}_4$ , in a classic double displacement reaction. If one initiates the chemical reaction with 18.70 g of ammonium nitrate and 15.60 g of barium chromate, determine:

- a) the balanced equation
- b) the grams deficient of the limiting reagent
- c) the grams extra of the excess reagent
- d) the % yield of the "nitrate product" if, experimentally, one gathers 11.30 g of the nitrate product.