1. How many grams of barium phosphate are required to react completely with 10.9 grams of potassium hydroxide to form potassium phosphate and barium hydroxide?

$$Ba_3(PO_4)_2 \ + \ KOH \ \rightarrow \ Ba(OH)_2 \ + \ K_3PO_4$$

(UNBALANCED)

2. 1.7 grams of calcium nitrate is combined with 15.7 grams of sodium phosphate.
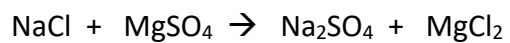
$$Ca(NO_3)_2 \ + \ Na_3PO_4 \ \rightarrow \ Ca_3(PO_4)_2 \ + \ NaNO_3$$

(UNBALANCED)

a) What is the limiting reagent?
b) How many grams of calcium phosphate are produced?
c) How much excess remains?

3. 7.55 grams of sodium chloride is combined with 7.87 grams magnesium sulfate and 5.95 grams of magnesium chloride are produced.

$$NaCl \ + \ MgSO_4 \ \rightarrow \ Na_2SO_4 \ + \ MgCl_2$$

(UNBALANCED)

   a. What is the percent yield of this reaction?
   b. What is the limiting reagent?
   c. How much excess reagent remains?