

Name:

### Limiting Reactant Practice (using moles)

**Write the equation for the reaction of iron (III) phosphate with sodium sulfate to make iron (III) sulfate and sodium phosphate.**

1. If you perform this reaction with 25 grams of iron (III) phosphate and an excess of sodium sulfate, how many grams of iron (III) sulfate can you make?
  - a. Identify the excess reactant and limiting reactant.
  - b. Determine the molar mass of the limiting reactant.
  - c. Convert grams into moles of the limiting reactant.
  - d. Determine the mole ratio of the limiting reactant to the product.
  - e. Convert moles of the limiting reactant to moles of the product.
  - f. Determine the molar mass of the product.
  - g. Convert moles into grams of the product.

b) If 18.5 grams of iron (III) sulfate are actually made when you do this reaction, what is your percent yield?

c) Is the answer from problem b) reasonable? Explain.

d) If you do this reaction with 15 grams of sodium sulfate and get a 65.0% yield, how many grams of sodium phosphate will you make?