

## Limiting and Excess Reactants Practice #1

Name: \_\_\_\_\_

1. At high temperatures, iron metal reacts with sulfur to produce the brown-black iron (II) sulfide precipitate. In this reaction, 7.62 grams of iron metal is allowed to react with 8.67 grams of sulfur.

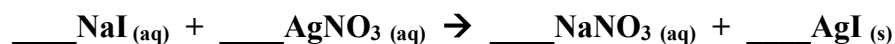


a. What is the limiting reactant (L.R.)?

What is the excess reactant (E.R.)?

b. How many grams of iron (II) sulfide are **PRODUCED** in the reaction?

2. Consider the following D-R reaction: 55.0 grams of aqueous sodium iodide reacts with 65.0 grams of aqueous silver nitrate:



a. What is the limiting reactant (L.R.)?

What is the excess reactant (E.R.)?

b. How many grams of silver iodide are **PRODUCED** in the reaction?

3. Consider the following D-R reaction: **0.704 moles of sodium sulfate react with 0.191 moles of barium nitrate.** (*Hint: Write a balanced chemical equation first*)

a. What is the limiting reactant (L.R.)?

What is the excess reactant (E.R.)?

b. How many grams of barium sulfate are **PRODUCED** in the reaction?

4. **If 1.64 grams of water and 6.58 grams of sulfur trioxide react in a synthesis reaction, how many grams of sulfuric acid,  $\text{H}_2\text{SO}_4$ , are produced?**

(*Hint: Produce balanced equation first and then determine L.R. and E.R.*)

5. **If 0.793 moles of aluminum metal is reacted with 0.572 moles of iron (III) oxide, how many grams of iron metal are produced in this single replacement reaction?**

(*Hint: Produce balanced equation first and then determine L.R. and E.R.*)