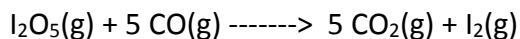


Limiting Reagent Worksheet #2

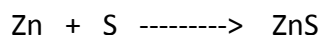
Name: _____

1. Consider the reaction



- 80.0 grams of iodine(V) oxide, I_2O_5 , reacts with 28.0 grams of carbon monoxide, CO. Determine the mass of iodine I_2 , which could be produced?
- If, in the above situation, only 0.160 moles, of iodine, I_2 was produced.
 - what mass of iodine was produced?
 - what percentage yield of iodine was produced?

2. Zinc and sulphur react to form zinc sulphide according to the equation.



If 25.0 g of zinc and 30.0 g of sulphur are mixed,

- Which chemical is the limiting reactant?
- How many grams of ZnS will be formed?
- How many grams of the excess reactant will remain after the reaction is over?
- If the yield of the reaction was 87%, what was the actual yield?

3. Silver nitrate, AgNO_3 , reacts with ferric chloride, FeCl_3 , to give silver chloride, AgCl , and ferric nitrate, $\text{Fe}(\text{NO}_3)_3$. In a particular experiment, it was planned to mix a solution containing 25.0 g of AgNO_3 with another solution containing 45.0 grams of FeCl_3 .
- Write the chemical equation for the reaction.
 - Which reactant is the limiting reactant?
 - What is the maximum number of moles of AgCl that could be obtained from this mixture?
 - What is the maximum number of grams of AgCl that could be obtained?
 - How many grams of the reactant in excess will remain after the reaction is over?

1. a. 50.7g I₂
b. i. 40.6
ii. 80.1%

2. b. 37.1g
c. 17.7g
d. 32.3 g

3. c. 0.147 mole
d. 21.1 g
e. 37.1 g