

Name:

Period:

Seat#:

Show work and include ALL units. Use <u>single dimensional analysis</u> line method setups for conversions!

- **1)** 14.8g of C₃H₈ and 3.44 g of O₂ react in the following reaction: C₃H₈ + 5O₂ \rightarrow 3CO₂ + 4H₂O
 - a. Determine the limiting reagent and the excess reagent
 - b. Determine the number of grams of H₂O produced
 - c. Determine the number of grams of excess reagent left

- **2)** 10.0 g of $Al_2(SO_3)_3$ is reacted with 10.0 g of NaOH in the following reaction: Al₂(SO₃)₃ + 6NaOH \rightarrow 3Na₂SO₃ + 2Al(OH)₃
 - a. Determine the limiting reagent and the excess reagent
 - b. Determine the number of grams of Na₂SO₃ produced
 - c. Determine the number of grams of excess reagent left

- 25.4 g of Al₂O₃ is reacted with 10.2 g of Fe:
 4 Al₂O₃+ 9 Fe → 3 Fe₃O₄ + 8 Al
- a. Determine the limiting reagent and the excess reagent
- b. Determine the number of moles of Fe₃O₄ produced
- c. Determine the number of grams of excess reagent left

- 4) When copper (II) chloride reacts with sodium nitrate, copper (II) nitrate and sodium chloride are formed.
 - a. Write the balanced equation for the reaction given above.
 - b. If 15 g of copper (II) chloride react with 20 g of sodium nitrate what is the limiting reagent for the reaction?
 - c. How much sodium chloride can be formed in grams?
 - d. How many grams of copper (II) nitrate is formed?
 - e. How many grams of the excess reagent are left over in this reaction?
 - f. If 11.3 g of sodium chloride was actually formed in the reaction, what is the percent yield of this reaction?

- 5) 1000 grams of sodium chloride is combined with 2000 grams of barium phosphate
 - a. How many grams of each product are made?
 - b. How many grams of the excess reagent are left over in this reaction?

6) Iodine gas reacts with Calcium fluoride.

- a. How many grams of your calcium containing compound do you have when this reaction is over if you started with 140g of lodine gas, and 3.75 moles of calcium fluoride?
- b. How many grams of the excess reagent do you have left?