

Name _____ Date _____ Period _____

Unit 7.2 Limiting Reagent & Percent Yield**C405PAP Chemistry**

Part I Write the term below in the space that matches it's definition.

actual yield limiting reagent theoretical yield percent yield excess reagent

1. _____ the amount of product formed when a reaction is carried out in the laboratory.
2. _____ the maximum amount of product that can be formed during a reaction.
3. _____ the ratio of the actual yield to the theoretical yield x 100
4. _____ the reactant that determines the amount of product that can be formed in a reaction.
5. _____ a quantity of a reactant left over after the limiting reagent is used up.

Part II Fill in the Blank

6. _____ Whenever quantities of two or more reactants are given in a stoichiometric problem, you must identify the __6__
7. _____ reagent. This is the reagent that is completely used up in the reaction. The amount of reactant left over is called the
8. _____ __7__ reagent. When an equation is used to calculate the amount of product that will form during a reaction, the
9. _____ value obtained is the __8__ yield. This is the maximum amount of __9__ that could be formed from a given
10. _____ amount of reactant. The amount of product that forms when the reaction is carried out in the __10__ is called the actual yield.

Part III - Are the following statements always true (AT), sometimes true (ST), or never true (NT)?

11. _____ The actual yield of a chemical reaction can be calculated using mole ratios
12. _____ The theoretical yield is the maximum amount of product that could be formed.
13. _____ The actual yield in a chemical reaction will be equal to or less than the theoretical yield.
14. _____ The amount of product can be determined from the amount of excess reagent.
15. _____ If you had 90 steering wheels, 400 tires, and enough of every other part needed to assemble a car, the limiting reagent would be tires.
16. _____ The percent yield of a product is 100%

Part IV Solving Problems - Circle your final answer & be sure to show ALL of your work!

17. What is the limiting reagent when 9.5 mol of SO₂ reacts with 4.9 mol of O₂ according to the equation:



18. Calculate both the **maximum amount of product (grams)** from question 17 that can be formed and the **amount of unreacted excess reagent (grams)**.