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| **Malala Yousafzai:**  ”I tell my story, not because it is unique, but because it is not. It is the story of many girls.”  CλeMis+ry: [http://genest.weebly.com](http://genest.weebly.co)  Stop in for help every day at lunch and Tues &Thurs after school! |  | Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Period\_\_\_\_\_\_\_\_ |

What’s on Friday’s test? See the notes at today’s website for solved examples of ALL THREE types of problems.

1. If 25.0 g of magnesium reacts with excess hydrochloric acid, how many grams of magnesium chloride are produced?

\*\*see a soved example of this problem at the website for today’s notes

1. 42.3 g of zinc reacts with excess hydrochloric acid. How many grams of zinc chloride will be produced? What mass of HCl is used in the reaction?
2. If 1.7 g zinc and excess sulfur are mixed together and heated, what mass of the product will be produced through synthesis? What mass of sulfur is used?
3. If 2.7 moles of silver nitrate react with copper metal, how many grams of silver is produced?

\_\_\_\_Cu(s) + \_\_\_\_AgNO3(aq) 🡪 Cu(NO3)2(aq) + Ag(s)

1. If the copper metal used in the reaction originally had a mass of 101.87g, what mass of copper metal would remain? What mass of silver is produced?
2. In the commercial production of the element arsenic, arsenic (III) oxide is heated with carbon, which reduces the oxide to the metal according to the following equation:

2As2O3 + 3C 🡪 3CO2 + 4As

If 7.36 g of As2O3  is used in the reaction and 4.79 g of As is actually produced, what is the percent yield?

7. Elemental phosphorus can be produced by heating calcium phosphate from rocks with silica sand (SiO2) and carbon in the form of coke. The following reaction takes place.

Ca3(PO4)2 + 3SiO2 + 5C 🡪 3CaSiO3 + 2P + 5CO

If 52 mol of Ca3(PO4)2  is used and 98 mol of CaSiO3 is obtained, what is the percent yield?

8. Elemental phosphorus can be produced by heating calcium phosphate from rocks with silica sand (SiO2) and carbon in the form of coke. The following reaction takes place.

Ca3(PO4)2 + 3SiO2 + 5C 🡪 3CaSiO3 + 2P + 5CO

Determine the percent yield obtained if 1157 mol of carbon is consumed and 676 mol of CaSiO3 is produced.

How many moles of carbon dioxide are required?