Names: _____ **15 Pts.**

Chemistry Honors Lab: Determining the Atomic Mass of an Element

I. Prelab:

The subscripts of a chemical formula indicate the relative number of atoms or moles. This can be described also as a ratio of the atoms in a compound. For example in water; H_2O there are always 2 atoms of hydrogen for each 1 atom of oxygen. Subscripts represent numbers or moles.

Sample problem: In your analysis of silver oxide; Ag_2O it is found that there were $5.0x10^{20}$ atoms of oxygen in a sample of siver oxide, how many atoms of silver are also present? *Answer: 2 times more or $1x10^{21}$ atoms Ag*

II. Analysis:

Data:

a.) Mass of crucible and cover: _____ g

b.) Mass of crucible cover and Ag_2O _____ g

c.) Mass of crucible, cover and Ag _____ g

Calculations

a.) Find the mass of silver, Ag.

b.) Calculate the mass of oxygen, O.

c.) Determine the moles of oxygen

d.) Find the moles of silver (see pre-lab discussion)

e.) Calculate the atomic mass of Ag

f.) What is your percent error?

g.) Use your lab data to calculate the percent composition for both elements in the compound.

III. Conclusions

a.) Define ***mole***.

b.) Compare the mass of 1 mole of oxygen molecules with 1 mole of oxygen atoms.

c.) Based on the mass of silver oxide that you placed in the crucible find the following information.

Moles of Ag_2O
Moles of Ag
Moles of O

What is the ratio of moles of Ag tomoles of O? _____