

Problem Set #3 Worksheet – CHEM 210 – Fall 2009

Name: _____

Directions: Answer the assigned book problems and the problems on this worksheet. Express the answers to the correct number of significant figures. Show all work to receive credit.

Silberberg, 5th ed. End-of-Chapter Book Problems (REQUIRED):

Chapter 2: 47

Chapter 3: 36b, 38bc, 43, 97ab, 99ac, 101, 103, 108

Worksheet Problems (REQUIRED):

1. Calculate the mass percent of sulfur in aluminum thiosulfate: $\text{Al}_2(\text{S}_2\text{O}_3)_3$

2. Silver is composed of two naturally occurring isotopes. If 48.16 % of Ag exists as Silver-109 (isotopic mass = 108.905 amu), what is the identity (isotope name) and the isotopic mass of the other isotope? *Report the isotope mass to two decimal places.*

Identity: _____ Isotopic Mass: _____

3. Silicon is composed of three naturally occurring isotopes with the isotopic masses indicated. Given the percent abundance of one of the isotopes, calculate the percent abundances of the other two. Also provide the names of all three isotopes.

Isotope Name	% abundance	Isotopic mass (amu)
		27.9769
		28.9765
	3.087	29.9738

4. A compound composed only of carbon, hydrogen, and oxygen is found to contain 57.66% C and 11.61% H. The molar mass of the compound was determined to be approximately 310 g/mol. What is the molecular formula of the compound?