

Taibah University
Chem 101
Assignment
Chap 2

Due Wednesday
29/03/2017
Student ID: _____
Name: _____
Section: _____

Supervisor's Use only

SEMESTER-2

I. Complete the following table (determine the atomic number, mass number, number of protons, number of electrons, or number of neutrons)

Protons	Neutrons	Electrons	Atomic Number	Mass Number	Atomic Symbol
6	7				
		42		96	
					${}^{27}_{13}\text{Al}$
			55	133	

II. Two compounds are made of sulfur (S) and oxygen (O). When decomposed, one compound produces 3.49 g oxygen and 3.50g sulfur and the second compound produces 6.75 g oxygen and 4.50g sulfur. Calculate the mass of oxygen per gram of sulfur for each compound (i.e. O:S ratio) and indicate which Law (definite proportion or multiple proportion) this is consistent with.

III. How many silver atoms are there in 5.08 g of silver? (atomic mass of Ag is 107.87)

IV. Write the full electron configuration of the following (^{19}K , ^{20}Ca , ^8O , $^8\text{O}^{2-}$, ^{34}X) and then specify the valence shell, number of valence electrons, period, and group the element belongs to.

Example:

^{11}Na : $1s^2 2s^2 2p^6 3s^1$, valence shell = 3, valence electrons = 1, period = 3, group = I