CHEQ 1094 ATOMS AND ISOTOPES

1. An element consists of two isotopes. The major isotope (69.20%) has a mass of 62.9296 amu and the other isotope has a mass of 64.9278 amu. Calculate the atomic weight of the element and, using a table of atomic weights, identify the element.

2. An element occurs naturally as a mixture of five isotopes. Their masses (amu) and abundances are: 69.9243 (20.5%), 71.9217 (27.4%), 72.9234 (7.8%), 73.9219 (36.5%) and 75.9214 (7.8%). Calculate the atomic weight of the element and hence identify the element.

3. Give the number of protons, the number of electrons and the number of neutrons in each of the following:

(a) $^{66}_{30}Zn$ (b) $^{33}_{16}S^{2-}$ (c) $^{55}_{26}Fe^{3+}$

4. Complete the table for atoms:

Symbol	Atomic Number	Mass Number	Number of Protons	Number of Electrons	Number of Neutrons
$^{59}_{28}Ni$					
	15				16
		108		47	

5. Complete the table:

Symbol	Atomic Number	Mass Number	Number of Protons	Number of Electrons	Number of Neutrons
$^{65}_{29}Cu^{2+}$					
	24	52		21	
		127		54	74