SCH3U - Atomic Number, Atomic Mass and Isotopes Date: _____

1. Complete the table:

Name	Symbol	Atomic #	Atomic Mass	#p	#e	#n
Aluminum						
Beryllium						
Chlorine						
		18				
				23		
		20				
		15				
				8	10	

- The last one is tricky…think about a situation where the proton number and electron number can differ. Hint: think IONS

2. Which of the following are isotopes of each other:
   a) An atom of 17 protons and 18 neutrons _____
   b) And atom with atomic number 16 and 18 neutrons _____
   c) An atom with mass number 32 and atomic number 16 _____
   d) An atom with mass number 37 and atomic number 17 _____
   e) A neutral atom, having 16 electrons and 16 neutrons _____
   f) A neutral atom, having 18 electrons and 18 neutrons _____
   g) An ion with a charge of +2, having 14 electrons and 18 neutrons _____

Multiple Choice Practice:

____ 3. Two atoms are isotopes if they have
a. different atomic numbers
b. the same mass number, but different atomic numbers
c. the same number of protons and neutrons
d. the same number of electrons, but a different number of neutrons
e. the same atomic number, but a different mass number

____ 4. Isotopes with unstable nuclei are also referred to as
a. nucleoisotopes
b. radioisotopes
c. isotopic radiation
d. radiation
e. beta isotopes

____ 5. The mass listed for each element in the periodic table is
a. the mass of all of the isotopes of the element combined
b. the mass of the average number of neutrons in all of the isotopes of the element
c. the average of the atomic masses of all of the isotopes of the element
d. the exact mass of the protons and neutrons in the most common isotope of the element
e. the weighted average of the atomic masses of all of the isotopes of the element

6. Based on the reading you did, titled **ISOTOPES (reading available on D2L)**, research and explain the following: a) uses of isotopes in medicine b) carbon dating