

Quiz One Review Continued

1) Fill in the following table.

element + mass #	P+	N ⁰
oxygen-18	8	10
beryllium- <u>9</u>	4	5
sodium-23	11	12
lead- <u>206</u>	82	124
<u>Cesium</u> - <u>131</u>	55	76
argon-40	18	22
<u>hydrogen-1</u>	1	0
lithium- <u>7</u>	3	4

2) The mass number in the following chart contains which two subatomic particles?

protons + neutrons

3) Why are electrons not included in the mass number?

they are too small to count in mass, they are negligible to mass

4) Atom One has 6 protons and 6 neutrons. Atom two has 6 protons and 8 neutrons.

a) Are atom one and atom two the same element? Explain.

Yes, (carbon) - same number of protons = same element

b) Atom two is radioactive, what does this mean?

It means the nucleus is unstable and will break apart releasing dangerous particles and energy

5) Calculate the average atomic mass of unknown element X. Element X has two isotopes, X-85 and X-87. X-85 has an atomic mass of 84.912 amu and occurs at an abundance of 72.17%. X-87 has an atomic mass of 86.909 amu and occurs at an abundance of 27.83%. Show your work. When done, identify element X by the average masses on your periodic table.

	mass (amu)	% A
X-85	84.912	72.17%
X-87	86.909	27.83%

$$(84.912)(0.7217) + 86.909(0.2783) = \underline{85.468 \text{ amu}}$$

Rb - rubidium