Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Example:

What is the atomic mass (the weighted average mass) for carbon?

- convert % to decimals

- substitute values in equation: atomic mass = (0.9893)×(12. amu) + (0.0107)×(13. amu)

- calculate: atomic mass = 12.01 amu

1. Argon has three naturally occurring isotopes: argon-36, argon-38, and argon-40. Based on argon’sreported atomic mass (39.95 amu), which isotope do you think is the most abundant in nature? **Explain.**

2. Copper is made of two isotopes. Copper-63 is 69.17% abundant. Copper-65 is 30.83% abundant. What is the average atomic mass of these two isotopes?

3. Calculate the atomic mass of silicon. The three silicon isotopes have atomic masses and relative abundances of 28 amu (91.2297%), 29 amu (6.6832%) and 30 amu (2.0872%).

4. Gallium has two naturally occurring isotopes. Gallium-69 is 60.108% abundant. The And gallium-71 is 39.892% abundant. Find the average atomic mass of gallium.

5. Bromine has two naturally occurring isotopes. Bromine-79 is 50.69% abundant. Using the atomic mass reported on the periodic table, determine the mass of Bromine-81, the other isotope of bromine.

6. Calculate the atomic mass of lead. The four lead isotopes have atomic masses and relative abundances of 204 amu (1.4%), 206 amu (24.1%), 207 amu (22.1%) 208 amu (52.4%).

7. Antimony has two naturally occurring isotopes: Antimony-121 and Antimony-123. Using the average mass from the periodic table, find the abundance of each isotope. (Remember that the sum of the two abundances must be 100).