

Skill Practice 9

# Practice Problems

## Average Atomic Mass

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

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

Hour: \_\_\_\_\_

1. A certain element exists as three different isotopes. 24.1% of all the isotopes have a mass of 75.23 amu, 48.7% have a mass of 74.61 amu, and 27.2% have a mass of 75.20 amu.

  - a. What is the average atomic mass of this element?
  - b. Use your periodic table to determine which element this is.
2. An element exists as 4 different isotopes. 4.35% have a mass of 49.9461 amu, 83.79% have a mass of 51.9405 amu, 9.50% have a mass of 52.9407 amu, and 2.36% have a mass of 53.9389 amu.

  - a. What is the average atomic mass of this element?
  - b. What is the identity of this element?
3. Calcium has three different isotopes. One has a mass of 35.00 amu; another has a mass of 41.00 amu; and another has a mass of 40.00 amu. Which isotope is the most abundant of the three? (HINT: Look at the periodic table at calcium's average atomic mass.)
4. Several isotopes of a certain atom "X" exist. 4.35% of all X atoms have a mass of 49.946 amu. 83.79% have a mass of 51.941 amu, 9.50% have a mass of 52.941 amu, and 2.36% have a mass of 53.939 amu. What is the average atomic mass of atom X?