ISOTOPES AND AVERAGE ATOMIC MASS

Name _____

Elements come in a variety of isotopes, meaning they are made up of atoms with the same atomic number but different atomic masses. These atoms differ in the number of neutrons.

The average atomic mass is the weighted average of all the isotopes of an element.

Example: A sample of cesium is 75% ^{133}Cs, 20% ^{132}Cs and 5% ^{134}Cs. What is its average atomic mass?

Answer: .75 x 133 = 99.75
.20 x 132 = 26.4
.05 x 134 = 6.7
Total = 132.85 amu = average atomic mass

Determine the average atomic mass of the following mixtures of isotopes.

1. 80% ^{127}I, 17% ^{126}I, 3% ^{128}I

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2. 50% ^{197}Au, 50% ^{198}Au

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3. 15% ^{55}Fe, 85% ^{56}Fe

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4. 99% ^{1}H, 0.8% ^{2}H, 0.2% ^{3}H

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5. 95% ^{14}N, 3% ^{15}N, 2% ^{16}N

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6. 98% ^{12}C, 2% ^{14}C

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