- 1) Gallium has two stable isotopes, gallium-69 and galium-71. If the mass of gallium-69 is 68.926 *amu* and the mass of galium-71 is 70.9247 *amu*, then what are the percent abundances of each isotope?
- 2) There are two stable isotopes of silver,  ${}^{107}_{47}$ Ag (silver-107) and  ${}^{109}_{47}$ Ag (silver-109). The first isotope has a mass of 106.905 *amu* and the second isotope has a mass of 108.9048 *amu*. What are the percent abundances of the two isotopes?
- 3) The two stable isotopes of lithium,  ${}_{3}^{6}$ Li and  ${}_{3}^{7}$ Li have masses of 6.015 *amu* and 7.016 *amu* respectively. What are the percent abundances of the two isotopes?
- 4) Rubidium-85 and rubidium-87 are the only two isotopes of that element. Rubidium-85 has a mass of 84.912 *amu* and accounts for 72.17% of all rubidium. Calculate the mass of rubidium-87.
- 5) Chromium has four isotopes. Chromium-50 (mass of 49.946 *amu* and 4.35% abundance), chromium-52 (mass of 51.941 *amu* and 83.79% abundance), chromium-53 (mass of 52.941 *amu* and 9.50% abundance), and chromium-54 (mass of 53.939 *amu* and 2.36% abundance). Calculate the average atomic mass of chromium.
- 6) There are 4 naturally occurring isotopes of strontium: strontium-84, strontium-86, strontium-87, and strontium-88. Strontium-84 weighs 83.91 *amu* and has an abundance of 0.56%. Strontium-86 weighs 85.909 *amu* and has an abundance of 9.86%. Strontium-87 weighs 86.9909 *amu* and has an abundance of 7.00%. If the abundance of strontium-88 is 82.58%, what is its mass?

Isotope	% abundance	Mass (amu)
$^{196}_{80}{ m Hg}$	0.15%	195.9658
$^{198}_{80}{ m Hg}$	10.10%	197.9668
$^{199}_{80}$ Hg	17.00%	198.9682
$^{200}_{80}$ Hg	23.10%	199.9683
$^{201}_{80}$ Hg	13.20%	200.9703
$^{202}_{80}$ Hg		201.9706
$^{204}_{80}$ Hg	6.80%	203.9735

7) Mercury has 7 stable isotopes as follows:

What is the percent abundance of mercury-202?

8) Silicon has only 3 naturally occurring isotopes,  ${}^{28}_{14}$ Si ,  ${}^{29}_{14}$ Si , and  ${}^{30}_{14}$ Si . Find the **mass** of  ${}^{29}_{14}$ Si given the following data:  ${}^{28}_{14}$ Si = 27.9769 *amu*, 92.23% abundance;  ${}^{30}_{14}$ Si = 29.9738 *amu*, 3.10% abundance.