

Average Atomic Mass Worksheet

- 1) Rubidium has two common isotopes, ^{85}Rb and ^{87}Rb . If the abundance of ^{85}Rb is 72.2% and the abundance of ^{87}Rb is 27.8%, what is the average atomic mass of rubidium?

- 2) Uranium has three common isotopes. If the abundance of ^{234}U is 0.01%, the abundance of ^{235}U is 0.71%, and the abundance of ^{238}U is 99.28%, what is the average atomic mass of uranium?

- 3) Titanium has five common isotopes: ^{46}Ti (8.0%), ^{47}Ti (7.8%), ^{48}Ti (73.4%), ^{49}Ti (5.5%), ^{50}Ti (5.3%). What is the average atomic mass of titanium?

- 4) Explain why atoms have different isotopes. In other words, how is it that helium can exist in three different forms?

Name _____ Number _____

Average Atomic Mass

Calculate the average atomic masses. Round all answers to two decimal places.

5. What is the atomic mass of hafnium if, out of every 100 atoms, 5 have a mass of 176, 19 have a mass of 177, 27 have a mass of 178, 14 have a mass of 179, and 35 have a mass of 180.0?
6. Iodine is 80% ^{127}I , 17% ^{126}I , and 3% ^{128}I . Calculate the average atomic mass of iodine.
7. Calculate the average atomic mass of gold with the 50% being gold-197 and 50% being gold-198.
8. Calculate the average atomic mass of lithium, which occurs as two isotopes that have the following atomic masses and abundances in nature: 6.017 amu, 7.30% and 7.018 amu, 92.70%.
9. Hydrogen is 99% ^1H , 0.8% ^2H , and 0.2% ^3H . Calculate its average atomic mass.