Name: _____ Date: _____ Class: _____

Understanding Isotopes Application Questions

1. A naturally occurring sample of potassium contains 93.12% of the isotope potassium-39 and 6.88% of the isotope potassium-41. Calculate the average atomic mass for this sample.

2. Calculate the average atomic mass of magnesium if the abundances making up a naturally occurring sample are: magnesium-24 (78.70%), magnesium-25 (10.13%), magnesium-26 (11.17%).

3. Naturally occurring uranium is composed of three major isotopes: uranium-238 (99.28%), uranium-235 (0.71%) and uranium-234 (0.0054%). Calculate the average atomic mass of uranium.

4. The average atomic mass of copper is 63.545 u (unified atomic mass unit). It is made up of two isotopes: copper-63 (atomic mass 62.930) and copper-65 (atomic mass 64.928). What must be the relative abundance (in %) of each of these isotopes in naturally occurring samples of copper?

5. The average atomic mass of carbon is 12.011 u. It is made up of two stable isotopes: carbon-12 and carbon-13. What must be the relative abundance (in %) of each of these isotopes in naturally occurring samples of carbon?

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