

MSC 1012 questions for Chapter 10 set 3

Radioactive half life:

NAME _____

- 1) The half-life of tritium (^3H) is 12.5 years. How many years does it take for tritium to decay to one eighth of its original radioactivity?

ANS: _____

- 2) Uranium 235 has a half life of 7.1×10^8 years. By comparing the isotope abundances of ^{235}U with ^{238}U it has been determined that all but 1/16 of the ^{235}U has decayed since the earth was formed? From this data, how old is the earth?

ANS: _____

- 2) Carbon-14 has a half-life of 5700 years according to the decay reaction:
 $^{14}\text{C} \rightarrow ^{14}\text{N} + \beta^-$. The ^{14}C from Jericho was found to have only $\frac{1}{4}$ of the original amount left. How old is the Jericho settlement?

ANS: _____