Half-life problem

1. ^{14}C is produced in the upper layers of the Earth's atmosphere and is present at a fixed ratio in all living things. Calculate the age of a specimen if the measured ^{14}C ratio is 72 % that of living tissue. ^{14}C has a half-life of 5730 years.

Activity Problem

2. Calculate the activity of decaying ^{14}C in 1 kg of living tissue, in both Bq and Ci. ^{12}C has a molar mass of 12.0 g/mol, Avagadro's number is 6.022×10^{23} particles per mole, the abundance of ^{14}C is 1.30×10^{-12} atoms ^{14}C per 1 atom ^{12}C, and ^{14}C has a half-life of 5730 years.