

AL Chemistry

Chemical Kinetics

Exercise 1: Radioactivity decay AL Chemistry 1996 Paper I

Name : _____ ()

Class : _____ F.6

Question 1(b)

- (i) Write an equation for the *decay* of ^{14}C
- (ii) (1) Explain why the $^{14}\text{C}/^{12}\text{C}$ ratio in the charcoal sample is smaller than that in living organisms.
- (2) Given that the half-life for the decay of ^{14}C is 5730 years, calculate the age of the charcoal sample.
- (iii) All radioactive decay has zero activation energy. Comment on the effect of temp. upon the rate of decay.