



Logs

Maths Past Exam Questions

Higher Level

Paper One- Project Maths - Section A – Q3

Question 3

(25 marks)

Scientists can estimate the age of certain ancient items by measuring the proportion of carbon-14, relative to the total carbon content in the item. The formula used is $Q = e^{-\frac{0.693t}{5730}}$, where Q is the proportion of carbon-14 remaining and t is the age, in years, of the item.

- (a) An item is 2000 years old. Use the formula to find the proportion of carbon-14 in the item.

- (b) The proportion of carbon-14 in an item found at Lough Boora, County Offaly, was 0.3402. Estimate, correct to two significant figures, the age of the item.

