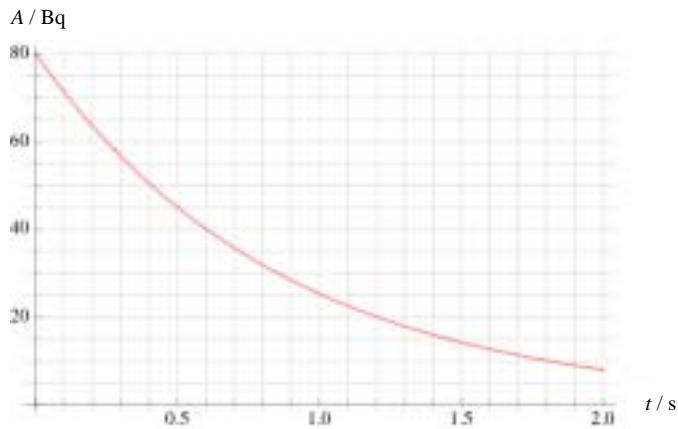


Support Worksheet – Topic 6, Worksheet 2

- 1** The graph below shows the activity of a radioactive isotope (in Bq) as a function of time (in s).



- Determine the half-life of the isotope. [2]
- 2** A student claims that a nucleus in a sample of radioactive isotope is certain to decay within a time interval equal to 2 half-lives.
- a** Explain why the student is wrong. [1]
- b** Determine the probability that a particular nucleus will decay within an interval equal to two half-lives. [2]
- 3** Define:
- a** mass defect. [1]
- b** binding energy of a nucleus. [1]