

5. The mass, m grams, of a radioactive substance, t years after first being observed, is modelled by the equation

$$m = 25e^{-0.05t}$$

According to the model,

- (a) find the mass of the radioactive substance six months after it was first observed,

(2)

- (b) show that $\frac{dm}{dt} = km$, where k is a constant to be found.

(2)