9 Scientists are monitoring the population of a colony of seals. A model is suggested for the number of seals, P, at time t years after the start of the study.

In the model $P = 180 + 5t - 145e^{0.015t}$.

(a) Find the initial number of seals. **[1]**

(b) Find the increase in the number of seals over the first 10 years. **[2]**

(c) Determine, using calculus, the maximum number of seals. **[5]**

(d) Explain what this model predicts will happen in the long term. **[1]**