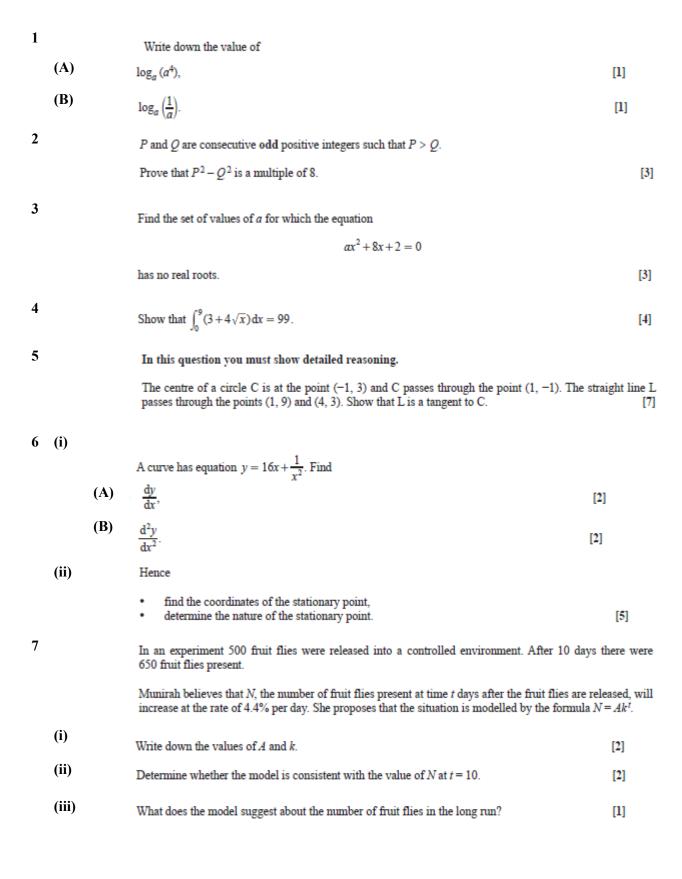


## **AS Level Mathematics B (MEI)**

H630/02 Pure Mathematics and Statistics

## **Question Set 1**



Subsequently it is found that for large values of t the number of fruit flies in the controlled environment oscillates about 750. It is also found that as t increases the oscillations decrease in magnitude.

Munirah proposes a second model in the light of this new information.

$$N = 750 - 250 \times e^{-0.092t}$$
.

- (iv) Identify three ways in which this second model is consistent with the known data. [3]
  (v) (A) Identify one feature which is not accounted for by the second model. [1]
  - (B) Give an example of a mathematical function which needs to be incorporated in the model to account for this feature. [1]

## **Total Marks for Question Set 1: 38 marks**



OCR is part of the Cambridge Assessment Group; Cambridge Assessment is the brand name of University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge