7. The population of an island was monitored.

Exactly 10 years after monitoring began, the population was 24 000

Exactly 30 years after monitoring began, the population was 65 000

Using a **linear model** where

- P thousand is the population of the island

- n years is the time after monitoring began

(a) find an equation linking P with n.

(4)

(b) Find, according to the model, the population of the island exactly 40 years after monitoring began.

(2)

Exactly 40 years after monitoring began, the population of the island was 85 000

(c) Use this information to evaluate the model.

(1)