13 The value of a car, £V, where V is measured in thousands, is modelled by the equation

$$V = A + 12e^{-0.2t} + 9e^{-0.1t} \qquad t \geqslant 0$$

where A is a constant and the age of the car is t years.

Given that the initial value of the car was £23 000

(a) find a complete equation for the model.

(2)

At $t = T$, the value of the car is £5000

(b) Find the value of T, giving your answer to 2 decimal places.

(*Solutions relying entirely on calculator technology are not acceptable.*)

(4)