

10 Layla invests money in the bank and receives compound interest. The amount $\pounds L$ that she has after t years is given by the equation $L = 2800 \times 1.023^t$.

(a) (i) State the amount she invests. **[1]**

(ii) State the annual rate of interest. **[1]**

Amit invests $\pounds 3000$ and receives 2% compound interest per year. The amount $\pounds A$ that he has after t years is given by the equation $A = ab^t$.

(b) Determine the values of the constants a and b . **[2]**

(c) Layla and Amit invest their money in the bank at the same time.

Determine the value of t for which Layla and Amit have equal amounts in the bank. Give your answer correct to 1 decimal place. **[3]**