



54 - Setting Up Equations and Formulae

Content

Adam opened a packet of biscuits and ate two of them before sharing the rest with his four friends. As a result, they each received three biscuits. How many biscuits were in the packet originally?

Let x be the number of biscuits in the packet.

If Adam ate two biscuits, this can be represented by $x - 2$.

If Adam then shared the biscuits between five people (him and his four friends), this can be represented by $\frac{x-2}{5}$.

We know that each person gets three biscuits, so $\frac{x-2}{5} = 3$.

Then solve the equation to find x .

Pencils cost 15p each and pens cost 25p each.
Write a formula for the total cost, T pence, of x pencils and y pens.

$$\text{Total cost} = 15x + 25y$$

$$T = 15x + 25y$$

The cost of hiring a bicycle is a fixed cost of £5 plus a variable cost of £2 per day.
Write a formula for the total cost, C , of hiring the bicycle for n days.

$$\text{Total cost} = \text{Fixed cost} + \text{Variable cost} \times n$$

$$C = 5 + 2n$$

Linked Prior Topics Basic algebra, equations

Vocabulary Equation, formula, fixed cost, variable cost

Linked Future Topics Solving equations, rearranging formulae