



# Formulae and Equations

## *Changing the Subject*

1 Make  $x$  the subject of the following formulae.

**a**  $y = x + 3$

**b**  $y = 5x$

**c**  $y = x - 7$

**d**  $y = 2x + 9$

**e**  $y = 4 - x$

**f**  $y = -7 + 3x$

2 Make  $x$  the subject of the following formulae.

**a**  $y = \frac{x}{8}$

**b**  $y = \frac{x}{2} + 1$

**c**  $y = \frac{x}{3} - 1$

**d**  $y = 7 - \frac{x}{6}$

**e**  $y = 5 + \frac{x}{5}$

**f**  $y = -2 - \frac{x}{3}$

3 The distance a car travels is given by the formula  $d = st$  where  $s$  is the speed and  $t$  is the time.

**a** Make  $t$  the subject of the formula.

**b** Make  $s$  the subject of the formula.

**c** Use the formula to find the speed of a car that has travelled a distance of 112 km in a time of 1.75 hours.

4 The area of a rectangle  $A$  with a length  $l$  and breadth  $b$  is given by the formula  $A = lb$ .

**a** Make  $l$  the subject of the formula.

**b** Make  $b$  the subject of the formula.

**c** Find the breadth of a rectangle with an area of  $16 \text{ cm}^2$  and length of  $2.5 \text{ cm}$ .

**d** Find the length of a rectangle with an area of  $42 \text{ mm}^2$  and breadth of  $16 \text{ mm}$ .