



Exercises

1. Solve the following equations:

- | | | |
|---------------------|----------------------|----------------------|
| (a) $3x + 2 = 17$ | (b) $5x - 6 = 9$ | (c) $6x - 4 = 8$ |
| (d) $3(x + 4) = 30$ | (e) $5(2x - 3) = 15$ | (f) $7 - 2x = 3$ |
| (g) $6x - 4 = 32$ | (h) $6x + 7 = 1$ | (i) $7x + 6 = 34$ |
| (j) $6x - 7 = 11$ | (k) $2x + 15 = 16$ | (l) $8 - 2x = 5$ |
| (m) $38 = 3y + 2$ | (n) $35 = 5(7 + 2p)$ | (o) $56 = 7(2 - 3q)$ |

2. Solve the following equations:

- | | | |
|----------------------------|----------------------------|----------------------------|
| (a) $\frac{x}{2} + 5 = 9$ | (b) $14 = \frac{x}{3} - 8$ | (c) $\frac{y}{5} - 9 = -2$ |
| (d) $\frac{z}{4} + 8 = 3$ | (e) $7 = \frac{p}{4} - 6$ | (f) $\frac{x + 5}{2} = 9$ |
| (g) $14 = \frac{x - 8}{3}$ | (h) $\frac{y - 9}{5} = -2$ | (i) $\frac{z + 8}{4} = 3$ |
| (j) $7 = \frac{p - 6}{4}$ | (k) $\frac{2x}{3} + 1 = 9$ | (l) $\frac{5x}{4} - 7 = 3$ |

3. Solve the following equations:

- | | |
|----------------------------|-----------------------------|
| (a) $2x + 3 = x + 10$ | (b) $6x - 2 = 4x + 7$ |
| (c) $16x - 7 = 8x + 17$ | (d) $11x + 2 = 8x + 7$ |
| (e) $x + 1 = 2(x - 1)$ | (f) $3(x + 4) = 5(x - 2)$ |
| (g) $9(x + 7) = 2(5x - 7)$ | (h) $3(2x - 1) = 4(3x - 4)$ |

4. The formula $F = 32 + \frac{9C}{5}$ can be used to convert temperatures from degrees Celsius (C) to degrees Fahrenheit (F).

- (a) Copy and complete the following solution to calculate the value of C when F is 86° :

$$F = 32 + \frac{9C}{5}$$

[Substitute 86 for F] $86 = 32 + \frac{9C}{5}$

[Subtract 32 from both sides] $=$

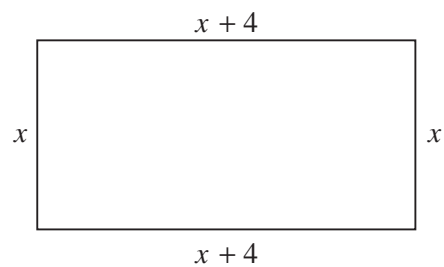
[Multiply both sides by 5] $=$

[Divide both sides by 9] $=$

$$C =$$

- (b) Calculate the value of C when F is 41, using the process as in part (a).
- (c) Calculate the value of C when F is 23.
5. The formula $p = 2(x + y)$ can be used to work out the perimeter of a rectangle with sides x and y . Use the same approach as in question 4, to set up and solve an equation to calculate the value of x , if $p = 50$ and $y = 8$.
6. A formula states that $v = u + at$. Set up and solve an equation to determine the value of a , if,
- (a) $v = 10$, $u = 3$ and $t = 5$,
- (b) $v = 2$, $u = 5$ and $t = 3$.

7. The perimeter of the rectangle shown is 16 cm. Calculate the value of x .



8. The perimeter of the triangle shown is 23 cm. Calculate the value of x .

