

Solutions

Marking: **M1** a correct method, **A1** the correct answer.

Each answer shows the steps, then the **result**.

2.1

- $y = kx$, and $18 = 4k$ so $k = 4.5$

$$y = 4.5 \times 10 = \mathbf{45}$$

2.2

- $y = \frac{k}{x}$, and $12 = \frac{k}{5}$ so $k = 60$

$$y = \frac{60}{4} = \mathbf{15}$$

2.3

- $y = kx^2$, and $45 = 9k$ so $k = 5$

$$y = 5 \times 25 = \mathbf{125}$$

3.1

(a)

- $y = \frac{k}{x^2}$, and $9 = \frac{k}{4}$ so $k = 36$

$$y = \frac{\mathbf{36}}{x^2}$$

(b)

- $y = \frac{36}{36}$

$$= \mathbf{1}$$

(c)

- $4 = \frac{36}{x^2}$, so $x^2 = 9$

$$x = \mathbf{3}$$

3.2

- $T = \frac{k}{n}$, and $10 = \frac{k}{6}$ so $k = 60$

$$T = \frac{60}{4} = \mathbf{15} \text{ hours}$$

- fewer workers means MORE time, which is the check that the relationship was written as an inverse