Solutions

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

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

2.1

- 3.5×100

$$= \mathbf{350} \text{ cm}$$

2.2

- $1 \text{ m}^2 = 100 \times 100 = 10\,000 \text{ cm}^2$, so divide by $10\,000$

$$24\,000 \div 10\,000 = \mathbf{2.4} \text{ m}^\mathbf{2}$$

2.3

- $1 \text{ litre} = 1000 \text{ cm}^3$

$$0.75 \times 1000 = \mathbf{750} \text{ cm}^\mathbf{3}$$

2.4

- $1 \text{ kg} = 1000 \text{ g}$, so $2.5 \times 1000 = \mathbf{2500}$ g

2.5

- $1 \text{ m}^2 = 100 \times 100 = 10\,000 \text{ cm}^2$
- $3 \times 10\,000 = \mathbf{30\,000} \text{ cm}^2$

3.1

(a)

- convert first: 80 cm = 0.8 m
- area $= 2.4 \times 0.8$

$$= \mathbf{1.92} \text{ m}^\mathbf{2}$$

(b)

- multiply by $10\,000$, because this is an AREA

$$1.92 \times 10\,000 = \mathbf{19\,200} \text{ cm}^\mathbf{2}$$

3.2

- $1 \text{ m}^3 = 1\,000\,000 \text{ cm}^3$, so $4.5 \text{ m}^3 = 4\,500\,000 \text{ cm}^3$
- $1000 \text{ cm}^3 = 1$ litre

$$4\,500\,000 \div 1000 = \mathbf{4500} \text{ litres}$$

3.3

- 72 km/h = 72 000 m in 3600 s
- $72\,000 \div 3600 = \mathbf{20}$ m/s

3.4

- change to metres first: $1.2 \times 0.5 \times 0.4 = \mathbf{0.24} \text{ m}^3$
- $1 \text{ m}^3 = 1000$ litres, so $0.24 \times 1000 = \mathbf{240}$ litres

3.5

- tiles along the length: $480 \div 40 = 12$; along the width: $320 \div 40 = 8$
- number of tiles $= 12 \times 8 = 96$
- boxes needed $= 96 \div 10 = 9.6$, so 10 boxes
- cost $= 10 \times 24 = \$\mathbf{240}$