Solutions

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

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

2.1

- $\frac{1}{2} \times 12 \times 7$

$$= \mathbf{42} \text{ cm}^2$$

2.2

- $\frac{1}{2}(8 + 14) \times 6 = \frac{1}{2} \times 22 \times 6$

$$= \mathbf{66} \text{ cm}^2$$

2.3

- $C = 2\pi r = 2 \times \pi \times 9$

$$= 56.548\ldots = \mathbf{56.5} \text{ cm}$$

2.4

- area = base $\times$ height $= 9 \times 5.5 = \mathbf{49.5}$ cm^2

2.5

- side $= \sqrt{49} = 7$ cm
- perimeter $= 4 \times 7 = \mathbf{28}$ cm

3.1

(a)

- width $= 84 \div 12$

$$= \mathbf{7} \text{ cm}$$

(b)

- perimeter $= 2(12 + 7)$

$$= \mathbf{38} \text{ cm}$$

3.2

- $154 = \pi r^2$, so $r^2 = 154 \div \pi = 49.02\ldots$

$$r = \sqrt{49.02\ldots} = \mathbf{7.00} \text{ cm}$$

- keep the full value in the calculator and round only at the end

3.3

- $97.5 = 15 \times h$

$$h = \mathbf{6.5} \text{ cm}$$

3.4

- width w, length $w + 3$: $2w + 2(w + 3) = 38$, so $4w + 6 = 38$
- $w = 8$ cm and length $= 11$ cm
- area $= 8 \times 11 = \mathbf{88}$ cm^2

3.5

- area $= \frac{1}{2}(a + b)h$: $\frac{1}{2}(x + 2x) \times 8 = 60$
- $12x = 60$, so $x = 5$
- the parallel sides are **5** cm and **10** cm