

Solutions

Award method and answer marks as indicated; accept equivalent correct methods.

2.1

- $A = lw = 7(4) = \mathbf{28 \text{ cm}^2}$; $P = 2(7 + 4) = \mathbf{22 \text{ cm}}$.

2.2

- $A = bh/2 = 12(5)/2 = \mathbf{30 \text{ cm}^2}$.

2.3

- Use perpendicular height: $A = bh = 8(3) = \mathbf{24 \text{ cm}^2}$.

2.4

- $A = (a + b)h/2 = (7 + 13)6/2 = \mathbf{60 \text{ cm}^2}$.

3.1

(a)

- $P = 2(l + w) = 2(12 + 7) = \mathbf{38 \text{ m}}$.

(b)

- $A = bh/2 = 12(4)/2 = \mathbf{24 \text{ m}^2}$.

(c)

- $A = bh$ gives $h = A/b = 24/8 = \mathbf{3 \text{ m}}$.

3.2

(a)

- Use $A = lw = 12(8) = \mathbf{96 \text{ m}^2}$.
- Perimeter $P = 2(l + w) = 2(12 + 8) = \mathbf{40 \text{ m}}$.

(b)

- Equal area gives $s = \sqrt{96} \text{ m}$.
- Square perimeter $P_s = 4\sqrt{96} \approx \mathbf{39.2 \text{ m}}$.
- The square needs less fencing, since its perimeter is below 40 m.