

Solutions

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

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

2.1

- to the nearest cm, error is 0.5 cm
- lower bound **23.5** cm

2.2

- to 1 d.p., error is 0.05 kg
- upper bound **3.55** kg

2.3

- to the nearest 10 s, error is 5 s
- lower bound **35** s, upper bound **45** s

3.1

(a)

- upper bounds 12.5 cm and 7.5 cm

$$12.5 \times 7.5 = \mathbf{93.75} \text{ cm}^2$$

(b)

- lower bounds 11.5 cm and 6.5 cm

$$2(11.5 + 6.5) = \mathbf{36} \text{ cm}$$

3.2

- largest speed = largest distance $\div$ smallest time
- distance UB = 95 m, time LB = 7.95 s

$$\frac{95 \text{ m}}{7.95 \text{ s}} = \mathbf{11.9} \text{ m/s}$$

(3 s.f.)