

Solutions

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

2.1

- Half-step is 0.5 kg: $L = 24 - 0.5 = \mathbf{23.5}$ kg; $U = 24 + 0.5 = \mathbf{24.5}$ kg.

2.2

- Half-step is 5 m, so $365 \leq d < 375$ in metres.

2.3

- Half-step is 0.005 s: **6.415 s** and **6.425 s**.

2.4

- The interval is $1.75 \leq h < 1.85$. Since 1.84 lies inside it, **yes**.

3.1

(a)

- The step is **1 cm**.

(b)

- Half-step is 0.5 cm: $124.5 \leq l < 125.5$ in cm.

(c)

- **No**. 125.5 cm is excluded and rounds up to 126 cm.

3.2

(a)

- Half-step is $h = 0.1/2 = 0.05$ kg.
- Interval **2.35** $\leq$ **m** $<$ **2.45** kg.
- **Every possible mass meets the rule**, since all are strictly less than 2.45 kg.

(b)

- **2.35 and 2.44 kg are possible**.
- **2.45 kg is not possible**: at that upper boundary it rounds to 2.5 kg, so the interval excludes it.