

Solutions

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

2.1

- Bracket each part: $Q = 6.3/1.5 = \mathbf{4.2}$.

2.2

- $t = 1 + 48/60 = \mathbf{1.8}$ h.

2.3

- The decimal part gives $m = 0.75 \times 60 = 45$: **3 h 45 min**.

2.4

- Two decimal places are needed: **6.40 yuan**.

3.1

(a)

- $r = \sqrt{37} = 6.082762530\dots$; **retain the digits to avoid rounding error**.

(b)

- $Q = 20\sqrt{37} = 121.6552506\dots$, so **122** to three significant figures.

(c)

- $m = 0.35 \times 60 = 21$; **2 h 21 min**.

3.2

(a)

- Keep the full root in $L = 7\sqrt{29}$.
- $L \approx 37.6962$, giving **37.7**.
- Early rounding changes the calculation to $7(5) = 35$ and loses the requested accuracy.

(b)

- Minutes use $m = 60(0.85)$, so the duration is **1 h 51 min**.
- Decimal hours are fractions of 60 minutes, not hundredths of a 100-minute hour.