

Work each of the following problems. SHOW ALL WORK.

1. Determine the number of significant figures in the following measurements:

- 13,465 m = 5
- 1,065 cm = 4
- 0.0045 g = 2
- 23,000 L = 2
- 0.0302 s = 3
- 160 kg = 2
- 1,030 mL = 3
- 1.500 g = 4
- 7,685 m = 4
- 3,054,000 L = 4

2. Solve the following operations and express the final answer with the correct number of significant figures:

2.052 mm + 1.54 mm = 3.59 mm

$$\begin{array}{r} 2.052 \text{ mm} \\ + 1.540 \text{ mm} \\ \hline 3.592 \text{ mm} \end{array}$$

11.29 g + 1.57 g + 2.0 g = 14.9 g

$$\begin{array}{r} 11.29 \text{ g} \\ 1.57 \text{ g} \\ + 2.00 \text{ g} \\ \hline 14.86 \text{ g} \end{array}$$

7,052.1 L - 2,048.02 L = 5,004.1 L

$$\begin{array}{r} 7,052.10 \text{ L} \\ - 2,048.02 \text{ L} \\ \hline 5,004.08 \text{ L} \end{array}$$

32.467 s - 3.21 s = 29.26 s

$$\begin{array}{r} 32.467 \text{ s} \\ - 3.210 \text{ s} \\ \hline 29.257 \text{ s} \end{array}$$

Work each of the following problems. SHOW ALL WORK.

3. Solve the following operations and express the final answer with the correct number of significant figures:

$$3.32 \text{ cm} \times 2.1 \text{ cm} = \underline{7.0 \text{ cm}^2}$$

$$\begin{array}{r} 3.32 \text{ cm} \\ \times 2.10 \text{ cm} \\ \hline 6.972 \text{ cm}^2 \end{array}$$

$$9.71 \text{ m/s} \times 2.32 \text{ s} = \underline{22.5 \text{ m}}$$

$$\begin{array}{r} 9.71 \text{ m/s} \\ \times 2.32 \text{ s} \\ \hline 22.53 \text{ m} \end{array}$$

$$4.32 \text{ g} \div 1.562 \text{ mL} = \underline{2.77 \text{ mL}}$$

$$\frac{4.32 \text{ g}}{1.562 \text{ mL}} = 2.7657 \text{ mL}$$

$$65.32 \text{ m} \div 2.43 \text{ s} = \underline{26.9 \text{ m/s}}$$

$$\frac{65.32 \text{ m}}{2.43 \text{ s}} = 26.881 \text{ m/s}$$