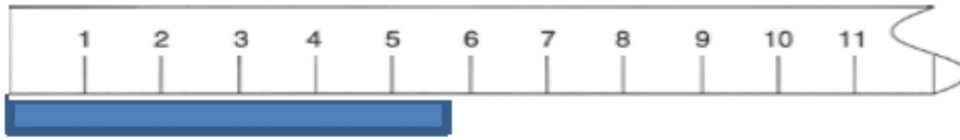


1. Determine the length in centimeters of the following:



5.7 cm

Determine the length in centimeters of the following:



73.1 cm  
73.0 cm

2. When multiplying or dividing, answers will be rounded to the least number of significant figures.

3. When adding or subtracting, answers will be rounded to the least number of decimal places.

Perform the following calculations and round the answer to correct sig figs.

5)  $\frac{10.521 \text{ g}}{5.89 \text{ mL}} =$

③  $1.78624 = 1.79 \frac{\text{g}}{\text{mL}}$

(c)  $5.560 \text{ g} + 2.30000 \text{ g} + 0.00240 \text{ g} =$

③  $7.8624 = 7.862 \text{ g}$

(b)  $3.270 \text{ m} \times 0.00320 \text{ m} =$

④  $0.010464 = 0.0105 \text{ m}^2$

(d)  $4.81 \text{ cm} \times 2 \text{ cm} =$

①  $9.62 = 10 \text{ cm}^2$

(e) average the following measurements: 3.123 g + 0.5600 g + 4.34 g

$$3.123 \text{ g} + 0.5600 \text{ g} + 4.34 \text{ g} = 8.023 \text{ g} = 8.02 \text{ g}$$

$$\frac{8.02 \text{ g}}{3} = 2.673 \text{ g} = 2.67 \text{ g}$$

A student calculates the density of iron as 7.70 g/cm<sup>3</sup> by using lab data for mass and volume. A handbook reveals that the correct value is 7.86 g/cm<sup>3</sup>. What is the percent error? Use correct number of significant figures.

Accepted

? % error

$$\% \text{ error} = \left| \frac{\text{Accepted} - \text{Experimental}}{\text{Accepted}} \right| \times 100$$

$$\% \text{ error} = \left| \frac{7.86 \text{ g/cm}^3 - 7.70 \text{ g/cm}^3}{7.86 \text{ g/cm}^3} \right| \times 100$$

$$= \left| \frac{0.16 \text{ g/cm}^3}{7.86 \text{ g/cm}^3} \right| \times 100 = 2.0356 \% \approx 2.0 \%$$