

Density Study Guide

$$\textcircled{1} D = \frac{m}{V}$$

$$D = \frac{7000. \text{g}}{300 \text{cm}^3}$$

$$D = 23 \text{g/cm}^3$$

$$0.040 \text{m} \times \frac{100 \text{cm}}{1 \text{m}} = 4.0 \text{cm}$$

$$150 \text{mm} \times \frac{1 \text{cm}}{10 \text{mm}} = 15 \text{cm}$$

$$4.0 \text{cm} \times 15 \text{cm} \times 5.0 \text{cm} = 300 \text{cm}^3$$

$$\textcircled{2} V = \frac{m}{D}$$

$$V = \frac{540 \text{g}}{2.70 \frac{\text{g}}{\text{mL}}}$$

$$V = 200 \text{mL}$$

$$\textcircled{3} m = D \cdot V$$

$$m = \left(0.1875 \frac{\text{g}}{\text{cm}^3}\right) (16 \text{cm}^3)$$

$$m = 3.0 \text{g}$$

$$\textcircled{4} D = \frac{m}{V}$$

$$0.019 \text{kg} \times \frac{1000 \text{g}}{1 \text{kg}} = 19 \text{g}$$

$$D = \frac{19 \text{g}}{25 \text{mL}}$$

$$D = 0.76 \frac{\text{g}}{\text{mL}}$$

$$\textcircled{5} D = \frac{m}{V}$$

$$D = \frac{0.57 \text{g}}{444 \text{cm}^3}$$

$$D = 0.00128 \frac{\text{g}}{\text{cm}^3} \\ = 1.28 \times 10^{-3} \frac{\text{g}}{\text{cm}^3}$$

$$\textcircled{6} \quad D = \frac{m}{V}$$

$$D = \frac{415 \text{ g}}{108 \text{ cm}^3}$$

$$D = 3.84 \frac{\text{g}}{\text{cm}^3}$$

$$2.3 \text{ in} \times \frac{2.54 \text{ cm}}{1 \text{ in}} = 5.8 \text{ cm}$$

$$0.060 \text{ m} \times \frac{100 \text{ cm}}{1 \text{ m}} = 6.0 \text{ cm}$$

$$\textcircled{\#} 0.034 \text{ yds} \times \frac{3 \text{ ft}}{1 \text{ yd}} \times \frac{12 \text{ in}}{1 \text{ ft}} \times \frac{2.54 \text{ cm}}{1 \text{ in}} = \textcircled{\#} 3.1 \text{ cm}$$

$$5.8 \text{ cm} \times 6.0 \text{ cm} \times 3.1 \text{ cm} = 108 \text{ cm}^3$$

$$\textcircled{7} \quad D = \frac{m}{V}$$

$$D = \frac{50.3 \text{ g}}{7.5 \text{ mL}}$$

$$D = 6.7 \frac{\text{g}}{\text{mL}}$$

$$\textcircled{8} \quad V = \frac{m}{D}$$

$$V = \frac{3.5 \text{ g}}{0.875 \frac{\text{g}}{\text{mL}}}$$

$$V = 4.0 \text{ mL}$$

$$\textcircled{9} \quad m = V \cdot D$$

$$0.050 \text{ L} \times \frac{1000 \text{ mL}}{1 \text{ L}} = 50. \text{ mL}$$

$$m = (50 \text{ mL}) \left(1.00 \frac{\text{g}}{\text{mL}} \right)$$

$$m = 50 \text{ g}$$