

$$1. \text{ Density} = \frac{\text{mass}}{\text{volume}} = \frac{280\text{g}}{400.0 \text{ mL}} = 0.70 \text{ g/mL}$$

$$2. \text{ Density} = \frac{\text{mass}}{\text{volume}}$$
$$0.79 \text{ g/mL} = \frac{125.00\text{g}}{X}$$

$$X = 160 \text{ mL}$$

$$3. \text{ Density} = \frac{\text{mass}}{\text{volume}} = \frac{50.87\text{g}}{5.15 \text{ mL}} = 9.88 \text{ g/mL}$$

$$\% \text{ Error} = \frac{|\text{mea} - \text{acc}|}{\text{acc}} \times 100 = \frac{|9.88\text{g/mL} - 8.96\text{g/mL}|}{8.96\text{g/mL}} \times 100$$
$$10\% (1.0 \times 10^1\%)$$

$$4. \text{ Density} = \frac{\text{mass}}{\text{volume}} = \frac{2.61\text{g}}{1.50 \text{ cm}^3} = 1.74 \text{ g/mL}$$

This density matches Magnesium