

Solving w/ Density

Aug-30-2024 6:12 PM 1/4

Base (D)

Mass (m)

Volume (v)

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

$$V \cdot D = \frac{m}{\cancel{V}} \cdot \cancel{V}$$

$$m = V \cdot D$$

$$V \cdot D = \frac{m}{\cancel{V}} \cdot \cancel{V}$$

$$\frac{m}{D} = \frac{V \cdot \cancel{D}}{\cancel{D}}$$

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



Ex: (2) $m = 42.4g$ $v = 12.3ml$ $D = \underline{\hspace{1cm}} g/ml$

$m = 42.4 \underline{g}$ $v = 12.3 \underline{ml}$

$$D = \frac{42.4g}{12.3ml}$$

$$= 3.45 g/ml$$

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

Density Eqs.

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

$$m = D \cdot V$$

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

$$D = \frac{g}{ml} \quad m = g \quad V = ml$$



Aug-30-2024 6:12 PM 2/4

$$D = 0.92 \text{ g/mL} \quad M = 36.3 \text{ g} \quad V = \underline{\hspace{1cm}} \text{ mL}$$

$$D = 0.92 \text{ g/mL} \quad M = 36.3 \text{ g}$$

$$V = \frac{36.3 \text{ g}}{0.92 \text{ g/mL}} \quad \left[\frac{\text{M}}{\text{D}} \right]$$

$$V = \underline{39.46 \text{ mL}} \quad \left[\frac{\cancel{\text{g}}}{\cancel{\text{mL}}} = \frac{1}{1} = \text{mL} \right]$$



Aug-30-2024 6:12 PM 3

Density Eqs.

$$D = \frac{M}{V}$$

$$M = D \cdot V$$

$$V = \frac{M}{D}$$

$$D = \frac{\text{g}}{\text{mL}} \quad M = \text{g} \quad V = \text{mL}$$

$$D = 1.50 \text{ g/mL} \quad V = 42.6 \text{ mL} \quad M = \underline{\hspace{1cm}} \text{ g}$$

$$D = 1.50 \text{ g/mL} \quad V = 42.6 \text{ mL}$$

$$M = 1.50 \text{ g/mL} \cdot 42.6 \text{ mL}$$

$$M = \underline{63.9 \text{ g}} \quad \left[\frac{\text{g}}{\cancel{\text{mL}}} \cdot \cancel{\text{mL}} = \text{g} \right]$$



Aug-30-2024 6:12 PM 4/4

Density Eqs.

$$D = \frac{M}{V}$$

$$M = D \cdot V$$

$$V = \frac{M}{D}$$

$$D = \frac{\text{g}}{\text{mL}} \quad M = \text{g} \quad V = \text{mL}$$