

$$\textcircled{5} \quad 1.09 \text{ gr/mL} \rightarrow \text{lbs/gal}$$

Plan

$$\textcircled{a} \quad \text{gr} \rightarrow \text{lbs}$$

$$\textcircled{b} \quad \text{mL} \rightarrow \text{qt} \rightarrow \text{gal}$$

$$\frac{1.09 \text{ gr}}{\text{mL}} \cdot \frac{1 \text{ (lbs)}}{454 \text{ gr}} \cdot \frac{946 \text{ mL}}{1 \text{ qt}} \cdot \frac{4 \text{ qt}}{1 \text{ (gal)}} = \frac{4124.56 \text{ lbs}}{454 \text{ gal}} \approx \frac{9.08 \text{ lbs}}{\text{gal}}$$

$$\textcircled{8} \quad 4.22 \text{ gr/cm} \rightarrow \text{lbs/ft}$$

Plan

$$\text{gr} \rightarrow \text{lbs} \quad \& \quad \text{cm} \rightarrow \text{inch} \rightarrow \text{ft}$$

$$\frac{4.22 \text{ gr}}{\text{cm}} \cdot \frac{1 \text{ (lbs)}}{454 \text{ gr}} \cdot \frac{2.54 \text{ cm}}{1 \text{ inch}} \cdot \frac{12 \text{ inch}}{1 \text{ (ft)}} = \frac{128.6256 \text{ lbs}}{454 \text{ ft}}$$

$$\approx \frac{.283 \text{ lbs}}{\text{ft}}$$

$$\textcircled{9} \quad 32 \text{ ft/sec} \rightarrow \text{meters/min}$$

Plan

$$\text{ft} \rightarrow \text{inch} \rightarrow \text{cm} \rightarrow \text{meter}$$

$$\text{sec} \rightarrow \text{min}$$

$$\frac{32 \text{ ft}}{\text{sec}} \cdot \frac{60 \text{ sec}}{1 \text{ (min)}} \cdot \frac{12 \text{ inch}}{1 \text{ ft}} \cdot \frac{2.54 \text{ cm}}{1 \text{ inch}} \cdot \frac{1 \text{ (meter)}}{100 \text{ cm}} = \frac{5852.16}{100} \approx \frac{58.5 \text{ met}}{\text{min}}$$

OR

$$32 \text{ ft/sec}$$

Plan

$$\text{ft} \rightarrow \text{meters}$$

$$\text{sec} \rightarrow \text{min}$$

$$\frac{32 \text{ ft}}{\text{sec}} \cdot \frac{60 \text{ sec}}{1 \text{ (min)}} \cdot \frac{.305 \text{ met}}{1 \text{ ft}} \approx \frac{585.6 \text{ met}}{1 \text{ min}} \approx \frac{586 \text{ met}}{\text{min}}$$