

$$1a. \frac{50 \cancel{\text{lb}} \cdot \cancel{\text{ft}}}{.225 \cancel{\text{lb}}} \cdot \frac{1 \text{ N}}{2.25 \cancel{\text{lb}}} \cdot \frac{1 \text{ m}}{3.28 \cancel{\text{ft}}} = 67.8 \text{ Nm}$$

$$b. \frac{350 \cancel{\text{lb}}}{1 \cancel{\text{ft}}^3} \cdot \frac{1 \text{ N}}{2.25 \cancel{\text{lb}}} \cdot \frac{1 \text{ kN}}{1000 \cancel{\text{N}}} \cdot \frac{35.3147 \cancel{\text{ft}}^3}{1 \text{ m}^3} = 55 \text{ N}$$

$$c. \frac{100 \cancel{\text{ft}}}{1 \cancel{\text{ft}}} \cdot \frac{1 \cancel{\text{ft}}}{3600 \cancel{\text{s}}} \cdot \frac{1 \text{ m}}{3.28 \cancel{\text{ft}}} \cdot \frac{100 \text{ cm}}{1 \text{ m}} = 8.47$$

$$2. \frac{6.25 \cancel{\text{S}}}{1 \cancel{\text{ft}}^3} \cdot \frac{35.3147 \cancel{\text{ft}}^3}{1 \text{ m}^3} \cdot \frac{14.5939 \cancel{\text{kg}}}{15 \cancel{\text{kg}}} \cdot \frac{1 \text{ Mg}}{1000 \cancel{\text{kg}}} = 3.22 \frac{\text{Mg}}{\text{m}^3}$$

$$3. \frac{350 \text{ mm}}{1000 \text{ mm}} \cdot 1 \text{ m} = .35 \text{ m} = d$$

$$V = \pi r^2 \cdot h = \pi \left(\frac{d}{2} \right)^2 \cdot h = .2886 \text{ m}^3$$

$$W = p \cdot V = \frac{2.6 \text{ Mg}}{1 \text{ m}^3} \cdot .2886 \text{ m}^3 =$$

$$\frac{.75 \text{ Mg} \cdot 1000 \text{ kg} \cdot 2.20462 \text{ lbs}}{1 \text{ Mg} \cdot 1 \text{ kg}} = 1660 \text{ lbs}$$