

1. Convert $5000 \frac{\text{pounds}}{\text{ft}^3}$ into $\frac{\text{kg}}{\text{cm}^3}$
- $1000 \text{ g} = 1 \text{ kg}$
 $1 \text{ in}^3 = 16.39 \text{ cm}^3$
 $1 \text{ pound} = 454 \text{ grams}$
 $1 \text{ ft}^3 = 1728 \text{ in}^3$

$$5000 \frac{\text{pounds}}{\text{ft}^3} \cdot \frac{454 \text{ g}}{1 \text{ lb}} \cdot \frac{1 \text{ kg}}{1000 \text{ g}} \cdot \frac{1 \text{ ft}^3}{1728 \text{ in}^3} \cdot \frac{1 \text{ in}^3}{16.39 \text{ cm}^3} = .08 \text{ kg/cm}^3$$

2. Solve this proportion.

$$\frac{m+5}{6} = \frac{m-14}{10}$$

$$10(m+5) = 6(m-14)$$

$$10m + 50 = 6m - 84$$

$$4m + 50 = -84$$

$$4m = -134$$

$$m = -33.5$$

3. Andre can run 4 miles in 24.8 minutes. At the same rate how many miles can he run in an hour?

$$\rightarrow = 60 \text{ min}$$

$$\frac{4 \text{ mi}}{24.8 \text{ min}} = \frac{x}{60 \text{ min}}$$

$$x = 9.68 \text{ mi}$$

4. The east wing of the animal shelter houses cats and dogs. The ratio of cats to dogs in the east wing is 7:5. If there are 240 animals in the east wing find how many of those that are dogs.

$$7:5 \rightarrow 7 \text{ cats} : 5 \text{ dogs} = 12 \text{ tot}$$

$$\frac{5 \text{ dogs}}{12 \text{ tot}} = \frac{x \text{ dogs}}{240 \text{ tot}}$$

$$x = 100 \text{ dogs}$$