

## Measurement

**Example 1:** Solve.

a)  $\frac{x}{10} \times \frac{70}{13}$

$$13x = 10(70)$$

$$\frac{13x}{13} = \frac{700}{13} \quad x = 53.8$$

(b)  $\frac{3}{x} \times \frac{10}{17}$

$$10x = 3(17)$$

$$\frac{10x}{10} = \frac{51}{10} \quad x = 5.1$$

**Example 2:** A 2 L carton of chocolate milk costs \$4.26. What is the unit rate?

$$\frac{\$4.26}{2L} = \$2.13/L$$

**Example 3:** The grocery store sells peaches for \$0.89/lb. The farmers' market sells a 10 kg basket of peaches for \$15.50. Determine the price per kilogram at each location. Who has the lower price? (1 kg = 2.2 lb)

$$10 \text{ kg} \times \frac{2.2 \text{ lb}}{1 \text{ kg}} = 22 \text{ lb}$$

$$\frac{\$15.50}{22 \text{ lb}} = \underline{\underline{\$0.70/\text{lb}}}$$

farmer's market is lower

**Example 4:** A screw has 64 turns over a distance of 50 mm of thread. Determine the number of turns in a screw with the same pattern over 40 mm of thread.

$$\frac{64 \text{ turns}}{50 \text{ mm}} = \frac{x}{40 \text{ mm}}$$

$$50x = 64(40)$$

$$\frac{50x}{50} = \frac{2560}{50} \quad x = 51.2$$

**Example 5:** An illustration is 14 cm by 20 cm. A copy is made using a scale factor of 75%. What are the dimensions of the copy?

$$14 \times 0.75 = 10.5 \text{ cm}$$

$$20 \times 0.75 = 15 \text{ cm}$$