

## Conversion Between the US Customary and the Metric Systems of Measurement.

**Objective A:** To convert US Customary units to metric units.

More than 90% of the world's population uses the metric system of measurement. Therefore, converting US Customary units to metric units is essential in trade and commerce – for example, in importing foreign goods and exporting domestic goods. Approximate equivalents between the two systems follow.

### Units of Length

1 in. = 2.54 cm  
1 m  $\approx$  3.28 ft  
1 m  $\approx$  1.09 yd  
1 mi  $\approx$  1.61 km

### Units of Weight

1 oz.  $\approx$  28.35 g  
1 lb  $\approx$  454 g  
1 kg  $\approx$  2.2 lb

### Units of Capacity

1 L  $\approx$  1.06 qt  
1 gal  $\approx$  3.79 L

These equivalences can be used to form conversion rates to change one unit of measurement to another. For example, because  $1 \text{ mi} \approx 1.61 \text{ km}$ , the conversion rates

$\frac{1 \text{ mi.}}{1.61 \text{ km}}$       and       $\frac{1.61 \text{ km}}{1 \text{ mi.}}$       are each approximately equal to 1.

Convert 55 mi. to Kilometers.

$$55 \text{ mi.} \approx 55 \text{ mi.} \times \frac{1.61 \text{ km.}}{1 \text{ mi.}}$$

\* The conversion rate must contain **km** in the numerator and **mi.** in the denominator.

$$= \frac{55 \text{ mi.}}{1} \times \frac{1.61 \text{ km}}{1 \text{ mi.}}$$

$$= \frac{88.55 \text{ km}}{1}$$

55 mi.  $\approx$  88.55 km.