

# Geometry Theorems and Postulates

## Chapter 0

| Metric Units of Length             |
|------------------------------------|
| 1 kilometer (km) = 1000 meters (m) |
| 1 m = 100 centimeters (cm)         |
| 1 cm = 10 millimeters (mm)         |

| Customary Units of Length     |
|-------------------------------|
| 1 foot (ft) = 12 inches (in.) |
| 1 yard (yd) = 3 ft            |
| 1 mile (mi) = 5280 ft         |

| Metric Units of Capacity            |
|-------------------------------------|
| 1 liter (L) = 1000 milliliters (mL) |

| Customary Units of Capacity        |                       |
|------------------------------------|-----------------------|
| 1 cup (c) = 8 fluid ounces (fl oz) | 1 quart (qt) = 2 pt   |
| 1 pint (pt) = 2 c                  | 1 gallon (gal) = 4 qt |

| Metric Units of Mass             |
|----------------------------------|
| 1 kilogram (kg) = 1000 grams (g) |
| 1 g = 1000 milligrams (mg)       |

| Customary Units of Weight     |
|-------------------------------|
| 1 pound (lb) = 16 ounces (oz) |
| 1 ton (T) = 2000 lb           |

| Units of Length        |                        |
|------------------------|------------------------|
| Customary → Metric     | Metric → Customary     |
| 1 in. $\approx$ 2.5 cm | 1 cm $\approx$ 0.4 in. |
| 1 yd $\approx$ 0.9 m   | 1 m $\approx$ 1.1 yd   |
| 1 mi $\approx$ 1.6 km  | 1 km $\approx$ 0.6 mi  |

| Units of Capacity    |                      |
|----------------------|----------------------|
| Customary → Metric   | Metric → Customary   |
| 1 qt $\approx$ 0.9 L | 1 L $\approx$ 1.1 qt |
| 1 pt $\approx$ 0.5 L | 1 L $\approx$ 2.1 pt |

| Units of Weight/Mass |                    |
|----------------------|--------------------|
| Customary → Metric   | Metric → Customary |
| 1 oz ≈ 28.3 g        | 1 g ≈ 0.04 oz      |
| 1 lb ≈ 0.5 kg        | 1 kg ≈ 2.2 lb      |

| Order of Operations   |
|---|
| <b>Step 1</b> Evaluate expressions inside grouping symbols.               |
| <b>Step 2</b> Evaluate all powers.  |
| <b>Step 3</b> Do all multiplications and/or divisions from left to right. |
| <b>Step 4</b> Do all additions and/or subtractions from left to right.    |

The **Product Property** states that for two numbers  $a$  and  $b \geq 0$ ,  $\sqrt{ab} = \sqrt{a} \cdot \sqrt{b}$ .

The **Quotient Property** states that for any numbers  $a$  and  $b$ , where  $a \geq 0$  and  $b \geq 0$ ,  $\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$ .