

Conversion and Formula Sheet**U.S. Units of Length, Weight, and Capacity**

$12 \text{ in} = 1 \text{ ft}$

$3 \text{ ft} = 1 \text{ yd}$

$5280 \text{ ft} = 1 \text{ mi}$

$16 \text{ oz (dry weight)} = 1 \text{ lb}$

$2000 \text{ lbs} = 1 \text{ ton}$

$8 \text{ oz (liquid capacity)} = 1 \text{ cup (c)}$

$2 \text{ c} = 1 \text{ pint (pt)}$

$2 \text{ pt} = 1 \text{ quart (qt)}$

$4 \text{ qt} = 1 \text{ gal}$

$128 \text{ oz} = 1 \text{ gal}$

Metric Units of Length, Mass and Capacity

$1 \text{ km} = 1000 \text{ m}$

$100 \text{ cm} = 1 \text{ m}$

$1000 \text{ mm} = 1 \text{ m}$

$1 \text{ kL} = 1000 \text{ L}$

$1000 \text{ mL} = 1 \text{ L}$

$1 \text{ kg} = 1000 \text{ g}$

$1000 \text{ mg} = 1 \text{ g}$

Metric System Relationships

Length: km hm dam m dm cm mm

Mass: kg hg dag g dg cg mg

Capacity: kL hL daL L dL cL mL

Converting Between U.S. Units and Metric Units

$1 \text{ m} \approx 3.28 \text{ ft}$

$1 \text{ m} \approx 1.08 \text{ yd}$

$1 \text{ in} \approx 2.54 \text{ cm}$

$1 \text{ km} \approx 0.62 \text{ mi}$

$1 \text{ mi} \approx 1.609 \text{ km}$

$1 \text{ oz (weight)} \approx 28.35 \text{ g}$

$1 \text{ lb} \approx .45 \text{ kg}$

$1 \text{ kg} \approx 2.2 \text{ lbs}$

$1 \text{ L} \approx 1.06 \text{ qt}$

$1 \text{ gal} \approx 3.785 \text{ L}$

$29.57 \text{ mL} \approx 1 \text{ fl oz}$

Formulas**Temperature (Converting Celsius $\leftrightarrow$ Fahrenheit):**

$$F = \frac{9}{5} \cdot C + 32 \text{ and } C = \frac{5}{9} \cdot (F - 32)$$

Perimeter (distance around) of a Rectangle: $P = 2 \cdot l + 2 \cdot w$ **Circumference (distance around) of a Circle:** $C = \pi \cdot d$ or $C = 2 \cdot \pi \cdot r$ **Area (amount inside) Formulas:**Rectangle or Square: $A = l \cdot w$ Parallelogram: $A = b \cdot h$ Triangle: $A = \frac{1}{2} \cdot b \cdot h$ Trapezoid: $A = \frac{1}{2} \cdot (b + B) \cdot h$ Circle: $A = \pi \cdot r^2$ **Volume (amount inside a 3-D object) formulas:**Rectangular Solid or Cube: $V = l \cdot w \cdot h$ Sphere: $V = \frac{4}{3} \cdot \pi \cdot r^3$ Circular Cylinder: $V = \pi \cdot r^2 \cdot h$ Cone: $V = \frac{1}{3} \cdot \pi \cdot r^2 \cdot h$ Square Pyramid: $V = \frac{1}{3} \cdot s^2 \cdot h$ **Pythagorean Theorem:** $(\text{leg})^2 + (\text{other leg})^2 = (\text{hypotenuse})^2$