# Geometry, Measurement and Finance 10 – Conversions & Formulas

## IMPORTANT CONVERSIONS...

**SI Length** ⟷ **Imperial Length**

| SI Length | | |
|---|---|---|
| 1 cm = 10 mm | | |
| 1 m. = 100 cm | | |
| 1 km = 1000 m | | |

2.54 cm = 1 in
1 m = 3.2808 ft
1 m = 1.0936 yd
1.6093 km = 1 mi

| Imperial Length |
|---|
| 1 ft. = 12 in. |
| 1 yd = 3 ft. |
| 1 mi. = 1760 yd |

**SI (metric)...** ⟷ **Imperial...**

1 g = 1000 mg
1 kg = 1000 g
1 t = 1000 kg

28.4 g = 1 oz
1 kg = 2.2 lbs
1 t = 1.1 tn

1 lb = 16 oz
1 tn = 2000 lb
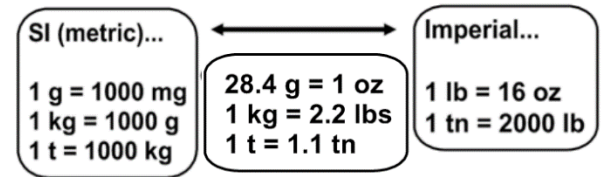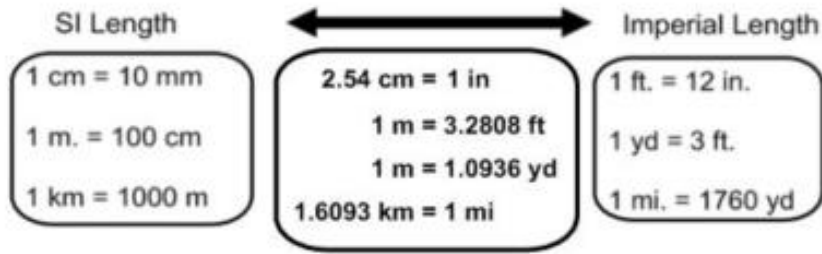
**SI Capacity:** 1 L = 1000 mL
1 kL = 1000 L
**SI Volume:** 1 cm³ = 1 mL

### TEMPERATURE CONVERSIONS...

$$C = \frac{5}{9}(F - 32)$$

$$F = \frac{9}{5}C + 32$$

### CONVERTING COMMON COOKING UNITS

| Imperial | SI |
|---|---|
| ¼ teaspoon | 1.25 mL |
| ½ teaspoon | 2.5 mL |
| 1 teaspoon | 5 mL |
| 1 tablespoon (3 teaspoons) | 15 mL |
| 1 cup | 250 mL |
| 1 pint | 568.2614 mL |
| 1 quart (2 pt) | 1.1365 L |
| 1 gallon (4 qt) | 4.5461 L |

### CONVERTING US IMPERIAL TO SI UNITS

| US Imperial | SI |
|---|---|
| 1 fl oz | 29.5735 mL |
| 1 pt = 16 fl oz | 473.176 mL or 0.473 L |
| 1 qt = 2 pt | 946.352 mL or 0.946 L |
| 1 gal = 4 qt | 3785.4 mL or 3.785 L |

## SURFACE AREA FORMULAS...

$$SA_{prism} = 2 \times A_{base} + \text{Area of the rectangular lateral faces}$$

$$SA_{pyramid} = A_{base} + \text{Area of the triangular lateral faces}$$

$$SA_{cylinder} = 2\pi r^2 + 2\pi rh$$

$$SA_{cone} = \pi r^2 + \pi rs$$

$$SA_{sphere} = 4\pi r^2$$

## TRIGONOMETRY FORMULAS...

$$\sin\theta = \frac{opp}{hyp} \quad \cos\theta = \frac{adj}{hyp} \quad \tan\theta = \frac{opp}{adj}$$

$$c^2 = a^2 + b^2 \qquad OR \qquad a^2 = c^2 - b^2$$

## VOLUME FORMULAS...

$$V_{prism} = A_{base} \times height$$

$$V_{pyramid} = \frac{A_{base} \times height}{3}$$

$$V_{cylinder} = \pi r^2 h$$

$$V_{cone} = \frac{\pi r^2 h}{3}$$

$$V_{sphere} = \frac{4}{3}\pi r^3$$