

## Metric System

kilo	hecto	deca	BASE Unit	deci	centi	milli
km	hm	dam	metre (m)	dm	cm	mm
kg	hg	dag	gram (g)	dg	cg	mg
kl	hl	dal	litre (l)	dl	cl	ml

1 hectare = 0.01 km <sup>2</sup>	1 tonne = 1000 kg	1 mL = 1 cm <sup>3</sup>
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## Imperial System

Length	Mass	Capacity	Liquid Volume
1' (foot/ft) = 12" (inches)	1 oz (ounce) = 437.5 grains	1 tblsp = 3 tsp	1 fl oz = 2 tblsp
		1 cup = 16 tblsp	1 cup = 8 fl oz
1 yd (yard) = 3 ft	1 lb (pound) = 16 oz	1 pint = 2 cups	1 pint = 16 fl oz
1 mi (mile) = 1760 yd	1 stone = 14 lbs	1 quart = 2 pints	1 quart = 32 fl oz
	1 ton = 2240 lbs	1 gallon = 4 quarts	1 gallon = 128 fl oz

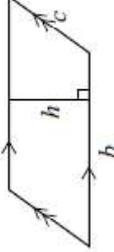
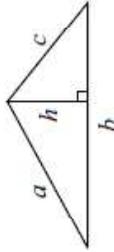
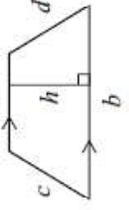
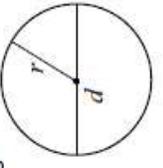
1 acre = 43 460 sq ft	1 square mile = 640 acres	
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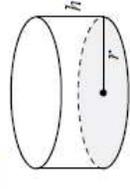
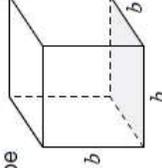
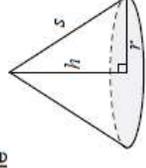
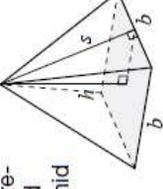
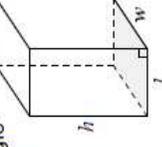
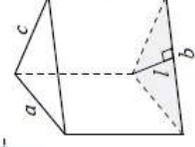
## Converting Between Imperial and Metric

Length	Mass	Capacity	Liquid Volume
1" = 2.54 cm	1 oz = 28.38 g	1 tsp = 5 ml	1 fl oz = 30 ml
1' = 30.48 cm	1 lb = 453.59 g	1 tblsp = 15 ml	1 pint = 473 ml*
1 yd = 91.44 cm	1 stone = 6.4 kg	1 cup = 250 ml *	1 quart = 950 ml*
1 mile = 1.62 km	1 ton = 0.9072 tonne		1 gallon = 4.5 L

\*\*conversions differ between Canada, US, UK

1 square foot = 0.0929 m <sup>2</sup>	1 cubic foot = 0.0283 m <sup>3</sup>	1 acre = 0.4047 hectares
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Geometric Shape	Perimeter	Area
<b>Rectangle</b> 	$P = l + l + w + w$ or $P = 2(l + w)$	$A = lw$
<b>Parallelogram</b> 	$P = b + b + c + c$ or $P = 2(b + c)$	$A = bh$
<b>Triangle</b> 	$P = a + b + c$	$A = \frac{bh}{2}$ or $A = \frac{1}{2}bh$
<b>Trapezoid</b> 	$P = a + b + c + d$	$A = \frac{(a + b)h}{2}$ or $A = \frac{1}{2}(a + b)h$
<b>Circle</b> 	$C = \pi d$ or $C = 2\pi r$	$A = \pi r^2$

<b>Cylinder</b> 	$A_{\text{base}} = \pi r^2$ $A_{\text{lateral surface}} = 2\pi r h$ $A_{\text{total}} = 2A_{\text{base}} + A_{\text{lateral surface}}$ $= 2\pi r^2 + 2\pi r h$	$V = (A_{\text{base}})(\text{height})$ $V = \pi r^2 h$
<b>Cube</b> 	$A = 6b^2$	$V = (A_{\text{base}})(\text{height})$ $V = b^3$
<b>Cone</b> 	$A_{\text{base}} = \pi r^2$ $A_{\text{lateral surface}} = \pi r s$ $A_{\text{total}} = A_{\text{base}} + A_{\text{lateral surface}}$ $= \pi r^2 + \pi r s$	$V = \frac{(A_{\text{base}})(\text{height})}{3}$ $V = \frac{\pi r^2 h}{3}$ or $V = \frac{1}{3}\pi r^2 h$
<b>Square-based pyramid</b> 	$A_{\text{base}} = b^2$ $A_{\text{triangle}} = \frac{bs}{2}$ $A_{\text{total}} = A_{\text{base}} + 4A_{\text{triangle}}$ $= b^2 + 2bs$	$V = \frac{(A_{\text{base}})(\text{height})}{3}$ $V = \frac{b^2 h}{3}$ or $V = \frac{1}{3}b^2 h$
<b>Rectangle-based prism</b> 	$A = 2(wh + lw + lh)$	$V = (A_{\text{base}})(\text{height})$ $V = lwh$
<b>Triangle-based prism</b> 	$A_{\text{base}} = \frac{bl}{2}$ $A_{\text{rectangles}} = ah + bh + ch$ $A_{\text{total}} = 2A_{\text{base}} + A_{\text{rectangles}}$ $= bl + ah + bh + ch$	$V = (A_{\text{base}})(\text{height})$ $V = \frac{blh}{2}$ or $V = \frac{1}{2}blh$