

UNIT CONVERSION

	Common Imperial	Imperial and Metric	Metric
Length	1 mile = 1760 yards 1 mile = 5280 feet 1 yard = 3 feet 1 yard = 36 inches 1 foot = 12 inches	1 mile \approx 1.609 km 1 yard \approx 0.9144 m 1 foot \approx 0.3048 m 1 inch \approx 2.54 cm	1 km = 1000 m 1 m = 100 cm 1 cm = 10 mm
Mass (Weight)	1 ton = 2000 pounds 1 pound = 16 ounces	1 pound \approx 0.454 kg 1 ounce \approx 28.35 g	1 t = 1000 kg 1 kg = 1000 g
Common Abbreviations	mile = mi yard = yd ton = ton feet = ' or ft inch = " or in pound = lb ounce = oz		kilometre = km metre = m centimetre = cm millimetre = mm tonne (metric ton) = t gram = g

FORMULAE

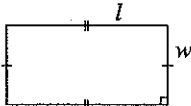
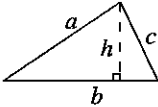
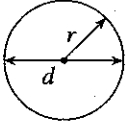
<p>(Put your calculator in Degree Mode)</p> <ul style="list-style-type: none"> Right triangles $\sin A = \frac{\text{opposite}}{\text{hypotenuse}}$ $\cos A = \frac{\text{adjacent}}{\text{hypotenuse}}$ $\tan A = \frac{\text{opposite}}{\text{adjacent}}$ <div style="text-align: center;"> </div> <p>Pythagorean Theorem</p> $a^2 + b^2 = c^2$ <p>distance = speed \times time</p>	<ul style="list-style-type: none"> The equation of a line: $y = mx + b$ $Ax + By + C = 0$ $y - y_1 = m(x - x_1)$ The slope of a line: $m = \frac{\text{rise}}{\text{run}} = \frac{\Delta y}{\Delta x} = \frac{y_2 - y_1}{x_2 - x_1}$ <div style="text-align: center; border: 1px solid black; padding: 5px;"> Math Tiles Legend </div> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>$+x^2$</p> <p>$+x$</p> <p>$+1$</p> </div> <div style="text-align: center;"> <p>$-x^2$</p> <p>$-x$</p> <p>-1</p> </div> </div>
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GEOMETRIC FORMULAE

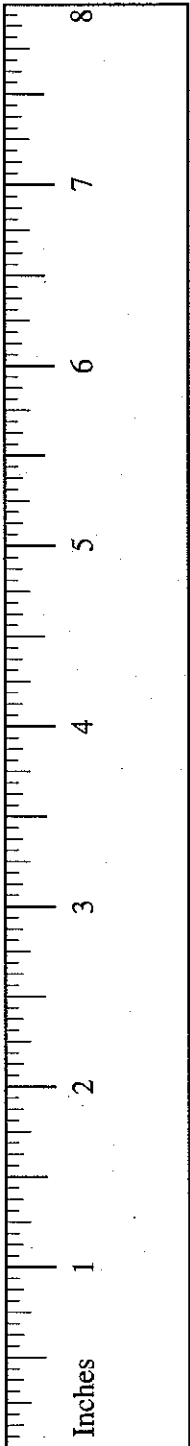
Key Legend


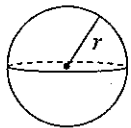
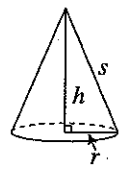
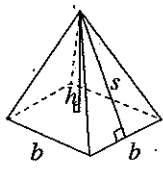
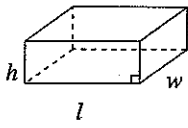
l = length
 w = width
 b = base
 h = height
 s = slant height
 r = radius
 d = diameter

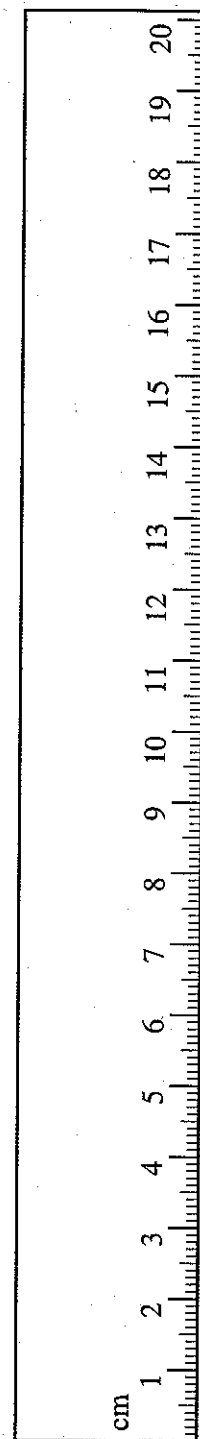
P = perimeter
 C = circumference
 A = area
 SA = surface area
 V = volume

Geometric Figure	Perimeter	Area
Rectangle 	$P = 2l + 2w$ or $P = 2(l + w)$	$A = lw$
Triangle 	$P = a + b + c$	$A = \frac{bh}{2}$
Circle 	$C = \pi d$ or $C = 2\pi r$	$A = \pi r^2$

NOTE: Use the value of π programmed in your calculator rather than the approximation of 3.14.



Geometric Figure	Surface Area	Volume
Cylinder 	$A_{top} = \pi r^2$ $A_{base} = \pi r^2$ $A_{side} = 2\pi r h$ $SA = 2\pi r^2 + 2\pi r h$	$V = (\text{area of base}) \times h$
Sphere 	$SA = 4\pi r^2$ or $SA = \pi d^2$	$V = \frac{4}{3} \pi r^3$
Cone 	$A_{side} = \pi r s$ $A_{base} = \pi r^2$ $SA = \pi r^2 + \pi r s$	$V = \frac{1}{3} \times (\text{area of base}) \times h$
Square-Based Pyramid 	$A_{triangle} = \frac{1}{2} b s$ (for each triangle) $A_{base} = b^2$ $SA = 2bs + b^2$	$V = \frac{1}{3} \times (\text{area of base}) \times h$
Rectangular Prism 	$SA = wh + wh + lw + lw + lh + lh$ or $SA = 2(wh + lw + lh)$	$V = (\text{area of base}) \times h$
General Right Prism	$SA = \text{the sum of the areas of all the faces}$	$V = (\text{area of base}) \times h$
General Pyramid	$SA = \text{the sum of the areas of all the faces}$	$V = \frac{1}{3} \times (\text{area of base}) \times h$



NOTE: Use the value of π programmed in your calculator rather than the approximation of 3.14.