

Formula Sheet

LENGTH

<i>Metric System</i>	<i>Imperial System</i>	<i>Conversion for Length</i>
10 mm = 1 cm	12 inches = 1 foot	1 inch \cong 25.4 mm
100 cm = 1 m	3 feet = 1 yard	1 foot \cong 30.48 cm
1000 m = 1 km	1760 yards = 1 mile	1 yard \cong 0.9144 m
		1 mile \cong 1.609 km

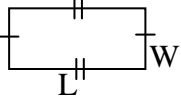
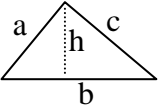
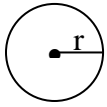
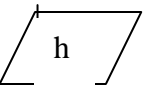
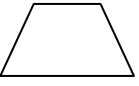
MASS

<i>Metric System</i>	<i>Imperial System</i>	<i>Conversion for Mass</i>
1000 g = 1 kg	16 ounces = 1 pound	1 ounce \cong 28.35 g
1000 kg = 1 t	2000 pounds = 1 ton (US)	1 pound \cong 0.454 kg
		1 ton \cong 0.907 t

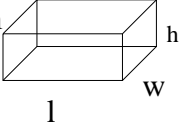
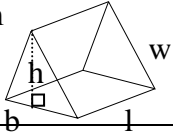
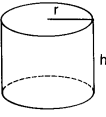
VOLUME

<i>Metric System</i>	<i>Imperial System</i>	<i>Conversion for Volume</i>
1000 mL = 1 L	16 fluid ounces = 1 pint	1 fluid ounce \cong 29.574 mL
	2 pints = 1 quart	1 pint \cong 0.473 L
	8 pints = 1 gallon	1 gallon \cong 3.785 L

Two-dimensional Shapes

SHAPE	Perimeter/Circumference	Area
Rectangle 	$P = 2(l + w)$ or $P = 2L + 2W$	$A = L \times W$
Triangle 	$P = a + b + c$	$A = \frac{b \times h}{2}$
Circle 	$C = \pi d$ or $C = 2\pi r$	$A = \pi r^2$
Parallelogram 	$P = 2a + 2b$	$A = b \times h$
Trapezoid 	$P = a + b + 2c$	$A = \frac{(a + b) \times h}{2}$

Three-dimensional Shapes

SHAPE	Surface Area	Volume
Rectangular Prism 	SA = sum of areas of all faces $SA = 2lw + 2lh + 2wh$	$V = lwh$
Triangular Prism 	SA = sum of areas of all faces $= bh + bw + 2wl$	$V = \frac{bh}{2} \times L$
Cylinder 	$SA = 2\pi r^2 + 2\pi rh$	$V = \pi r^2 h$

Maximizing Volume/Minimizing Surface Area

Cylinder: Volume = $2\pi r^3$

 Surface Area = $6\pi r^2$

r is the radius of the cylinder

h = 2r, for maximum volume

Cube: Volume = s^3

 Surface Area = $6s^2$

s is the side length of the cube

