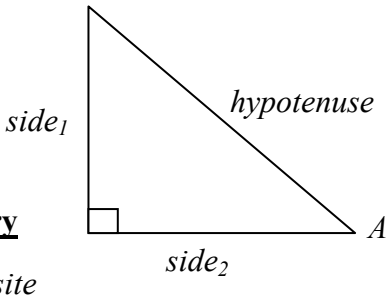
Mathematics 10C Formula Sheet

Pythagorean Theorem

$side_1^2 + side_2^2 = hypotenuse^2$ or $a^2 + b^2 = c^2$



Right Angle Triangle Trigonometry

$$\sin A = \frac{opposite}{hypotenuse} \qquad \cos A = \frac{adjacent}{hypotenuse} \qquad \tan A = \frac{opposite}{adjacent}$$

Metric System

km hm dam m dm cm mm

Conversion Chart

Relationships between common Imperial Units	Relationships between Common Imperial Units and Metric Units	
Length	1 inch = 2.54 cm	1 cm = 0.3937 inches
• 1 mile = 1760 yards = 5280 feet	1 mile = 1.609 km	1 km = 0.6214 miles
• 1 yard = 3 feet = 36 inches	1 yard = 0.9144 m	1 m = 1.0936 yards
• 1 foot = 12 inches	1 foot = 0.3048 m	1 m = 3.2808 feet

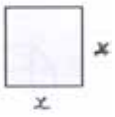
Line Segments and Linear Functions

$y = mx + b$ $\qquad (y - y_1) = m(x - x_1)$ $\qquad Ax + By + C = 0,\ A, B, C \in I$

$slope = \frac{rise}{run}$ $\qquad m = \frac{y_2 - y_1}{x_2 - x_1}$

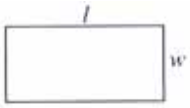
Perimeter, Circumference and Area

$P = 4x$



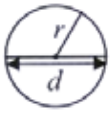
$A = x^2$

$P = 2l + 2w$



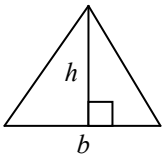
$A = lw$

$C = 2\pi r$
$C = \pi d$



$A = \pi r^2$

$P = side + side + side$

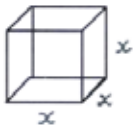


$A = \frac{bh}{2}$

Surface Area and Volume

Surface Area

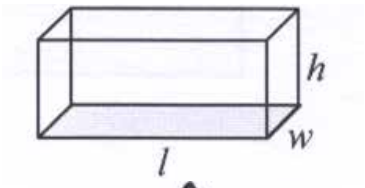
$SA = 6x^2$



Volume

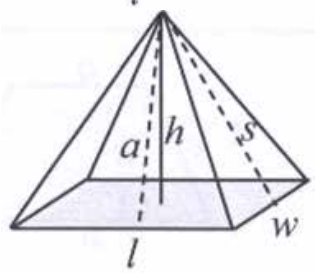
$V = x^3$

$SA = 2lw + 2wh + 2lh$



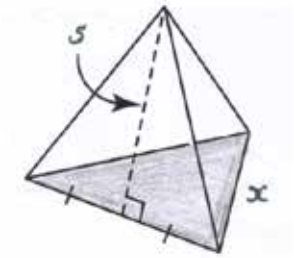
$V = lwh$

$SA = lw + 2\left(\frac{1}{2}al\right) + 2\left(\frac{1}{2}sw\right)$



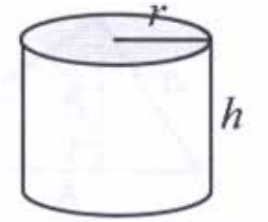
$V = \frac{1}{3}lwh$

$SA = 4\left(\frac{1}{2}sx\right)$



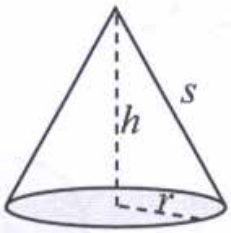
$V = {}^1/_3$ (*Area of Base*) (*Height*)

$SA = 2\pi r^2 + 2\pi rh$



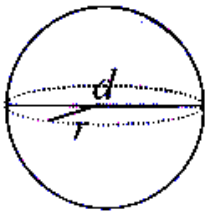
$V = \pi r^2 h$

$SA = \pi rs + \pi r^2$



$V = \frac{1}{3}\pi r^2 h$

$SA = 4\pi r^2$



$V = \frac{4}{3}\pi r^3$

Hemisphere: $SA = 3\pi r^2$

$V = \frac{2}{3}\pi r^3$