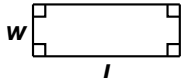
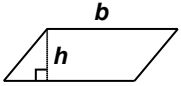
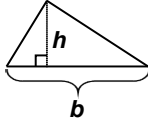
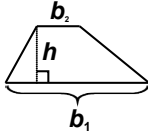
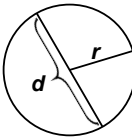


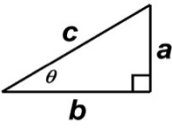
## High School Reference Sheet

### Formulas

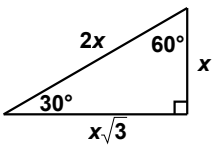
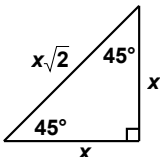
#### Area (A) and Circumference (C)

Name	Shape	Formula
Rectangle		$A = lw$
Parallelogram		$A = bh$
Triangle		$A = \frac{1}{2}bh$
Trapezoid		$A = \frac{1}{2}(b_1 + b_2)h$
Circle		$A = \pi r^2$ $C = 2\pi r$ $C = \pi d$

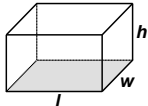
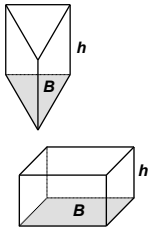
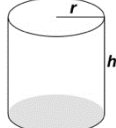
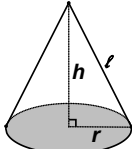
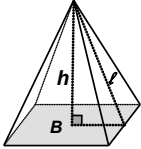
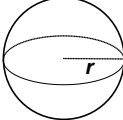
#### Formulas for Right Triangles

Shape	Formula
	<p><b>Pythagorean Theorem</b></p> $a^2 + b^2 = c^2$ <p><b>Trigonometric Ratios</b></p> $\sin \theta = \frac{a}{c} \quad \cos \theta = \frac{b}{c} \quad \tan \theta = \frac{a}{b}$

#### Special Right Triangles

30°-60°-90°	45°-45°-90°
	

#### Volume (V) and Surface Area (SA)

Name	Shape	Formula
Right Rectangular Prism		$V = lwh$ $SA = 2lw + 2hw + 2lh$
General Prism		$V = Bh$ $SA = \text{Sum of the areas of the faces}$
Right Circular Cylinder		$V = \pi r^2 h$ $SA = 2\pi r^2 + 2\pi r h$
Right Circular Cone		$V = \frac{1}{3}\pi r^2 h$ $SA = \pi r^2 + \pi r \ell$
Right Pyramid		$V = \frac{1}{3}Bh$ $SA = B + \frac{1}{2}P\ell$
Sphere		$V = \frac{4}{3}\pi r^3$ $SA = 4\pi r^2$

#### Polygon Angle Formulas

Interior Angle Formulas
Sum of the Interior Angles of a polygon with $n$ sides = $180^\circ (n - 2)$
Measure of an interior angle of an $n$ -sided regular polygon = $\frac{180^\circ (n - 2)}{n}$

## Formulas

Equations of a Line
<p>Standard Form:  <math>Ax + By = C</math>            where A and B are not both zero</p> <p>Slope-Intercept Form:  <math>y = mx + b</math>            where <math>m</math> = slope and <math>b</math> = y-intercept</p> <p>Point-Slope Form:  <math>y - y_1 = m(x - x_1)</math>            where <math>m</math> = slope and <math>(x_1, y_1)</math> is a point on the line</p>

Coordinate Geometry Formulas
<p>Let <math>(x_1, y_1)</math> and <math>(x_2, y_2)</math> be two coordinate pairs</p> <p>slope = <math>\frac{y_2 - y_1}{x_2 - x_1}</math> where <math>x_2 \neq x_1</math></p> <p>midpoint = <math>\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)</math></p> <p>distance = <math>\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}</math></p>

<b>Arithmetic Sequence</b>	<b>Geometric Sequence</b>	<b>Geometric Series</b>
$a_n = a_1 + (n - 1)d$	$a_n = a_1 r^{n-1}$	$S_n = \frac{a_1 - a_1 r^n}{1 - r}$ where $r \neq 1$
<b>Quadratic Formula</b>	<b>Distance Traveled</b>	<b>Arc Length</b>
$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$	$d = rt$	$S = r\theta$ (where $\theta$ is in radians)
<b>Simple Interest</b>	<b>Compound Interest</b>	<b>Continuously Compounded Interest</b>
$I = prt$	$A = P\left(1 + \frac{r}{n}\right)^{nt}$	$A = Pe^{rt}$

## Conversions

<b>Angle Measurements</b>	<b>Weights</b>
<p>1 Radian = <math>\frac{180}{\pi}</math> Degrees</p> <p>1 Degree = <math>\frac{\pi}{180}</math> Radians</p>	<p>1 pound = 16 ounces</p> <p>1 pound = 0.454 kilograms</p> <p>1 ton = 2000 pounds</p> <p>1 kilogram = 2.2 pounds</p>
<b>Distances</b>	<b>Volumes</b>
<p>1 mile = 5280 feet</p> <p>1 mile = 1760 yards</p> <p>1 mile = 1.609 kilometers</p> <p>1 kilometer = 0.62 mile</p> <p>1 meter = 39.37 inches</p> <p>1 inch = 2.54 centimeters</p>	<p>1 cup = 8 fluid ounces</p> <p>1 gallon = 4 quarts</p> <p>1 pint = 2 cups</p> <p>1 gallon = 3.785 liters</p> <p>1 quart = 2 pints</p> <p>1 liter = 0.264 gallons</p> <p>1 liter = 1000 cubic centimeters</p>