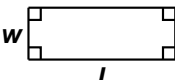
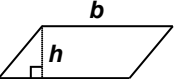
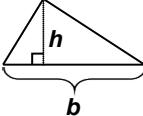
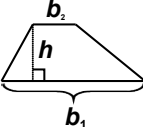
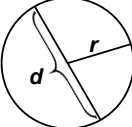


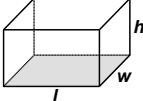
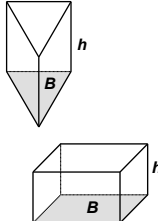
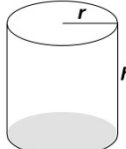
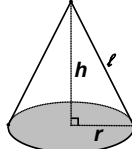
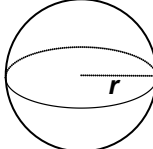
## Grade 8 Reference Sheet

### Formulas

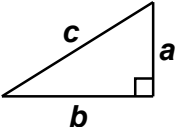
#### Area ( A ) and Circumference ( C )

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		$A = \pi r^2$ $C = 2\pi r$ or $C = \pi d$

#### 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		$V = \pi r^2 h$ $SA = 2\pi r^2 + 2\pi rh$
Right Circular Cone		$V = \frac{1}{3}\pi r^2 h$ $SA = \pi r^2 + \pi r\ell$
Sphere		$V = \frac{4}{3}\pi r^3$ $SA = 4\pi r^2$

#### Formulas for Right Triangles

Shape	Formula
	Pythagorean Theorem $a^2 + b^2 = c^2$

## Formulas

### Equations of a Line

Standard Form:

$$Ax + By = C$$

where A and B are not both zero

Slope-Intercept Form:

$$y = mx + b$$

where  $m$  = slope and  $b$  = y-intercept

### Coordinate Geometry Formulas

Let  $(x_1, y_1)$  and  $(x_2, y_2)$  be two coordinate pairs

$$\text{slope} = \frac{y_2 - y_1}{x_2 - x_1} \text{ where } x_2 \neq x_1$$

## Conversions

1 mile = 5280 feet

1 mile = 1760 yards

1 mile = 1.609 kilometers

1 pound = 16 ounces

1 pound = 0.454 kilograms

1 cup = 8 fluid ounces

1 pint = 2 cups

1 quart = 2 pints

1 liter = 1000 cubic centimeters

1 kilometer = 0.62 mile

1 meter = 39.37 inches

1 inch = 2.54 centimeters

1 ton = 2000 pounds

1 kilogram = 2.2 pounds

1 gallon = 4 quarts

1 gallon = 3.785 liters

1 liter = 0.264 gallons