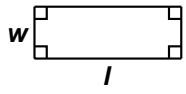
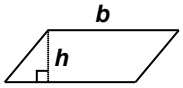
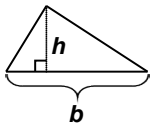
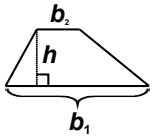
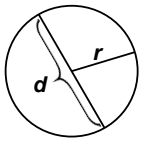
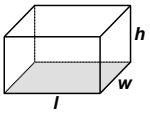
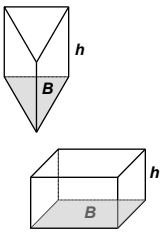
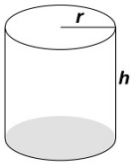
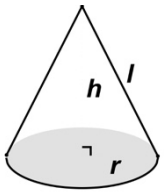
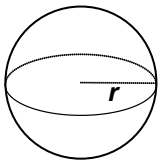
Grade 8 Reference Sheet

Formulas

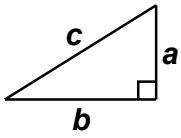
Area (A) and Circumference (C)

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