

Math Reference Sheet

Area

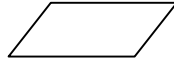
Triangle

$$A = \frac{1}{2}bh$$



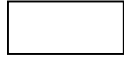
Parallelogram

$$A = bh$$



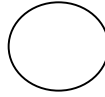
Rectangle

$$A = lh$$



Circle

$$A = \pi r^2$$



$$C = 2\pi r$$

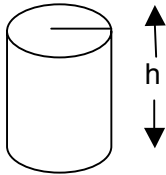
Trapezoid

$$A = \frac{1}{2}h(b_1 + b_2)$$



Surface Area

1. Surface area of a prism or a pyramid = the sum of the areas of all faces of the figure.
2. Surface area of a cylinder = the sum of the bases + its rectangular wrap.



3. Surface area of a sphere: $2\pi r^2 + 2\pi rh$

Conversions

- 1 yard = 3 feet = 36 inches
- 1 mile = 1,760 yards = 5,280 feet
- 1 acre = 43,560 square feet
- 1 hour = 60 minutes
- 1 minute = 60 seconds
- 1 cup = 8 fluid ounces
- 1 pint = 2 cups
- 1 quart = 2 pints
- 1 gallon = 4 quarts
- 1 pound = 16 ounces
- 1 ton = 2,000 pounds
- 1 liter = 1000 cubic centimeters
- 1 meter = 100 centimeters
- 1 meter = 1000 millimeters
- 1 kilometer = 1000 meters
- 1 gram = 1000 milligrams
- 1 kilogram = 1000 grams

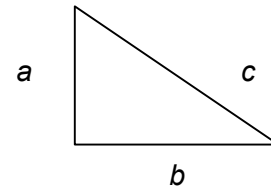
Key

b = base	d = diameter
h = height	r = radius
l = length	B = area of base
w = width	C = circumference
A = area	SA = surface area
V = volume	$\pi = 3.14$

Volume

1. Volume of a prism
 $V = lwh$
2. Volume of a cylinder
 $V = \pi r^2h$
3. Volume of a pyramid
 $V = \frac{1}{3}Bh$
4. Volume of a cone
 $V = \frac{1}{3}\pi r^2h$
5. Volume of a sphere
 $V = \frac{4}{3}\pi r^3$

Pythagorean Theorem: $a^2 + b^2 = c^2$



Simple Interest Formula: $I = prt$

I = simple interest, p = principal

R = rate, t = time

Distance Formula: $D = rt$

D = Distance R = rate, t = time

Given a line containing points:

(x_1, y_1) and (x_2, y_2)

Slope of a line: $\frac{y_2 - y_1}{x_2 - x_1}$

Distance between two points:

$$\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

Midpoint between two points:

$$\left(\frac{x_2 + x_1}{2}, \frac{y_2 + y_1}{2} \right)$$