Formulas & Definitions

Definitions

$=$	is equal to	$\perp$	is perpendicular to
$\neq$	is not equal to	$\parallel$	is parallel to
$\approx$	is approximately equal to	$\sim$	is similar to
$>$	is greater than	$\cong$	is congruent to
$<$	is less than	$\ncong$	is not congruent to
$\geq$	is greater than or equal to	$\pm$	plus or minus
$\leq$	Is less than or equal to	$\overline{AB}$	line segment points A and B
π	≈3.14	$\overleftrightarrow{AB}$	line containing points A and B
$\angle$	angle	$m(\overline{AB})$	length of $\overline{AB}$
$m\angle$	measure of angle	AB	length of $\overline{AB}$
$\llcorner$	right angle	$\lvert\overline{AB}\rvert$	length of $\overline{AB}$
$\triangle$	triangle	$\frac{a}{b}$ or $a:b$	ratio of a to b

Abbreviations for Units of Measurements

		U.S.		Metric
Distance	in.	inch	m	meter
	ft	foot	km	kilometer
	mi.	mile	cm	centimeter
			mm	millimeter
Volume	gal.	gallon	L	liter
	qt.	quart	mL	milliliter
	oz.	ounce	cc	cubic centimeter
Mass/Weight	lb.	pound	g	gram
	oz.	ounce	kg	kilogram
			mg	milligram
Temperature	℉	degree Fahrenheit	℃	degree Celsius

Time	sec.	second
	min.	minute
	hr.	hour
Speed	mph	miles per hour

Conversions for Units of Measurement

	U.S. Standard		Metric
Length	12 inches = 1 foot 3 feet = 1 yard 5280 feet = 1 mile	**Length**	10 millimeters = 1 centimeter 100 centimeters = 1 meter 1000 meters = 1 kilometer
Volume (Liquid)	8 ounces = 1 cup 2 cups = 1 pint 2 pints = 1 quart 4 quarts = 1 gallon	**Volume**	100 milliliters = 1 liter 1000 liters = 1 kiloliter
Weight	16 ounces = 1 pound 2000 pounds = 1 ton	**Weights**	1000 milligrams = 1 gram 100 grams = 1 kilogram
Time	60 seconds = 1 minute 60 minutes = 1 hour 24 hours = 1 day		

Formulas

Quadratic formula: If $ax^2 + bx + c = 0, and\ a \neq 0,\ x = \frac{-b \pm \sqrt{b^2-4ac}}{2a}$

Line

Slope = m = $\frac{y_2 - y_1}{x_2 - x_1}$

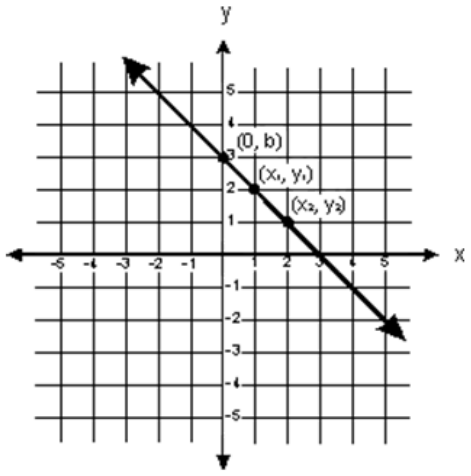
Slope-intercept form for the equation of a line
$y = mx + b$

Point-slope form for the equation of a line
$y_2 - y_1 = m(x_2 - x_1)$

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

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

Distance $d = rt$

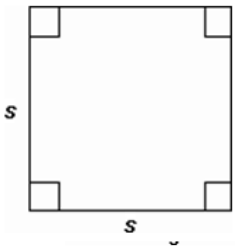


Geometric Figures

Square

Area = s^2

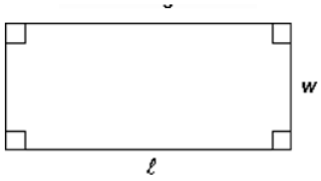
Perimeter = $4s$



Rectangle

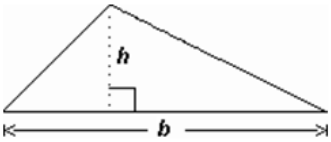
Area = lw

Perimeter = $2l + 2w$



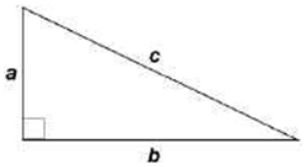
Triangle

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



Right Triangle

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

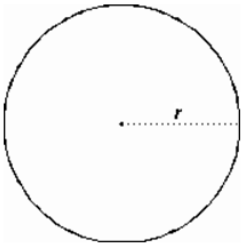


Circle

Area = πr^2

Circumference= $2\pi r$

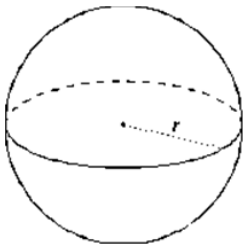
Diameter = $2r$



Sphere

Surface Area = $4\pi r^2$

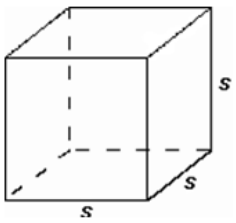
Volume = $\frac{4}{3}\pi r^3$



Cube

Surface Area = $6s^2$

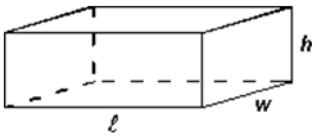
Volume = s^3



Rectangular solid

Surface Area = $2lw + 2lh + 2wh$

Volume = lwh



Right circular cylinder

Surface area = $2\pi rh + 2\pi r^2$

Volume = $\pi r^2 h$