
FORMULA CHART

Perimeter	square	$P = 4s$
	rectangle	$P = 2(l + w)$
Circumference	circle	$C = 2\pi r$
Area	square	$A = s^2$
	rectangle	$A = lw$ or $A = bh$
	triangle	$A = \frac{bh}{2}$
	trapezoid	$A = \frac{1}{2}(b_1 + b_2)h$
	parallelogram	$A = bh$
	circle	$A = \pi r^2$
Surface Area	cube	$S = 6s^2$
Volume	rectangular prism	$V = lwh$
	cube	$V = s^3$
	cylinder	$V = \pi r^2 h$
Pythagorean Theorem	right triangle	$a^2 + b^2 = c^2$
		(3,4,5)
		(6,8,10)
		(5,12,13)
Distance Formula		$D = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$ $d = rt$
Midpoint Formula		$M = \left(\frac{x_1+x_2}{2}, \frac{y_1+y_2}{2}\right)$
Slope of a Line		$m = \frac{y_2 - y_1}{x_2 - x_1}$
Slope-Intercept Form of an Equation		$y = mx + b$
Point-Slope Form of an Equation		$y - y_1 = m(x - x_1)$
Parallel Lines have the same slope		
Systems of Equations :		
		Perpendicular Lines have slopes that are opposite reciprocals

Intersecting lines
Parallel lines
The same line

One solution
No solution
Infinitely many solutions

Vertical Asymptote

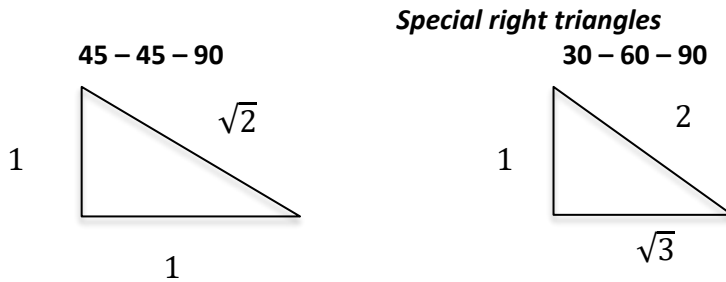
Sets the denominator equal to 0 to find the line $x=a$.

Horizontal Asymptote

Use Coefficients of largest exponent in numerator and denominator to find line $y = b$

Equation of A Circle

$$(x - h)^2 + (y - k)^2 = r^2$$



The sum of any two sides of a triangle must be greater than the third.

Sum of interior angles of a polygon: $\text{Sum} = (n-2) 180$

$\sin A = \frac{\text{opposite}}{\text{Hypotenuse}}$ $\cos A = \frac{\text{adjacent}}{\text{Hypotenuse}}$ $\tan A = \frac{\text{opposite}}{\text{adjacent}}$

Be able to use **Law of Sine and Law of Cosine**

Be able to identify **amplitude** and **period** of a trig function from a graph

Arithmetic Sequence – Add **Geometric Sequence** – Multiply

Simple Probability (3 kinds) 1) Number of Successes 2) Multiply 3) Combination of 1 and 2
Total Number Possible

Percent = rate x base; rate = % changed to a decimal; base = whole amount

Inequalities – Flip inequality sign if dividing by a negative number

Average – Mean - $\frac{\text{Sum of the number of terms in the numerator to match number in denominator}}{\text{Number averaging}}$

Laws of Exponents

Proportions

Matrices

Imaginary Number $i^2 = -1$