

Geometry—"Things to Memorize"

Area of circle	$A = \pi r^2$	"Area equals π times radius squared"
Circumference of a circle	$C = 2\pi r$	"Circumference equals 2 times π times radius"
Area of a square	$A = s^2$	"Area equals side length squared"
Perimeter of a square	$P = 4s$	"Perimeter equals 4 times side length"
Distance between two points	$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$	"Distance equals the square root of the quantity x sub 2 minus x sub 1 quantity squared + quantity y sub 2 minus y sub 1 quantity squared"
Midpoint between two points	$M\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$	"The ordered pair formed by the sum of the two x-coordinates divided by two and the sum of the two y-coordinates divided by two."
Slope between two points	$m = \frac{y_2 - y_1}{x_2 - x_1}$	"The quotient of the difference of y sub 2 and y sub 1 and the difference of x sub 2 and x sub 1."
Sum of the measures of the angles of an n-gon	$(n-2)180$	The quantity number of sides minus two times 180 degrees
Pythagorean Theorem	$a^2 + b^2 = c^2$	In a right triangle, the sum of the squares of the lengths of the legs is equal to the square of the lengths of the hypotenuse.
45-45-90 Triangle Relationship	$x : x : x\sqrt{2}$	In a 45-45-90 right triangle, the length of the two sides are the same and the length of the hypotenuse is the length of the side times $\sqrt{2}$.
30-60-90 Triangle Relationship	$x : x\sqrt{3} : 2x$	In a 30-60-90 right triangle where the shortest leg has length x, the length of the longer leg is $\sqrt{3}$ times the length of the shortest leg and the length of the hypotenuse is twice the length of the shortest leg.

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