

COMMON FORMULAE

Geometry

Key

R = Radius D = Diameter C = Circumference
 L = Length W = Width P = Perimeter A = Area
 S = Side B = Base H = Height

Shape	Linear Distance	Squared Units
Rectangle	$P=2 * L + 2 * W$	$A=L * W$
Square	$P=4 * S$	$A=S * S$
Triangle	$P=S1 + S2 + S3$	$A=(1/2)*(B * H)$
Circle	$C= 2 * Pi * R$; or $C=Pi * D$	$A=Pi * Rsquared$
Parallelogram	$P=2 * B + 2 * S$	$A=B * H$
Trapezoid	$P=B1 + B2 + S1 + S2$	$A=[(B1 + B2)/2] * H$

Object	Cubed Units
Rectangular Prism	$V=L * W * H$
Cube	$V=S * S * S$
Cylinder	$V=(Pi * Rsquared) * H$
Sphere	$V=4/3 * (Pi * Rcubed)$

Cartesian Coordinate System

Key

m= slope b= y-axis intercept x,y = coordinates

Line Equations

Slope intercept form $y=m * x + b$
 Point-slope form $y - y1 = m * (x - x1)$ [passes through (x1,y1)]
 Standard form $ax+by=c$

Slope formula from points (x1,y1) to (x2,y2)

m=rise/run $m=(\text{change in } y)/(\text{change in } x)$ $m=(y1 - y2)/(x1 - x2)$

Midpoint formula between points (x1,y1) and (x2,y2)

Xmidpoint= $(x1 + x2) / 2$
 Ymidpoint= $(y1 + y2) / 2$

Distance between points using Pythagorean theorem

Distance=square-root of $[(x2 - x1)(x2 - x1) + (y2 - y1)(y2 - y1)]$