

Geometry Formula Sheet

Perimeter, area, volume, surface area, triangles and coordinate geometry on one page.

Perimeter and Area		
Square	$P = 4s$	$A = s^2$
Rectangle	$P = 2\ell + 2w$	$A = \ell w$
Triangle	$P = a + b + c$	$A = \frac{1}{2}bh$
Parallelogram	$P = 2a + 2b$	$A = bh$
Trapezoid	$P = \text{sum of the four sides}$	$A = \frac{1}{2}(b_1 + b_2)h$
Circle	$C = 2\pi r = \pi d$	$A = \pi r^2$

Volume and Surface Area		
Cube	$V = s^3$	$SA = 6s^2$
Rectangular prism	$V = \ell wh$	$SA = 2\ell w + 2\ell h + 2wh$
Any prism	$V = Bh$	$SA = 2B + Ph$
Cylinder	$V = \pi r^2 h$	$SA = 2\pi r^2 + 2\pi rh$
Regular pyramid	$V = \frac{1}{3}Bh$	$SA = B + \frac{1}{2}P\ell$
Cone	$V = \frac{1}{3}\pi r^2 h$	$SA = \pi r^2 + \pi r\ell$
Sphere	$V = \frac{4}{3}\pi r^3$	$SA = 4\pi r^2$

Triangles, Angles and the Coordinate Plane		
Pythagorean theorem	$a^2 + b^2 = c^2$	
Angles of a triangle	$A + B + C = 180^\circ$	
Interior angles, n -sided polygon	$\text{sum} = (n - 2) \cdot 180^\circ$	
Special right triangles	45-45-90: $x, x, x\sqrt{2}$ 30-60-90: $x, x\sqrt{3}, 2x$	
Distance	$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$	
Midpoint	$M = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$	
Slope	$m = \frac{y_2 - y_1}{x_2 - x_1}$	

B = area of the base · P = perimeter of the base · ℓ = slant height · h = height · $\pi \approx 3.14$