




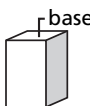

# Gateway Mathematics Reference Page

Perimeter ( $P$ ) and Circumference ( $C$ )	
Any Polygon:	$P = \text{sum of side lengths}$
Rectangle:	$P = 2\ell + 2w$
Circle:	$C = 2\pi r$ or $\pi d$ $\pi \approx 3.14$ or $\frac{22}{7}$

Abbreviations		
$A = \text{area}$	$d = \text{diameter}$	$r = \text{radius}$
$B = \text{area of base}$	$h = \text{height}$	$s = \text{length of side}$
$b = \text{base}$	$\ell = \text{length}$	$V = \text{volume}$
$C = \text{circumference}$	$P = \text{perimeter}$	$w = \text{width}$

Plane Figures	Area ( $A$ )
Triangle 	$A = \frac{1}{2}bh$
Rectangle 	$A = \ell w$
Circle 	$A = \pi r^2$ $\pi \approx 3.14$ or $\frac{22}{7}$

Quadratics
For $ax^2 + bx + c = 0$ :
$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
Discriminant = $b^2 - 4ac$

Solid Figures	Volume ( $V$ )
Prism 	$V = Bh$ or $V = \ell wh$
Cube 	$V = s^3$

$n$	$\sqrt{n}$	$n^2$
1	1.000	1
2	1.414	4
3	1.732	9
4	2.000	16
5	2.236	25
6	2.449	36
7	2.646	49
8	2.828	64
9	3.000	81
10	3.162	100
11	3.317	121
12	3.464	144
13	3.606	169
14	3.742	196
15	3.873	225
16	4.000	256
17	4.123	289
18	4.243	324
19	4.359	361
20	4.472	400
21	4.583	441
22	4.690	484
23	4.796	529
24	4.899	576
25	5.000	625

$d = rt$	distance = rate $\times$ time
Distance Formula:	$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$ $d = \text{distance between two points}$
Slope Formula:	$m = \frac{y_2 - y_1}{x_2 - x_1}$
Slope-Intercept Equation:	$y = mx + b$
Point-Slope Equation:	$y - y_1 = m(x - x_1)$
Pythagorean Theorem:	$a^2 + b^2 = c^2$ 