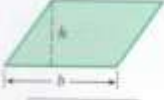
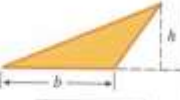
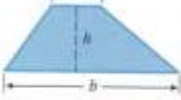

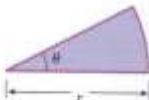






## GEOMETRY FORMULAS

$A$  = area,  $S$  = lateral surface area,  $V$  = volume,  $h$  = height,  $B$  = area of base,  $r$  = radius,  $l$  = slant height,  $C$  = circumference,  $s$  = arc length

Parallelogram	Triangle	Trapezoid	Circle	Sector
 $A = bh$	 $A = \frac{1}{2}bh$	 $A = \frac{1}{2}(a+b)h$	 $A = \pi r^2, C = 2\pi r$	 $A = \frac{1}{2}r^2\theta, s = r\theta$ ( $\theta$ in radians)
Right Circular Cylinder	Right Circular Cone	Any Cylinder or Prism with Parallel Bases		Sphere
 $V = \pi r^2 h, S = 2\pi r h$	 $V = \frac{1}{3}\pi r^2 h, S = \pi r l$	 $V = Bh$		 $V = \frac{4}{3}\pi r^3, S = 4\pi r^2$

## ALGEBRA FORMULAS

THE QUADRATIC FORMULA	THE BINOMIAL FORMULA
The solutions of the quadratic equation $ax^2 + bx + c = 0$ are $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$	$(x + y)^n = x^n + nx^{n-1}y + \frac{n(n-1)}{1 \cdot 2}x^{n-2}y^2 + \frac{n(n-1)(n-2)}{1 \cdot 2 \cdot 3}x^{n-3}y^3 + \dots + nx^{n-1}y + y^n$ $(x - y)^n = x^n - nx^{n-1}y + \frac{n(n-1)}{1 \cdot 2}x^{n-2}y^2 - \frac{n(n-1)(n-2)}{1 \cdot 2 \cdot 3}x^{n-3}y^3 + \dots \pm nx^{n-1}y + y^n$

## TABLE OF INTEGRALS

### BASIC FUNCTIONS

- |   |  |
|---|--|
| <ol style="list-style-type: none"> <li>1. <math>\int u^n du = \frac{u^{n+1}}{n+1} + C</math></li> <li>2. <math>\int \frac{du}{u} = \ln u  + C</math></li> <li>3. <math>\int e^u du = e^u + C</math></li> <li>4. <math>\int \sin u du = -\cos u + C</math></li> <li>5. <math>\int \cos u du = \sin u + C</math></li> <li>6. <math>\int \tan u du = \ln \sec u  + C</math></li> <li>7. <math>\int \sin^{-1} u du = u \sin^{-1} u + \sqrt{1-u^2} + C</math></li> <li>8. <math>\int \cos^{-1} u du = u \cos^{-1} u - \sqrt{1-u^2} + C</math></li> <li>9. <math>\int \tan^{-1} u du = u \tan^{-1} u - \ln 1+u^2  + C</math></li> </ol> | <ol style="list-style-type: none"> <li>10. <math>\int a^u du = \frac{a^u}{\ln a} + C</math></li> <li>11. <math>\int \ln u du = u \ln u - u + C</math></li> <li>12. <math>\int \cot u du = \ln \sin u  + C</math></li> <li>13. <math>\int \sec u du = \ln \sec u + \tan u  + C</math><br/> <math>= \ln \tan(\frac{1}{2}\pi + \frac{1}{2}u)  + C</math></li> <li>14. <math>\int \csc u du = \ln \csc u - \cot u  + C</math><br/> <math>= \ln \tan \frac{1}{2}u  + C</math></li> <li>15. <math>\int \cot^{-1} u du = u \cot^{-1} u + \ln 1+u^2  + C</math></li> <li>16. <math>\int \sec^{-1} u du = u \sec^{-1} u - \ln u + \sqrt{u^2-1}  + C</math></li> <li>17. <math>\int \csc^{-1} u du = u \csc^{-1} u + \ln u + \sqrt{u^2-1}  + C</math></li> </ol> |
|---|--|