

ACT Math Formulas

Below is a list of key formulas you should know for the ACT, but it is not all-inclusive.

Area Formulas:

Rectangle: $A = lw$

Triangle: $A = \frac{1}{2}bh$

Parallelogram: $A = bh$

Trapezoid: $A = \frac{1}{2}h(b_1 + b_2)$

Volume Formulas:

Rectangular Solid: $V = lwh$

Cylinder: $V = \pi r^2 h$

Circle Formulas:

Area: $A = \pi r^2$

Circumference: $C = 2\pi r$

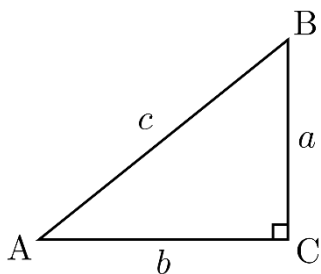
Arc Length: $l = \frac{m}{360} \cdot 2\pi r$

Area of a Sector: $A = \frac{m}{360} \cdot \pi r^2$

Equation of a Circle: $(x - h)^2 + (y - k)^2 = r^2$

Center: (h, k) Radius: r

Pythagorean Theorem: $a^2 + b^2 = c^2$



Quadratic Formula: $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

Midpoint Formula: $\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$

Distance Formula: $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

Slope Formula: $m = \frac{y_2 - y_1}{x_2 - x_1}$

Slope-Intercept Form of a Line: $y = mx + b$

Parallel lines have the same slope.

Perpendicular lines have opposite reciprocal slopes.

Complex Numbers: $i^2 = -1$

Laws of Exponents: $a^m \cdot a^n = a^{m+n}$

Property of Radicals: $\sqrt[n]{a^m} = a^{\frac{m}{n}}$

$$(a^m)^n = a^{m \cdot n}$$

$$\frac{a^m}{a^n} = a^{m-n}$$

Special Right Triangles

