FREE ACT MATH FORMULA SHEET

All the Essential Formulas You Need for Test Day

Master your ACT Math section with this handy formula sheet. Keep it by your side as you practice — boost confidence, save time, and score higher.

Algebra

- Slope formula: $m = (y_2 - y_1) / (x_2 - x_1)$
- Slope-intercept form: $y = mx + b$
- Point-slope form: $y - y_1 = m(x - x_1)$
- Quadratic formula: $x = [-b \pm \sqrt{(b^2 - 4ac)}] / (2a)$
- Distance formula: $d = \sqrt{[(x_2 - x_1)^2 + (y_2 - y_1)^2]}$
- Midpoint formula: $M = ((x_1 + x_2) / 2 , (y_1 + y_2) / 2)$
- Arithmetic sequence: $a_n = a_1 + (n - 1)d$
- Geometric sequence: $a_n = a_1 \times r^{n-1}$

Statistics & Probability

- Mean: (sum of values) / (number of values)
- Probability: P = desired outcomes / total outcomes
- Combination: $C(n, r) = n! / [r!(n - r)!]$
- Permutation: $P(n, r) = n! / (n - r)!$

Miscellaneous

- Distance = rate × time → D = rt
- Direct variation: $y = kx$
- Inverse variation: $y = k / x$
- Slope of perpendicular lines: $m_1 \times m_2 = -1$
- Area of sector: $A = (\theta / 360) \times \pi r^2$
- Arc length: $L = (\theta / 360) \times 2\pi r$

Tip: The ACT doesn't provide a formula sheet, so memorizing key math formulas can save you valuable time and boost your score on test day.

Need help mastering these formulas?

Our Ivy League ACT Tutors are here to help you reach your target score.

Book a free consultation on our site

Geometry

- Area of rectangle: A = lw
- Area of triangle: $A = ½bh$
- Area of trapezoid: $A = ½(b_1 + b_2)h$
- Area of circle: $A = \pi r^2$
- Circumference of circle: $C = 2\pi r$
- Center-radius form: $(x - h)^2 + (y - k)^2 = r^2$
- Volume of rectangular prism: V = lwh
- Volume of cylinder: $V = \pi r^2 h$
- Volume of sphere: $V = 4/3\ \pi r^3$
- Volume of cone: $V = ⅓\ \pi r^2 h$
- Pythagorean theorem: $a^2 + b^2 = c^2$
- Degree measure in a regular polygon: $(180(n - 2)) / n$
- Sum of degree measures in a polygon: $180(n - 2)$
- Special right triangles:
  - 45°-45°-90°: hypotenuse = leg × √2
  - 30°-60°-90°: short leg = x, long leg = x√3, hypotenuse = 2x

Trigonometry

- $\sin \theta$ = opposite / hypotenuse
- $\cos \theta$ = adjacent / hypotenuse
- $\tan \theta$ = opposite / adjacent
- $\csc \theta = 1 / \sin \theta$
- $\sec \theta = 1 / \cos \theta$
- $\cot \theta = 1 / \tan \theta$
- Degrees to radians: radians = degrees × $(\pi / 180)$
- Radians to degrees: degrees = radians × $(180 / \pi)$

Interest

- Simple interest: I = prt
- Compound interest: A = P(1 + r/n)^(nt)

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