ACT Math Formula Sheet

The ACT does NOT provide a formula sheet - memorize these!

Number Properties

PEMDAS: Parentheses, Exponents, Mult/Div, Add/Sub
Absolute value: |a| = distance from 0
Factors: Numbers that divide evenly
Multiples: Results of × by integers

Linear Equations

Slope: m = (y2 - y1) / (x2 - x1)
Slope-intercept: y = mx + b
Point-slope: y - y1 = m(x - x1)
Standard form: Ax + By = C

Ratios & Proportions

Cross multiply: a/b = c/d, then ad = bc
% change: (new - old) / old × 100
% of number: part = %/100 × whole

Exponents & Radicals

Product: $a^m \times a^n = a^{(m+n)}$
Power: $(a^m)^n = a^{mn}$
Zero: $a^0 = 1$ (a `0)
Radical: (ab) = a × b

Quadratics

Standard form: $ax^2 + bx + c = 0$
Quadratic formula: x = (-b ± (b^2 - 4ac)) / 2a
Factoring: Multiply to ac, add to b
Vertex form: $a(x - h)^2 + k$

Trigonometry

sin(A): Opposite / Hypotenuse
cos(A): Adjacent / Hypotenuse
tan(A): Opposite / Adjacent

Radians: 30=π/6, 45=π/4, 60=π/3, 90=π/2

Core Geometry

Circle: $A = \pi r^2$, $C = 2\pi r$
Triangle: A = (1/2)bh
Rectangle: A = lw, P = 2l + 2w
Pythagorean: $a^2 + b^2 = c^2$
Prism: V = lwh
Cylinder: $V = \pi r^2 \times h$

Coordinate Geometry

Distance: d = ($(x2-x1)^2$ + $(y2-y1)^2$)
Midpoint: ((x1+x2)/2, (y1+y2)/2)

Unlike the SAT, the ACT does NOT give you a formula sheet. Knowing these formulas by heart is the single biggest advantage you can have.