

ACT FORMULAS

QUADRILATERALS

area of rectangle: $A = bh$

area of parallelogram: $A = bh$

area of trapezoid: $A = \frac{b_1+b_2}{2}h$

degrees in an n -sided polygon = $180(n - 2)$

TRIANGLES

area of triangle: $A = \frac{1}{2}bh$

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

GRAPHING AND SLOPE

slope-intercept form: $y = mx + b$

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

EXPONENT RULES

$x^a \cdot x^b = x^{a+b}$

$(x^a)^b = x^{ab}$

$x^{-a} = \frac{1}{x^a}$

$x^0 = 1$ (if $x \neq 0$)

IMAGINARY NUMBERS

$i = \sqrt{-1}$

CIRCLES

area of circle: $A = \pi r^2$

circumference: $C = 2\pi r$

equation of circle: $r^2 = (x - h)^2 + (y - k)^2$

volume of a cylinder: $V = \pi r^2 h$

TRIG FUNCTIONS

SOH CAH TOA

INVERSE FUNCTIONS

sin = opp/hyp

csc = hyp/opp

cos = adj/hyp

sec = hyp/adj

tan = opp/adj

cot = adj/opp

slope = $\frac{\text{rise}}{\text{run}}$ or $\frac{y_1-y_2}{x_1-x_2}$

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

LOGARITHM RULES

If $\log_x y = z$ then $x^z = y$

$\log x^2 = 2\log x$

$\log(xy) = \log x + \log y$

$\log(x/y) = \log x - \log y$