College Algebra Formula Sheet

Quadratic equations

Quadratic formula

$$x = \frac{-B \pm \sqrt{B^2 - 4AC}}{2A}$$

Vertex

$$\left(\frac{-b}{2a}, f\left(\frac{-b}{2a} \right) \right)$$

Standard form

$$y = a(x-h)^2 + k$$

Linear Equations

slope-intercept form

$$y = mx + b$$

point-slope form

$$y - y_1 = m(x - x_1)$$

Slope

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

Horizontal

$$y = b$$

Vertical

$$x = a$$

Exponential-logarithm form

$$\log_B A = \frac{\ln A}{\ln B} \qquad B^A = C \iff \log_B C = A$$

Simple interest

$$I = P \cdot r \cdot t$$

$$A = P + P\ r\ t$$

Compound interest

$$A = P\left(1 + \frac{r}{m}\right)^{tm}$$

continuous

$$A = Pe^{rt}$$

Geometry formulae

Circle

$$A = \pi r^2$$

$$C = 2\pi r$$

Rectangle

$$A = l \cdot w$$

$$P = 2l + 2w$$

Triangle

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

$$P = a + b + c$$

Distance

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

Midpoint

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