

Formulas

Compounding Interest

$$V(t) = P(1+r/n)^{nt}$$

Continuous (population)

$$V(t) = Pe^{rt}$$

Half Life

$$A(t) = A_0(1/2)^{t/n}$$

Distance, Midpoint, and Slope

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

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

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

Ellipse Standard Form

$$(x-h)^2/r_x^2 + (y-k)^2/r_y^2$$

Ellipse Focal Point

$$c^2 = |r_x^2 - r_y^2|$$

Hyperbola Standard Form

$$(x-h)^2/r_x^2 - (y-k)^2/r_y^2$$

Hyperbola Focal Point

$$c^2 = |r_x^2 + r_y^2|$$

Hyperbola Slope

$$m = r_y / r_x$$

Circle Standard Form

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

Parabola Standard Form

$$4p(y-k) = (x-h)^2$$

Parabola Vertex Form

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

Law of Cosines