

Theorem: Suppose that we have an ellipse, E_0 ; Rightmost focus = (x_c, y_c) , a = length of semi-major axis, b = length of semi-minor axis; Center = (x_0, y_0) ; Then the equation of E_0 is

$$\boxed{A(x - x_0)^2 + B(y - y_0)^2 + 2(x - x_0)(y - y_0)C + G = 0}, \text{ where}$$

$$A = a^2 - (x_c - x_0)^2$$

$$B = a^2 - (y_c - y_0)^2$$

$$C = -(x_c - x_0)(y_c - y_0)$$

$$G = -a^2b^2$$