

Position of a point with respect to an Ellipse.

Let $P(x_1, y_1)$ be any point and let $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$ is the equation of an ellipse. The point lies outside, on or inside the ellipse as if $S_1 = \frac{x_1^2}{a^2} + \frac{y_1^2}{b^2} - 1 > 0, = 0, < 0$

