

Position of a point with respect to a Hyperbola.

Let the hyperbola be $\frac{x^2}{a^2} - \frac{y^2}{b^2} = 1$.

Then $P(x_1, y_1)$ will lie inside, on or outside the hyperbola $\frac{x^2}{a^2} - \frac{y^2}{b^2} = 1$

according as $\frac{x_1^2}{a^2} - \frac{y_1^2}{b^2} - 1$ is positive, zero or negative.

