

## Fórmulas de cónicas (elipse, hipérbola y parábola)

### Elipse

$$\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1 \quad a^2 = b^2 + c^2$$

Semieje mayor =  $a$

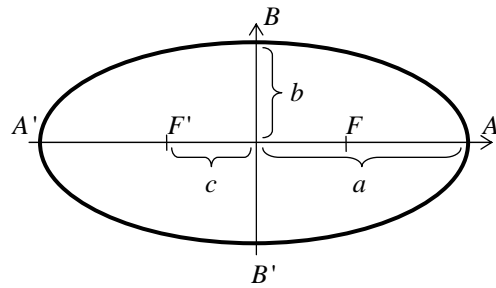
Semieje menor =  $b$

Semidistancia focal =  $c$

Excentricidad  $e = \frac{c}{a}$ ,  $e < 1$

Vértices  $A'(-a, 0)$ ,  $A(a, 0)$ ,  $B'(0, -b)$ ,  $B(0, b)$

Focos  $F'(-c, 0)$ ,  $F(c, 0)$



### Hipérbola

$$\frac{x^2}{a^2} - \frac{y^2}{b^2} = 1 \quad c^2 = a^2 + b^2$$

Semieje =  $a$

Semidistancia focal =  $c$

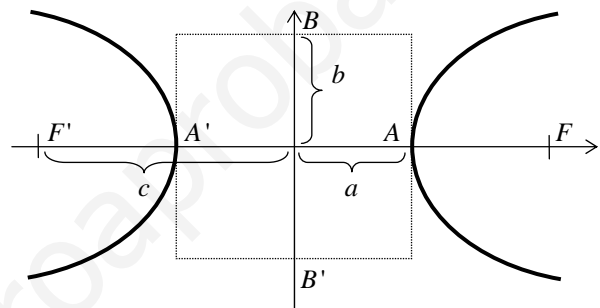
Excentricidad  $e = \frac{c}{a}$ ,  $e > 1$

Vértices reales  $A'(-a, 0)$ ,  $A(a, 0)$

Vértices imaginarios  $B'(0, -b)$ ,  $B(0, b)$

Focos:  $F'(-c, 0)$ ,  $F(c, 0)$

Asíntotas:  $y = \pm \frac{b}{a}x$



### Parábola

$$y^2 = 2px$$

Vértice:  $V(0, 0)$

Directriz  $x = -\frac{p}{2}$

Foco  $F\left(\frac{p}{2}, 0\right)$

