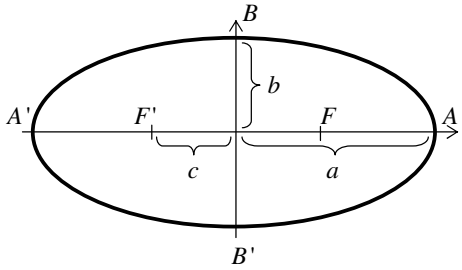
ELLIPSE

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



Semi-major axis = a
Semi-minor axis = b
Semi focal distance = c

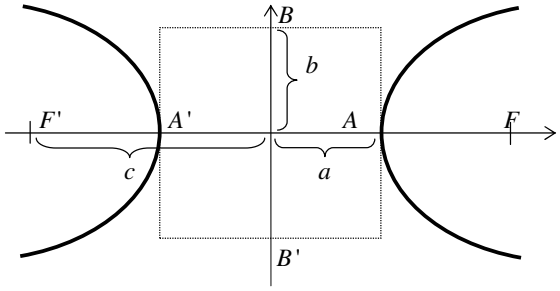
Eccentricity $e=\frac{c}{a},\ e<1$

Vertices $A'(-a, 0),\ A(a, 0),\ B'(0, -b),\ B(0, b)$

Foci $F'(-c, 0),\ F(c, 0)$

HYPERBOLA

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



Semi axis = a
Semi focal distance = c

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

Real vertices $A'(-a, 0),\ A(a, 0)$

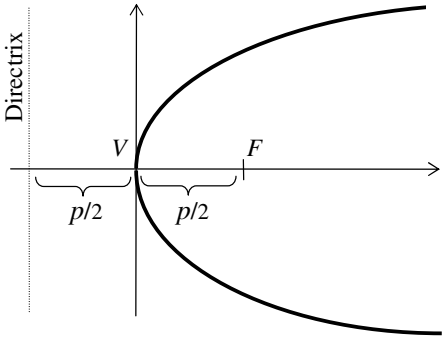
Imaginary vertices $B'(0, -b),\ B(0, b)$

Foci: $F'(-c, 0),\ F(c, 0)$

Asymptotes: $y=\pm\frac{b}{a}x$

PARABOLA

$$y^2=2px$$



Vertex: $V(0, 0)$

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

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

Vertex-focus distance = $p/2$
Vertex-directrix distance = $p/2$
Focus-directrix distance = p