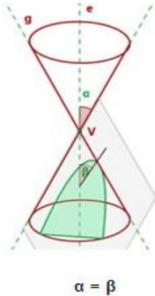
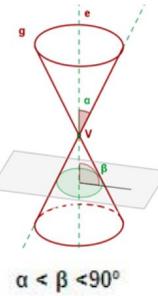


Coniche

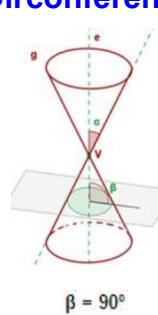
Parabola



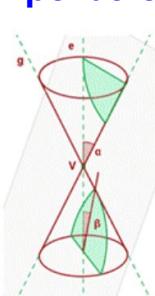
Ellisse



Circonferenza

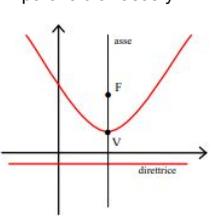


Iperbole



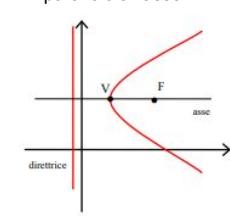
Luogo geometrico dei punti del piano equidistanti da un punto fisso detto fuoco e da una retta detta direttrice

Asse di simmetria parallelo all'asse y



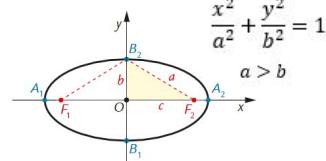
$$y = ax^2 + bx + c$$

Asse di simmetria parallelo all'asse x



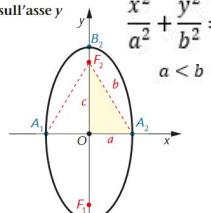
$$x = ay^2 + by + c$$

Ellisse con i fuochi sull'asse x



$$c^2 = a^2 - b^2 \quad e = \frac{c}{a}$$

Ellisse con i fuochi sull'asse y

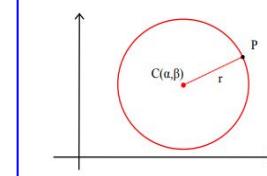


$$c^2 = b^2 - a^2 \quad e = \frac{c}{b}$$

Vertice	$V\left(-\frac{b}{2a}; -\frac{\Delta}{4a}\right)$
Fuoco	$F\left(-\frac{b}{2a}; \frac{1-\Delta}{4a}\right)$
Diretrice	$y = -\frac{1+\Delta}{4a}$
Asse	$x = -\frac{b}{2a}$

Vertice	$V\left(-\frac{\Delta}{4a}; -\frac{b}{2a}\right)$
Fuoco	$F\left(\frac{1-\Delta}{4a}; -\frac{b}{2a}\right)$
Diretrice	$x = -\frac{1+\Delta}{4a}$
Asse	$y = -\frac{b}{2a}$

Luogo geometrico dei punti del piano equidistanti da un punto fisso detto centro



$$\text{Equazione} \quad x^2 + y^2 + ax + by + c = 0$$

$$(x - x_c)^2 + (y - y_c)^2 = r^2$$

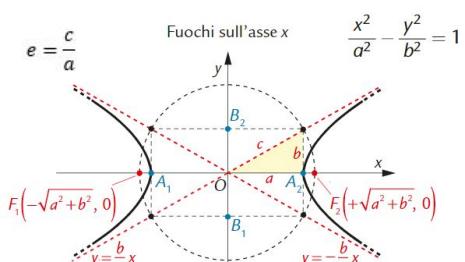
$$\text{Centro} \quad C\left(-\frac{a}{2}; -\frac{b}{2}\right)$$

$$\text{Raggio} \quad r = \sqrt{\left(-\frac{a}{2}\right)^2 + \left(-\frac{b}{2}\right)^2 - c}$$

Funzione omografica

$$y = \frac{ax + b}{cx + d} \quad x = -\frac{d}{c}$$

Luogo geometrico dei punti del piano per i quali è costante la differenza delle distanze da due punti fissi detti fuochi

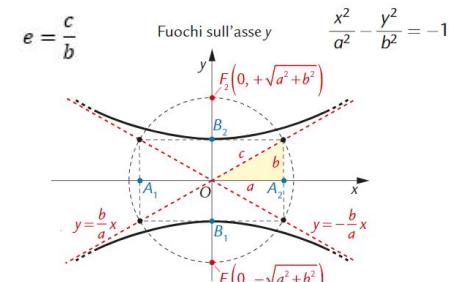


$$\text{Fuochi sull'asse x} \quad \frac{x^2}{a^2} - \frac{y^2}{b^2} = 1$$

$$e = \frac{c}{a}$$

$$F_1\left(-\sqrt{a^2+b^2}, 0\right) \quad F_2\left(+\sqrt{a^2+b^2}, 0\right)$$

$$y = \frac{b}{a}x \quad y = -\frac{b}{a}x$$



$$\text{Fuochi sull'asse y} \quad \frac{x^2}{a^2} - \frac{y^2}{b^2} = -1$$

$$e = \frac{c}{b}$$

$$F_1\left(0, +\sqrt{a^2+b^2}\right) \quad F_2\left(0, -\sqrt{a^2+b^2}\right)$$

$$y = \frac{b}{a}x \quad y = -\frac{b}{a}x$$