Parabola

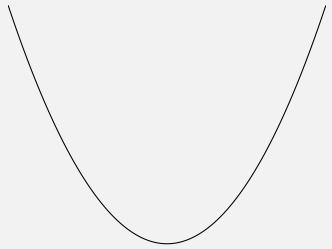
Equazione

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

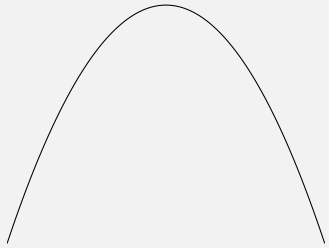
Concavità

$$\begin{cases} a > 0 & \text{Rivolta verso l'alto} \\ a < 0 & \text{Rivolta verso il basso} \end{cases}$$

Concavità verso l'alto



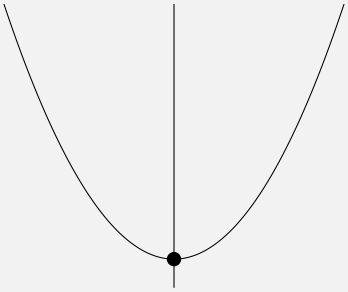
Concavità verso il basso



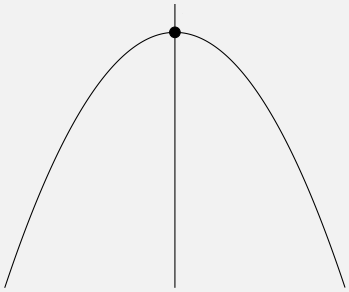
Vertice

$$\begin{cases} x = & -\dfrac{b}{2a} \\ y = & -\dfrac{\Delta}{4a} \\ \Delta = & b^2 - 4ac \end{cases}$$

Vertice a positiva



Vertice a negativa



Intersezione asse x. Delta positivo

$$\begin{cases} x_1 = & \dfrac{-b + \sqrt{b^2 - 4ac}}{2a} \\ x_2 = & \dfrac{-b - \sqrt{b^2 - 4ac}}{2a} \end{cases}$$

$A(x_1, 0)$

$B(x_2, 0)$

Intersezione asse x. Delta zero

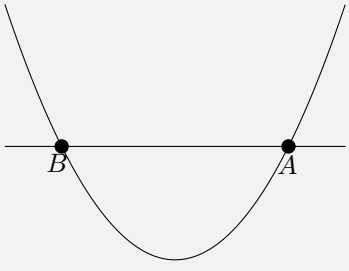
$$\begin{cases} x_1 = & \dfrac{-b}{2a} \\ x_2 = & \dfrac{-b}{2a} \end{cases}$$

$A(x_1, 0)$

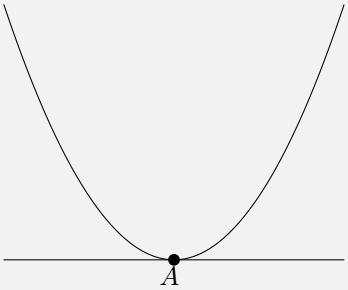
Intersezione asse x. Delta negativo

Nessuna soluzione

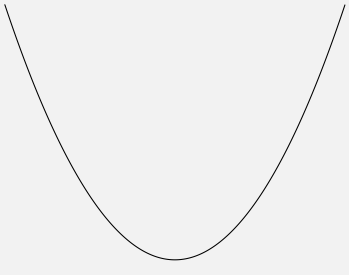
Soluzioni distinte



Soluzioni coincidenti



Nessuna Soluzione

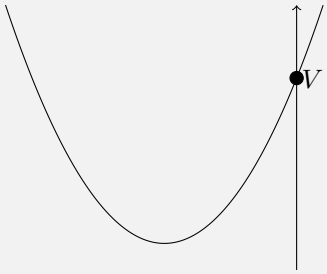


Intersezione asse y

$$\begin{cases} y = & ax^2 + bx + c \\ x = & 0 \end{cases}$$

$C(0, c)$

Intersezione asse y



Disegnare una parabola