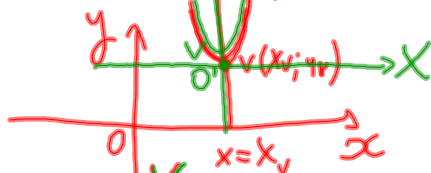


Dato $V(x_v, y_v)$ e parabola con
asse di simmetria \bar{y} come



$$\begin{cases} x = x_v + \bar{X} \\ y = y_v + \bar{Y} \end{cases}$$

$$\bar{Y} = a\bar{X}^2$$

$$\begin{cases} \bar{X} = x - x_v \\ \bar{Y} = y - y_v \end{cases}$$

$$y - y_v = a(x - x_v)^2$$

$$y - y_v = a(x^2 - 2xx_v + x_v^2)$$

$$y = ax^2 - 2axx_v + ax_v^2 + y_v$$

$$y = ax^2 - \underbrace{2ax_v}_{b}x + \underbrace{ax_v^2 + y_v}_{c}$$

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

$$b = -2ax_v \rightarrow x_v = \frac{-b}{2a}$$

$$c = ax_v^2 - y_v = a \left(\frac{-b}{2a} \right)^2 - y_v$$

$$c = a \cdot \frac{b^2}{4a^2} - y_v$$

$$-y_v = a \frac{b^2}{4a^2} - c = \frac{b^2 - 4ac}{4a}$$

$$y_v = -\frac{b^2 - 4ac}{4a}$$

$$V(x_v, y_v) = \left(\frac{-b}{2a}, -\frac{\Delta}{4a} \right)$$

Es m 1 py 291

$$y = x^2 - 6x + 5$$

$$V = ? \quad F = ?$$

$$\text{dir } y = k?$$

Trave n con axis
e axis

$$a = 1$$

V

$$b = -6$$

$$c = 5$$

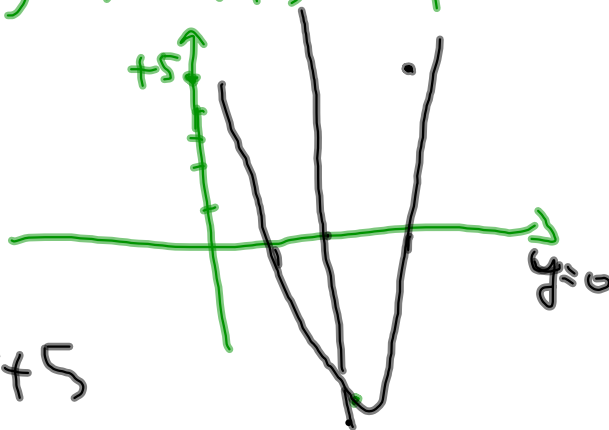
$$V = \left(-\frac{b}{2a}, -\frac{b^2 - 4ac}{4a} \right) = \left(-\frac{-6}{2}, -4 \right) = (3, -4)$$

$$x_v = 3$$

$$y(3) = 9 - 6 \cdot 3 + 5 = -4$$

nam y
(0; 5)

nam x



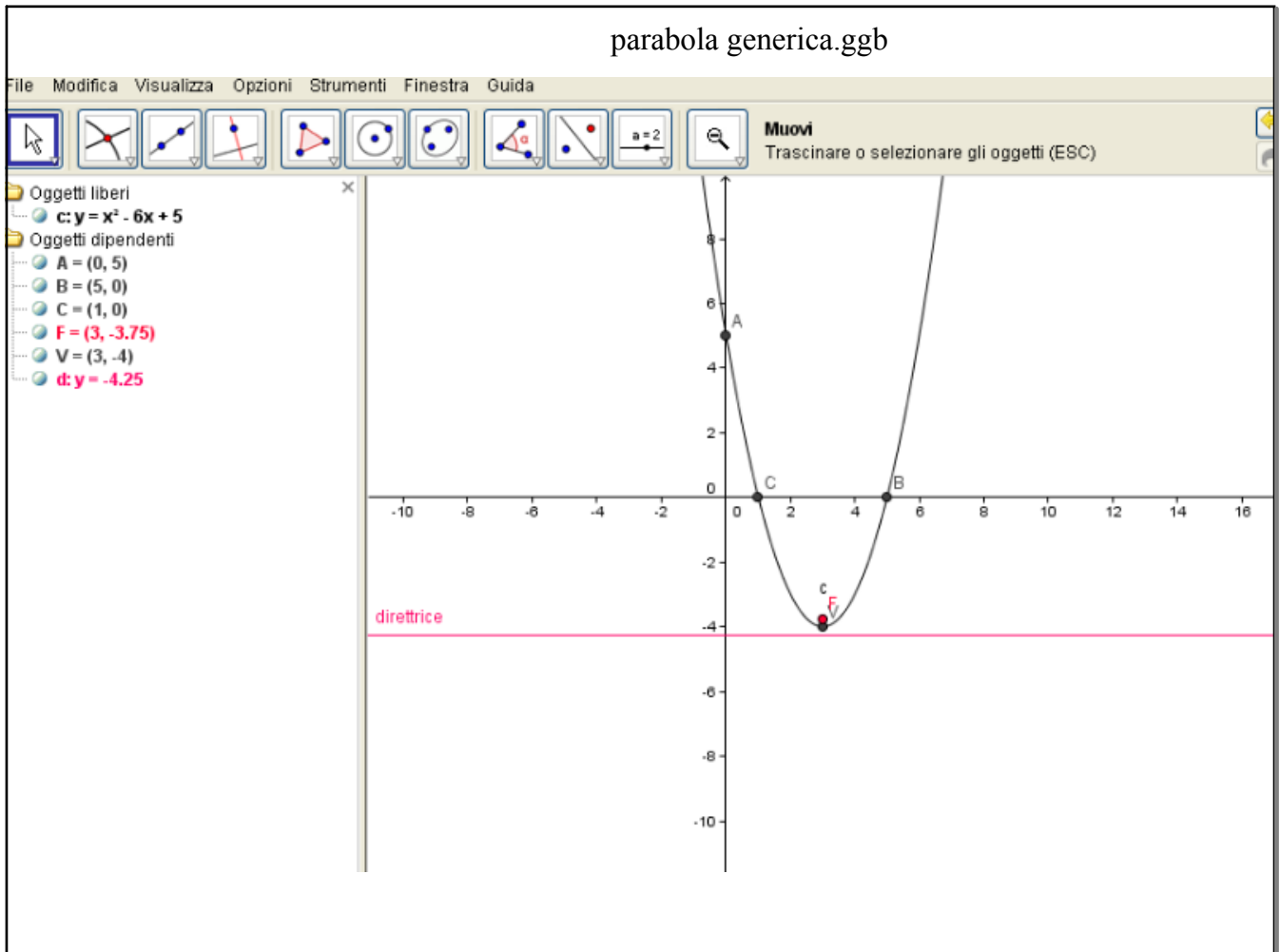
$$\begin{cases} y = x^2 - 6x + 5 \\ y = 0 \end{cases}$$

$$\begin{cases} x^2 - 6x + 5 = 0 \end{cases}$$

$$\begin{cases} (x - 5)(x - 1) = 0 \end{cases}$$

$$\begin{cases} y = 0 \\ x = 5 \end{cases}$$

$$\begin{cases} y = 0 \\ x = 1 \end{cases}$$



parabola generica.ggb