

$$f(x) = x^4 + x^2 + 1$$

$$f(-x) = (-x)^4 + (-x)^2 + 1 =$$

$$= x^4 + x^2 + 1 = f(x) \quad \text{par.}$$

$$f(x) = x^2 + 1 \quad g(x) = \frac{1}{x^2}$$

$$(g \circ f)(x) = g[f(x)] =$$

$$= \frac{1}{(x^2 + 1)^2}$$

$$(f \circ g)(x) = f[g(x)] = f\left(\frac{1}{x^2}\right) =$$

$$= \left(\frac{1}{x^2}\right)^2 + 1$$

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

Initiative:

$$x_1^2 - 6x_1 = x_2^2 - 6x_2$$

$$x_1^2 - x_2^2 = 6(x_1 - x_2)$$

$$(x_1 - x_2)(x_1 + x_2) = 6(x_1 - x_2)$$

no

Summe & Ne

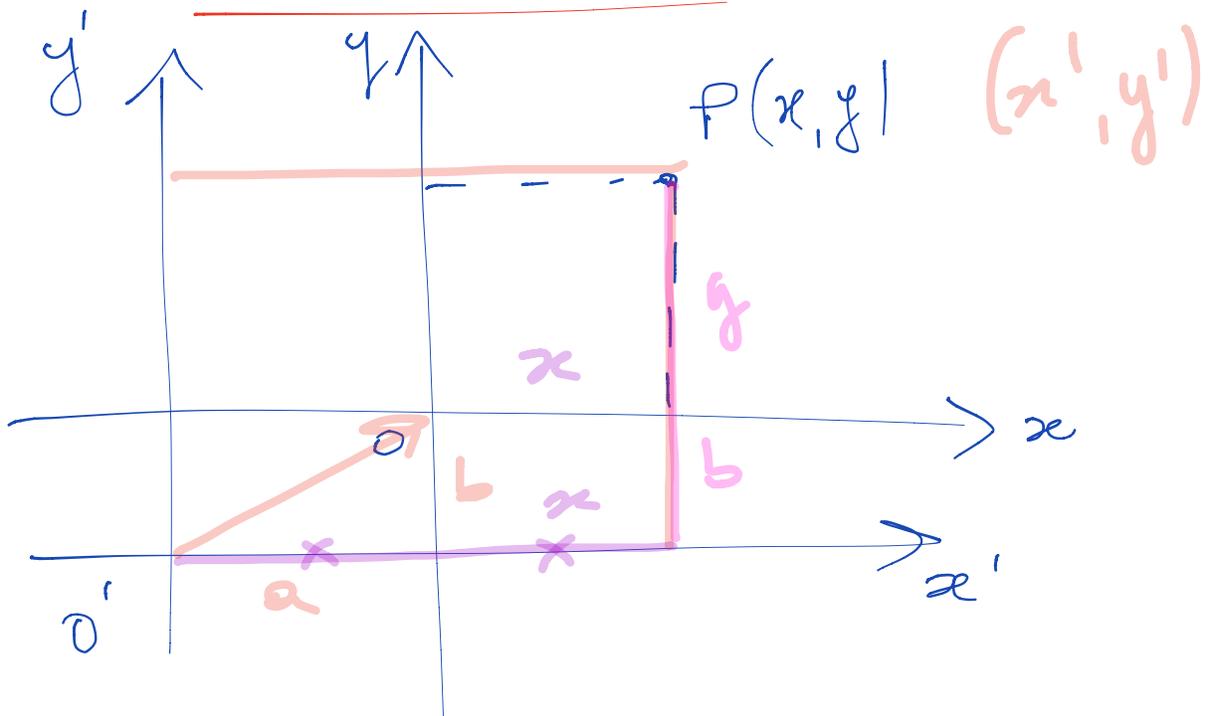
$$x^2 - 6x - y = 0$$

$$\frac{\Delta}{4} = 9 + y$$

$$x_{1,2} = 3 \pm \sqrt{9 + y}$$

$$y \geq -9$$

# Traslatione



$$\begin{cases} x' = x + a \\ y' = y + b \end{cases}$$

$$y = x^2 + 1 \quad \vec{v} (1, 2)$$

$$\begin{cases} x' = x + 1 \\ y' = y + 2 \end{cases} \quad \begin{cases} x = x' - 1 \\ y = y' - 2 \end{cases}$$

$$y' - 2 = (x' - 1)^2 + 1$$

$$y - 2 = x^2 - 2x + 1 + 1$$

$$y = x^2 - 2x + 4$$

$$M(a, b) \quad f(x, y) \quad f'(x', y')$$

$$\frac{x + x'}{2} = a \Rightarrow x' = 2a - x$$

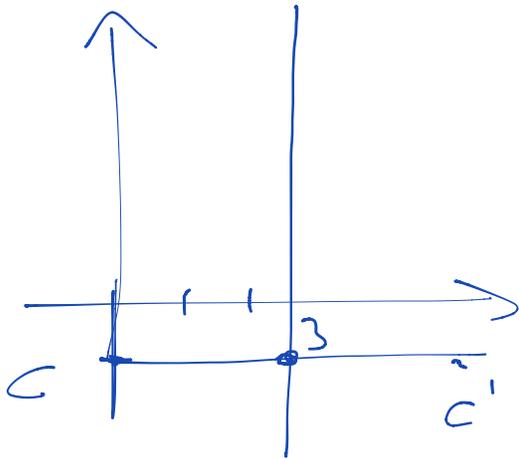
$$\frac{y + y'}{2} = b \Rightarrow y' = 2b - y$$

1.368

$A(-1, 3)$      $B(2, 6)$      $C(0, -1)$

asse  $x$  mm.

$x = 3$



$y' = y$

$\frac{x + x'}{2} = 3$

$\begin{cases} x' = 6 - x \\ y' = y \end{cases}$

$y = -\frac{2}{x}$

asse  $y = 3$

$\begin{cases} x' = x \\ y' = 6 - y \end{cases}$

$\begin{cases} x = x' \\ y = 6 - y' \end{cases}$

$6 - y' = -\frac{2}{x'}$   
 $y = 6 + \frac{2}{x}$

$$P(2, -6)$$

$$P'(4, -2)$$

$$\begin{cases} x' = kx \\ y' = hy \end{cases} \Rightarrow \begin{cases} k = \frac{x'}{x} = \frac{4}{2} = 2 \\ h = \frac{y'}{y} = \frac{-2}{-6} = \frac{1}{3} \end{cases}$$

$$y = x^2 - 1$$

$$\begin{cases} x' = 2x \\ y' = \frac{1}{3}y \end{cases} \begin{cases} x = x'/2 \\ y = 3y' \end{cases}$$

$$3y' = \left(\frac{x'}{2}\right)^2 - 1 \Rightarrow 3y = \frac{x^2}{4} - 1$$

$$y = \frac{x^2}{12} - \frac{1}{3}$$

$$y = f(x)$$

$$\begin{cases} x' = kx \\ y' = hy \end{cases}$$

$$\frac{y}{h} = f\left(\frac{x}{k}\right)$$

$$y = h f\left(\frac{x}{k}\right)$$