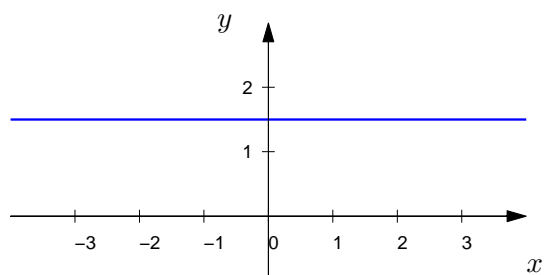
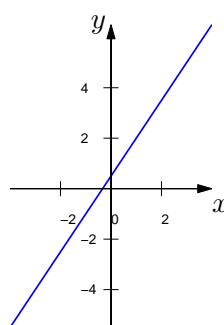
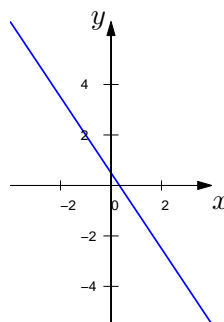
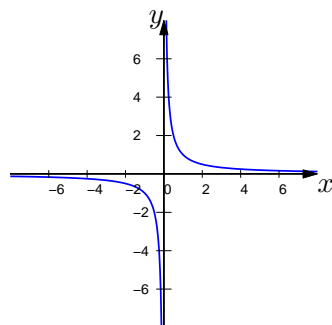


Grafici delle funzioni elementari $f : \mathbb{R} \rightarrow \mathbb{R}$ più comuni.

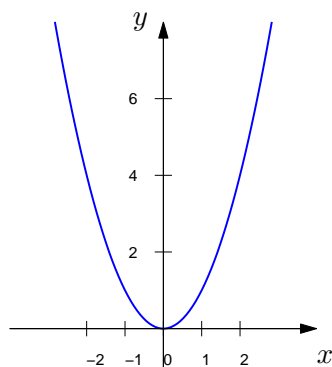
Funzione costante

 $y = f(x) = c$, con c parametro reale assegnato $dom(f) = \mathbb{R}$, $im(f) = \{c\}$.Retta obliqua $y = f(x) = ax + b$, con $a > 0$
e b parametri reali assegnati $dom(f) = \mathbb{R}$, $im(f) = \mathbb{R}$.Retta obliqua $y = f(x) = ax + b$, con $a < 0$
e b parametri reali assegnati $dom(f) = \mathbb{R}$, $im(f) = \mathbb{R}$. $y = f(x) = \frac{1}{x}$ $dom(f) = \mathbb{R} \setminus \{0\}$, $im(f) = \mathbb{R} \setminus \{0\}$ 

Funzione quadratica (parabola con vertice nell'origine)

$$y = f(x) = x^2$$

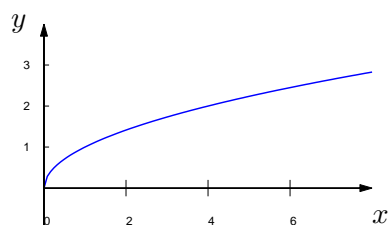
$$\text{dom}(f) = \mathbb{R}, \text{im}(f) = [0, +\infty).$$



Radice quadrata

$$y = f(x) = \sqrt{x}$$

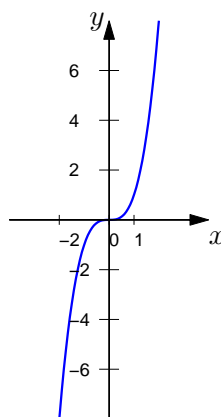
$$\text{dom}(f) = [0, +\infty), \text{im}(f) = [0, +\infty).$$



Funzione cubica

$$y = f(x) = x^3$$

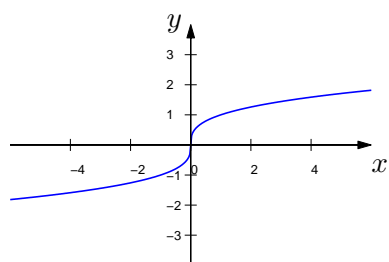
$$\text{dom}(f) = \mathbb{R}, \text{im}(f) = \mathbb{R}.$$



Radice cubica

$$y = f(x) = \sqrt[3]{x} = x^{1/3}$$

$$\text{dom}(f) = \mathbb{R}, \text{im}(f) = \mathbb{R}.$$

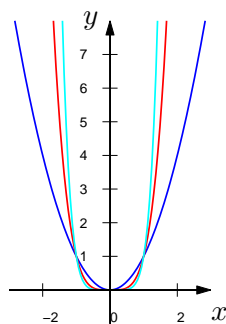


Potenza con esponente intero pari

$$y = f(x) = x^n, \text{ con } n \text{ pari}$$

$$\text{dom}(f) = \mathbb{R}, \text{ im}(f) = [0, +\infty).$$

Legenda: — x^2 , — x^4 , — x^6 ,

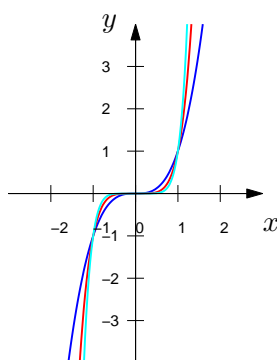


Potenza con esponente intero dispari

$$y = f(x) = x^n, \text{ con } n \text{ dispari}$$

$$\text{dom}(f) = \mathbb{R}, \text{ im}(f) = \mathbb{R}$$

Legenda: — x^3 , — x^5 , — x^7 .

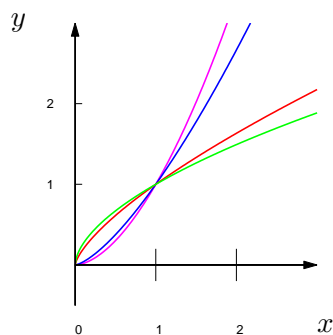


Potenza con esponente reale positivo

$$y = f(x) = x^\alpha, \text{ con } \alpha > 0$$

$$\text{dom}(f) = [0, +\infty), \text{ im}(f) = [0, +\infty).$$

Legenda: — $x^{\sqrt{3}}$, — $x^{\sqrt{2}}$, — $x^{1/\sqrt{2}}$,
— $x^{1/\sqrt{3}}$.

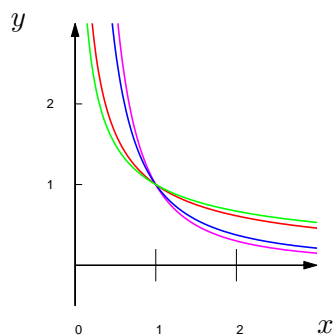


Potenza con esponente reale negativo

$$y = f(x) = x^\alpha, \text{ con } \alpha < 0$$

$$\text{dom}(f) = (0, +\infty), \text{ im}(f) = (0, +\infty).$$

Legenda: — $x^{-\sqrt{3}}$, — $x^{-\sqrt{2}}$, — $x^{-1/\sqrt{2}}$,
— $x^{-1/\sqrt{3}}$.

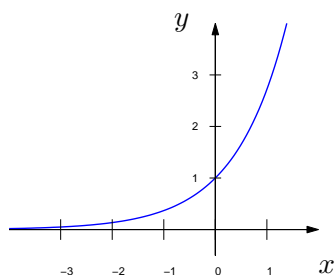


Funzione esponenziale con base

$e = 2.7181\dots$

$$y = f(x) = e^x = \exp(x)$$

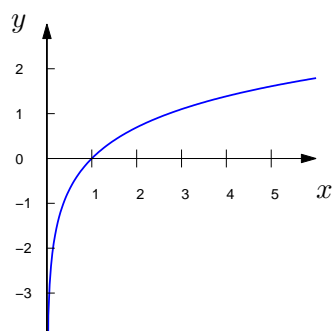
$$\text{dom}(f) = \mathbb{R}, \text{im}(f) = (0, +\infty)$$



Funzione logaritmo con base $e = 2.7181\dots$

$$y = f(x) = \log_e x = \log x$$

$$\text{dom}(f) = (0, +\infty), \text{im}(f) = \mathbb{R}$$

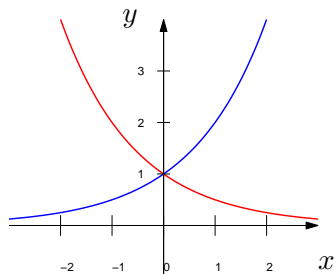


Funzione esponenziale con base $a > 0$

$$y = f(x) = a^x$$

$$\text{dom}(f) = \mathbb{R}, \text{im}(f) = (0, +\infty)$$

Legenda: — $a = 2 > 1$, — $a = 1/2 < 1$.

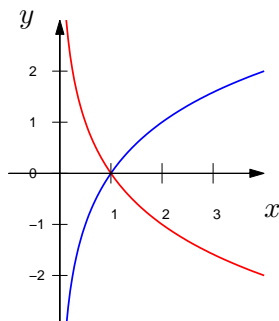


Funzione logaritmo con base $a > 0, a \neq 1$

$$y = f(x) = \log_a x$$

$$\text{dom}(f) = (0, +\infty), \text{im}(f) = \mathbb{R}$$

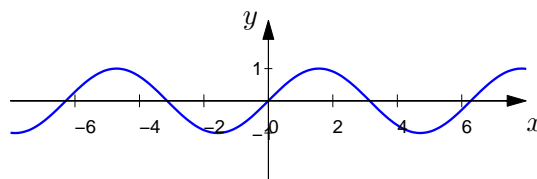
Legenda: — $a = 2 > 1$, — $a = 1/2 < 1$.



Funzione seno

$$f(x) = \sin(x) = \sin x$$

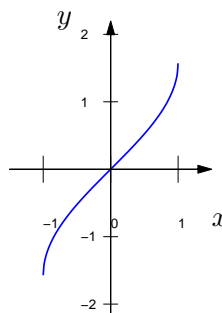
$$\text{dom}(f) = \mathbb{R}, \text{im}(f) = [-1, 1]$$



Funzione arcseno

$$f(x) = \arcsin(x)$$

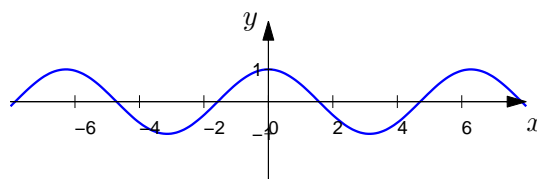
$$\text{dom}(f) = [-1, 1], \text{im}(f) = \left[-\frac{\pi}{2}, \frac{\pi}{2}\right]$$



Funzione coseno

$$f(x) = \cos(x) = \cos x$$

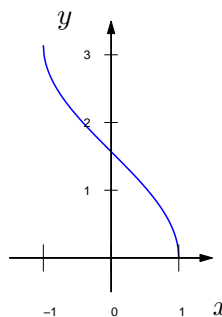
$$\text{dom}(f) = \mathbb{R}, \text{im}(f) = [-1, 1]$$



Funzione arccoseno

$$f(x) = \arccos(x)$$

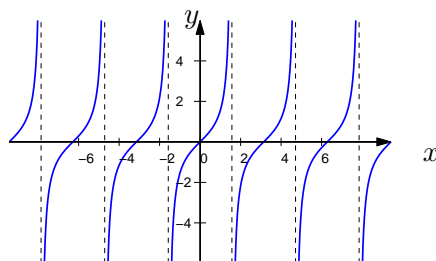
$$\text{dom}(f) = [-1, 1], \text{im}(f) = [0, \pi]$$



Funzione tangente

$$f(x) = \tan(x) = \tan x$$

$$\text{dom}(f) = \mathbb{R} \setminus \left\{ \frac{\pi}{2} + k\pi, k \in \mathbb{Z} \right\}, \text{im}(f) = \mathbb{R}$$



Funzione arctangente

$$f(x) = \arctan(x)$$

$$\text{dom}(f) = \mathbb{R}, \text{im}(f) = \left(-\frac{\pi}{2}, \frac{\pi}{2} \right)$$

