

Laipsninės funkcijos

Tiesinė funkcija

$$y = ax + b \text{ arba } y = kx + b$$

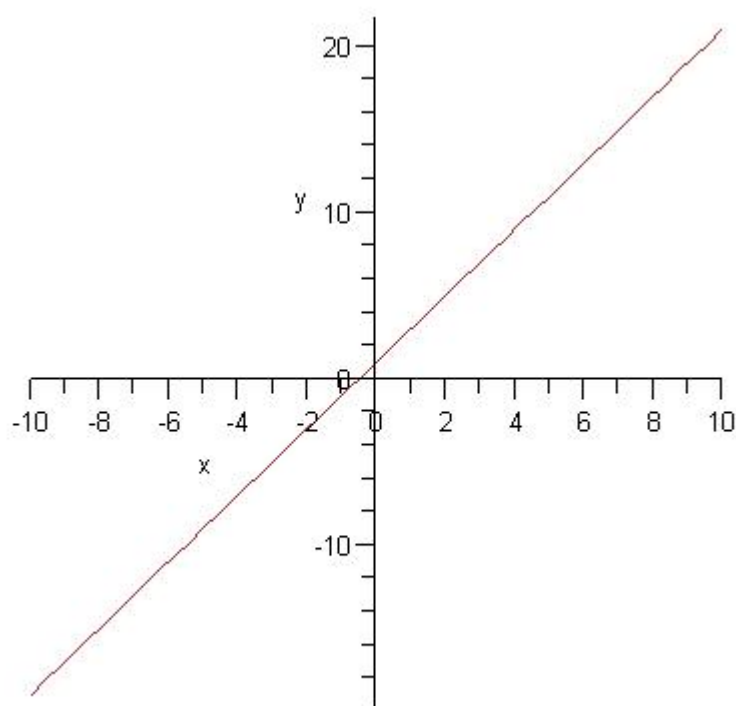
Šios funkcijos grafikas - **tiesė**.

$$D(y) = (-\infty; +\infty)$$

$$E(y) = (-\infty; +\infty)$$

Pavyzdys ($k \neq 0$)

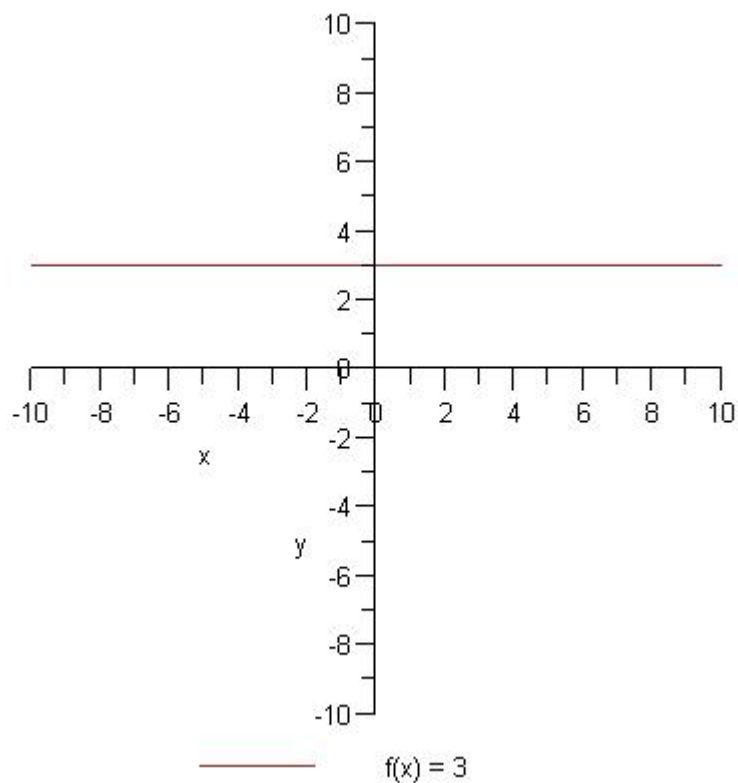
$$f(x) = 2x + 1$$



— $f(x) = 2x + 1$

Pavyzdys ($k = 0$)

$$f(x) = 3$$



Kvadratinė funkcija

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

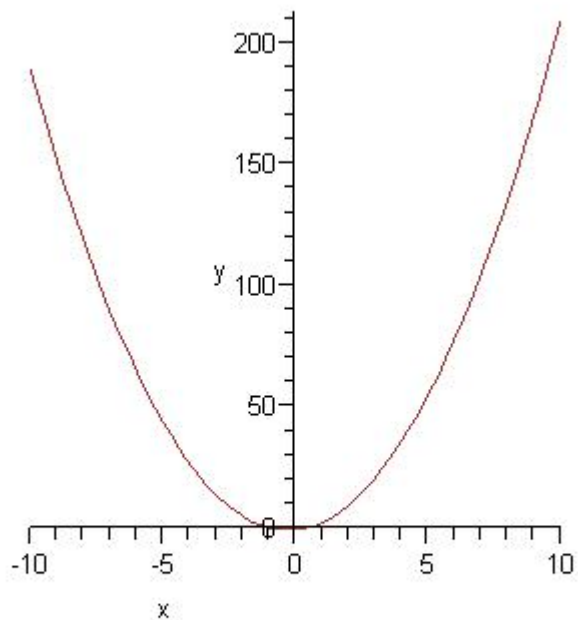
$$D(y) = (-\infty; +\infty)$$

- Jei $a > 0$, tai $D(y) = [x_{\text{viršūnės}}; +\infty)$
- Jei $a < 0$, tai $D(y) = (-\infty; x_{\text{viršūnės}}]$
- $x_{\text{viršūnės}} = \frac{-b}{2a}$

Šios funkcijos grafikas - **parabolė**.

Pavyzdys ($a > 0$)

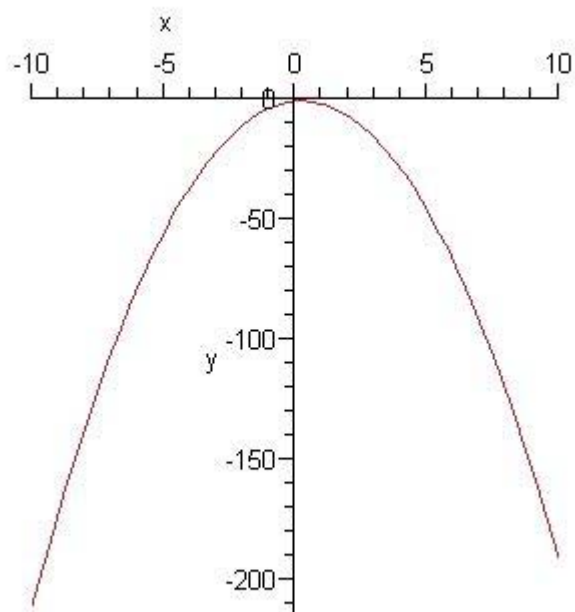
$$f(x) = 2x^2 + x - 1$$



— $f(x) = 2x^2 + x - 1$

Pavyzdys ($a < 0$)

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



— $f(x) = -2x^2 + x - 1$

Kubinė funkcija

$$y = x^3$$

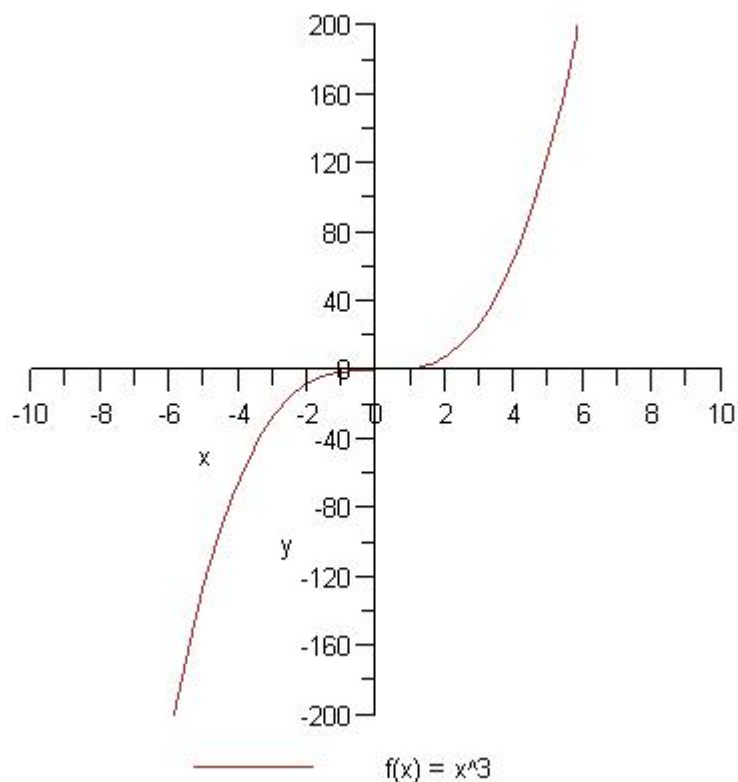
Šios funkcijos grafikas - **kubinė parabolė**.

$$D(y) = (-\infty; +\infty)$$

$$E(y) = (-\infty; +\infty)$$

Pavyzdys

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



Atvirkštinio proporcingumo funkcija

$$y = a/x$$

$$y = \frac{a}{x} \text{ arba } y = \frac{k}{x}$$

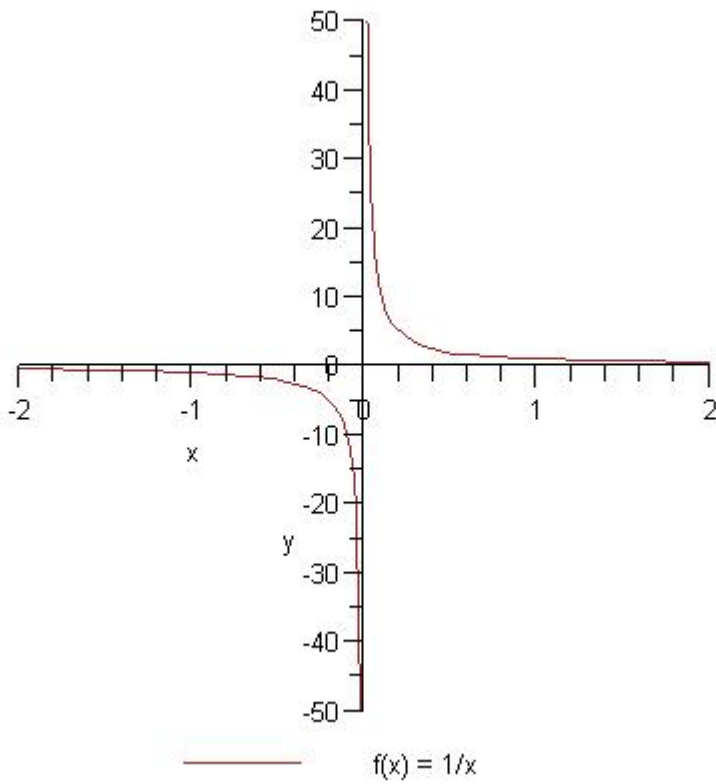
Šios funkcijos grafikas - **hiperbolė**.

$$D(y) = (-\infty; 0) \cup (0; +\infty)$$

$$E(y) = (-\infty; 0) \cup (0; +\infty)$$

Pavyzdys

$$y = \frac{1}{x}$$



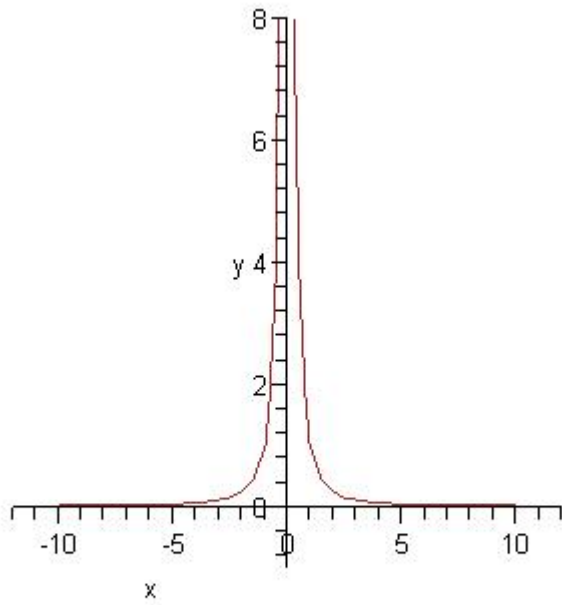
$$y = a/x^2$$

$$D(y) = (-\infty; 0) \cup (0; +\infty)$$

$$E(y) = (0; +\infty)$$

Pavyzdys

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



— $f(x) = 1/x^2$

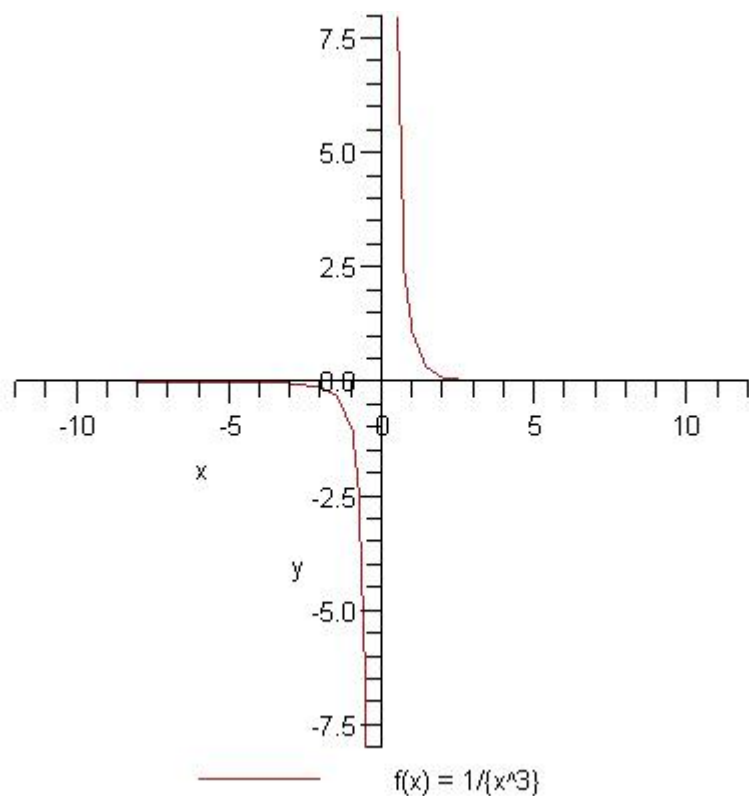
$$y = a/x^3$$

$$D(y) = (-\infty; 0) \cup (0; +\infty)$$

$$E(y) = (-\infty; 0) \cup (0; +\infty)$$

Pavyzdys

$$f(x) = \frac{1}{x^3}$$



Šaknys

$$y = \sqrt{x}$$

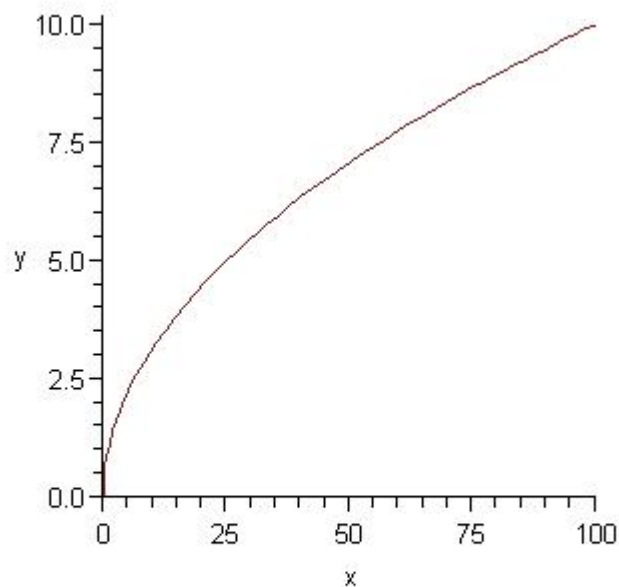
$$y = \sqrt{x}$$

$$D(y) = [0; +\infty)$$

$$E(y) = [0; +\infty)$$

Pavyzdys

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



— $f(x) = \text{sqrt}\{x\}$

$$y = \text{root}\{3\}\{x\}$$

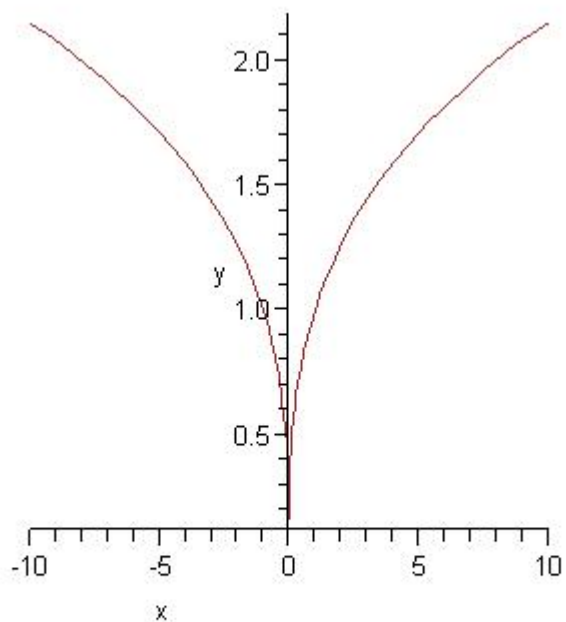
$$y = \sqrt[3]{x}$$

$$D(y) = (-\infty; +\infty)$$

$$E(y) = (-\infty; +\infty)$$

Pavyzdys

$$f(x) = \sqrt[3]{x}$$



— $f(x) = \text{root}\{3\}\{x\}$

$$y = \text{root}\{3\}\{x^2\}$$

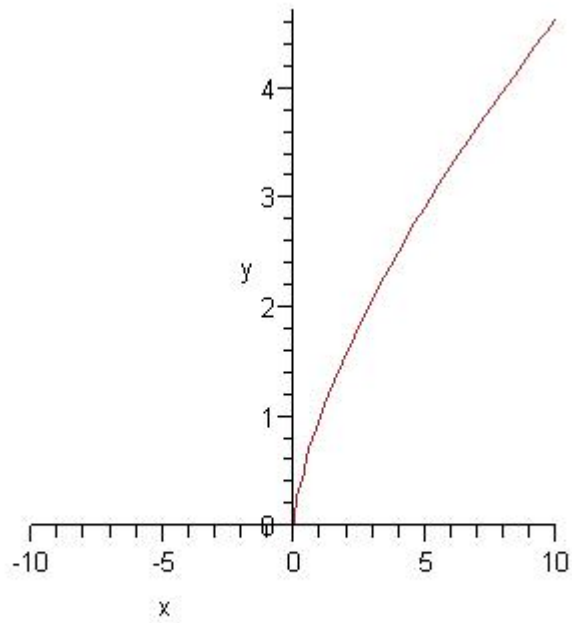
$$y = \sqrt[3]{x^2}$$

$$D(y) = (-\infty; +\infty)$$

$$E(y) = [0; +\infty)$$

Pavyzdys

$$f(x) = \sqrt[3]{x^2}$$



— $f(x) = \sqrt[3]{x^2}$

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