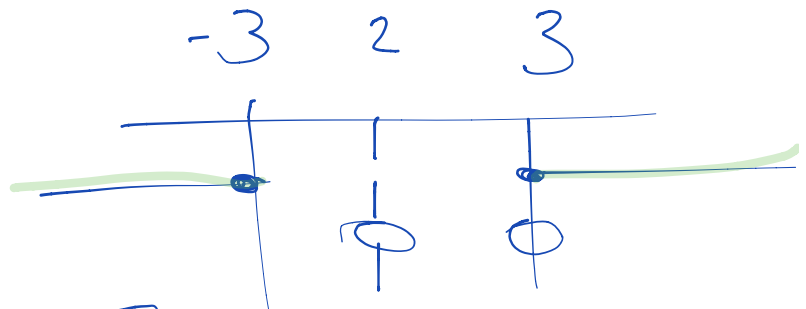


$$f(x) = \frac{1}{x^2 - 5x + 6} + \sqrt{x^2 - 9}$$

$$\begin{cases} x^2 - 5x + 6 \neq 0 \\ x^2 - 9 \geq 0 \end{cases} \begin{cases} x_1 \neq 2, x_2 \neq 3 \\ \underline{x \leq -3 \vee x \geq 3} \end{cases}$$



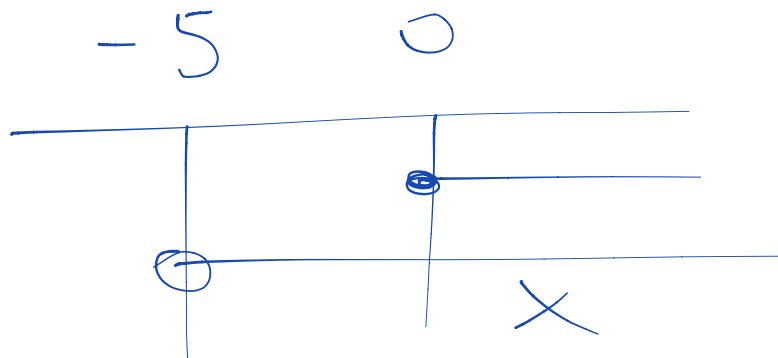
$$\text{D.E} = (-\infty, -3] \cup (3, +\infty)$$

$$y = \sqrt{\frac{x}{x+5}}$$

$$y = \frac{\sqrt{x}}{\sqrt{x+5}}$$

$$D_{f_1} : \frac{x}{x+5} \geq 0 \quad x < -5 \vee x \geq 0$$

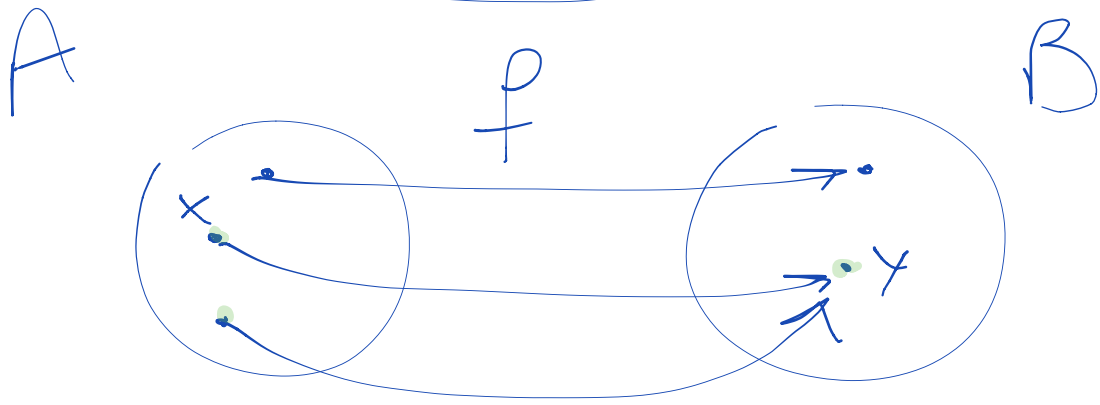
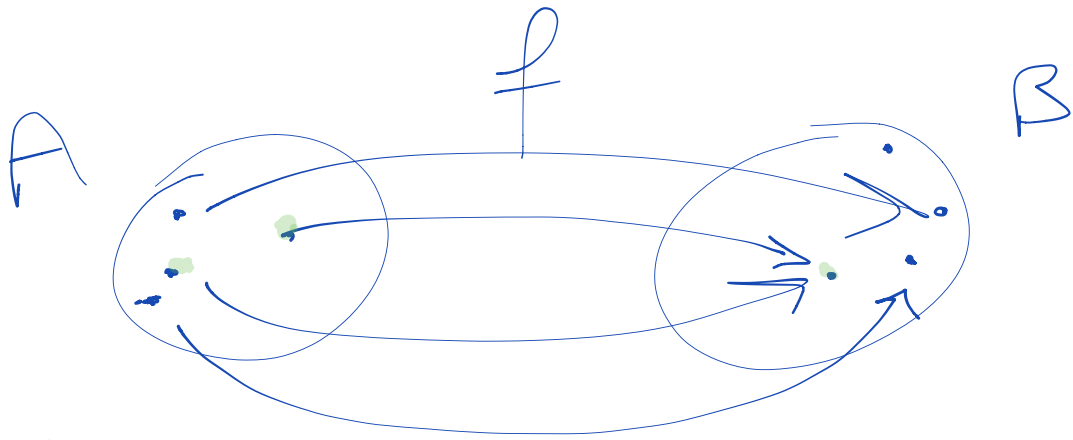
$$D_{f_2} : \begin{cases} x \geq 0 \\ x+5 > 0 \end{cases} \quad \begin{cases} x \geq 0 \\ x > -5 \end{cases}$$



$$D_{f_2} = [0, +\infty)$$

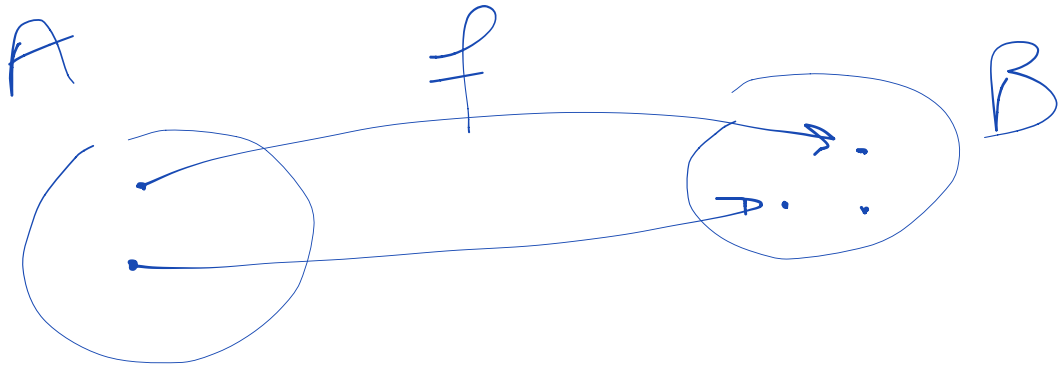
$$y = \sqrt{x+6} - \sqrt{4x-x^2}$$

$$\begin{cases} x+6 - \sqrt{4x-x^2} \geq 0 \\ 4x-x^2 \geq 0 \end{cases}$$



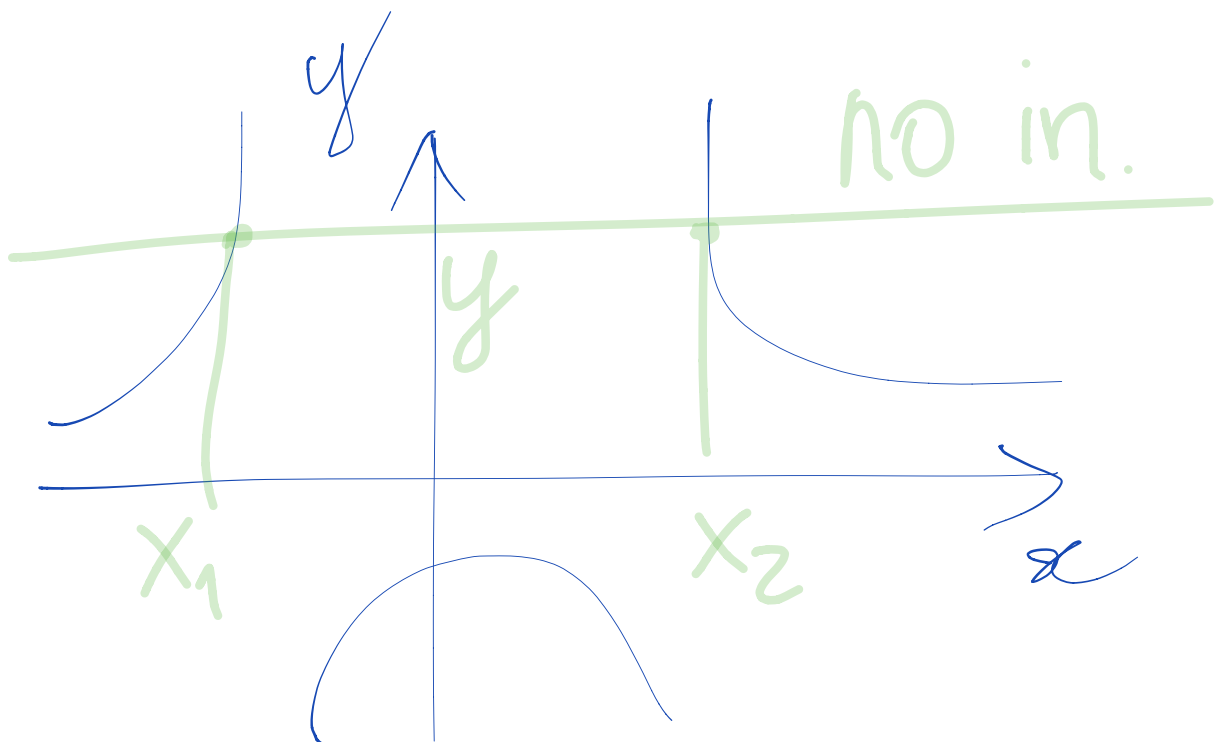
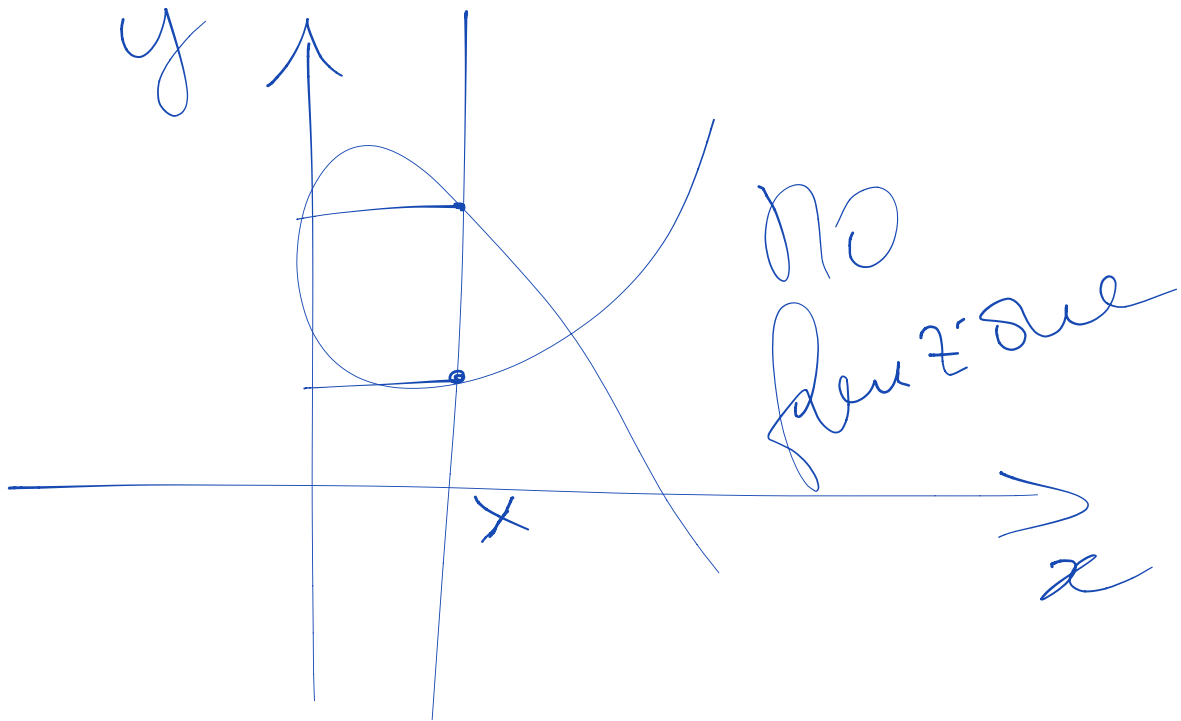
$f$  e surjetiva se:

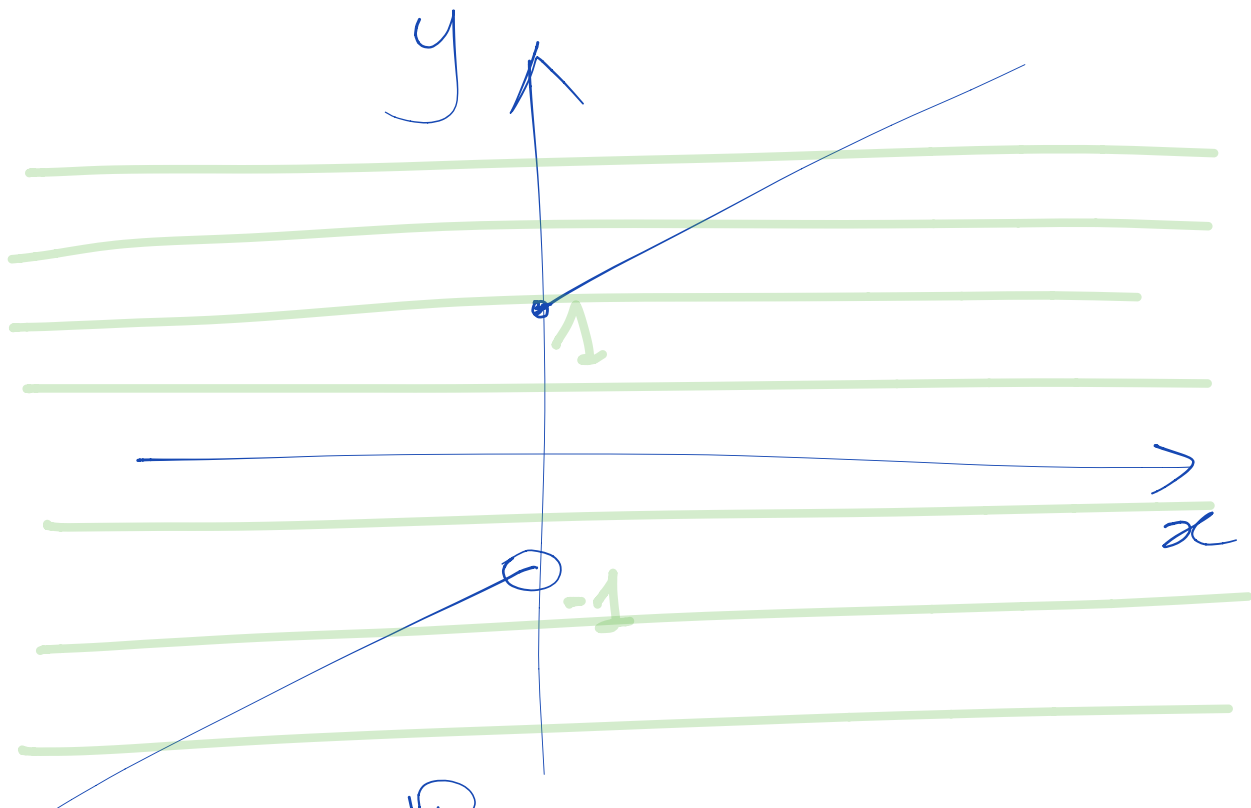
$$\forall y \in B \exists x \in A : f(x) = y$$



$f$  è iniettiva se:

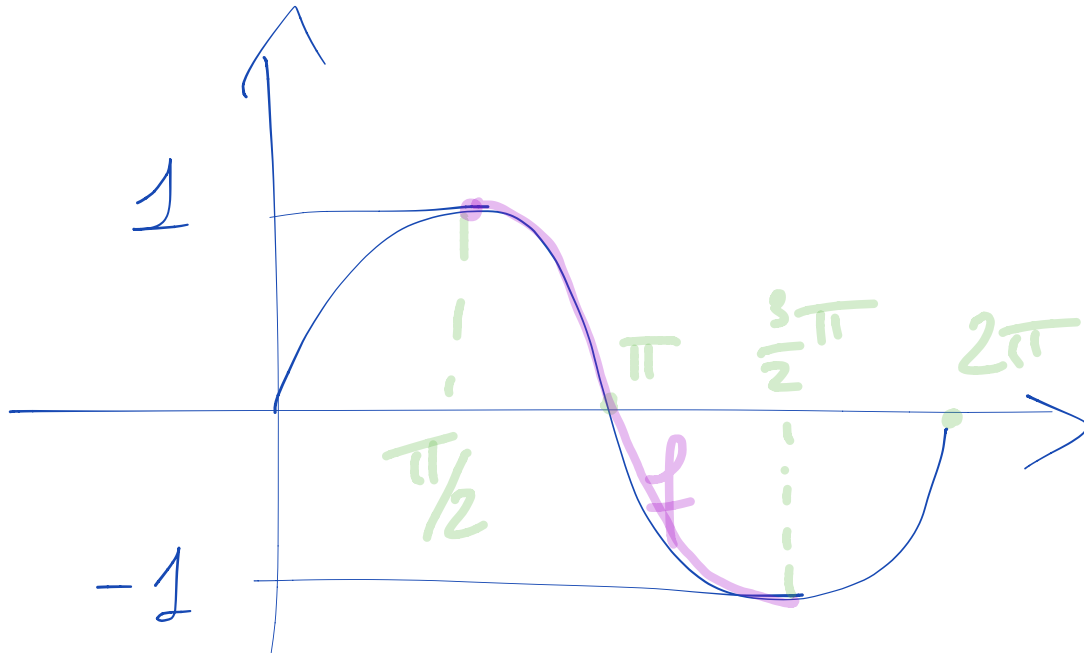
$$\forall x_1, x_2 \in A, x_1 \neq x_2 \Rightarrow f(x_1) \neq f(x_2)$$





$$\text{dom } f = \mathbb{R}$$

$$\text{cod } f = (-\infty, -1) \cup [1, +\infty)$$



$$\begin{aligned} \text{dom } f &= [0, 2\pi] & \text{dom } f &= \left[\frac{\pi}{2}, \frac{3\pi}{2}\right] \\ \text{cod } f &= [-1, 1] & \text{cod } f &= [-1, 1] \end{aligned}$$