

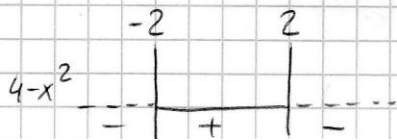
$y = \sqrt{4-x^2}$ ← funzione irrazionale $D = \{ \forall x \in \mathbb{R} : -2 \leq x \leq 2 \}$

$y = \sqrt{2}x$ ← è razionale perché non ha la x sotto la radice

$y = \sqrt{x}$ ← irrazionale

Il **DOMINIO** è l'insieme dei valori x per i quali la funzione esiste

$$4-x^2 \geq 0$$



Intersezioni con gli assi

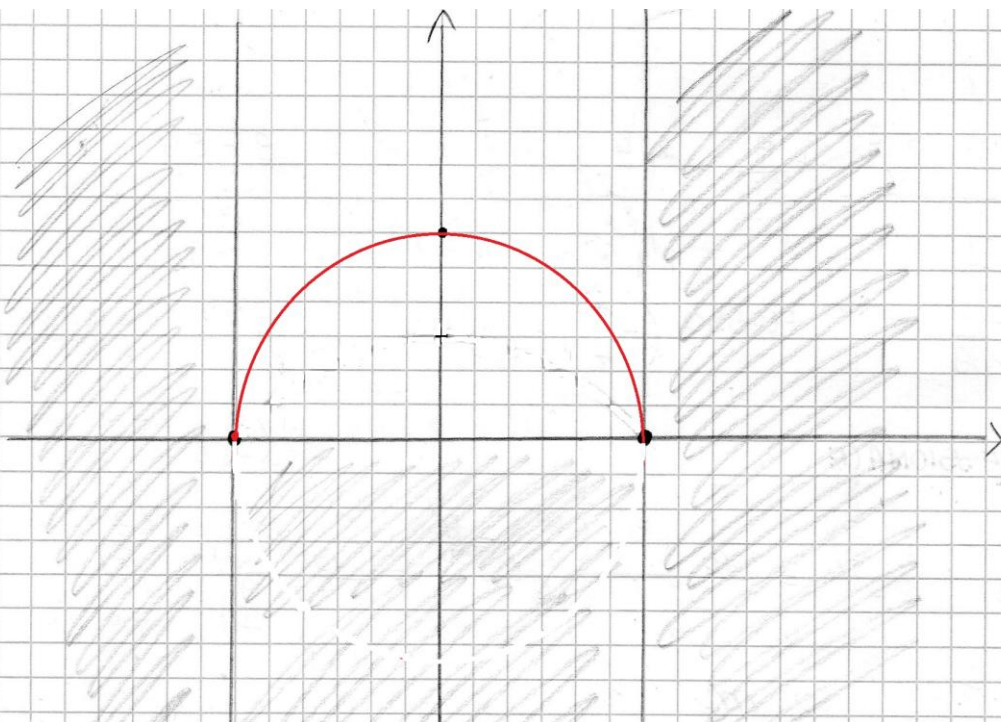
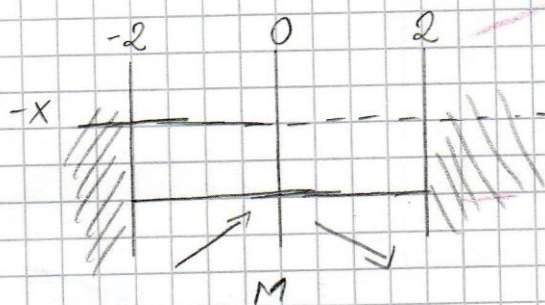
$(-2; 0), (2; 0), (0; 2)$

$$y = (4-x^2)^{1/2}$$

$$y' = \frac{1}{2} (4-x^2)^{-1/2} (-2x)$$

$$y' = \frac{1}{2} \frac{-2x}{(4-x^2)^{1/2}}$$

$$y' = \frac{-x}{\sqrt{4-x^2}}$$



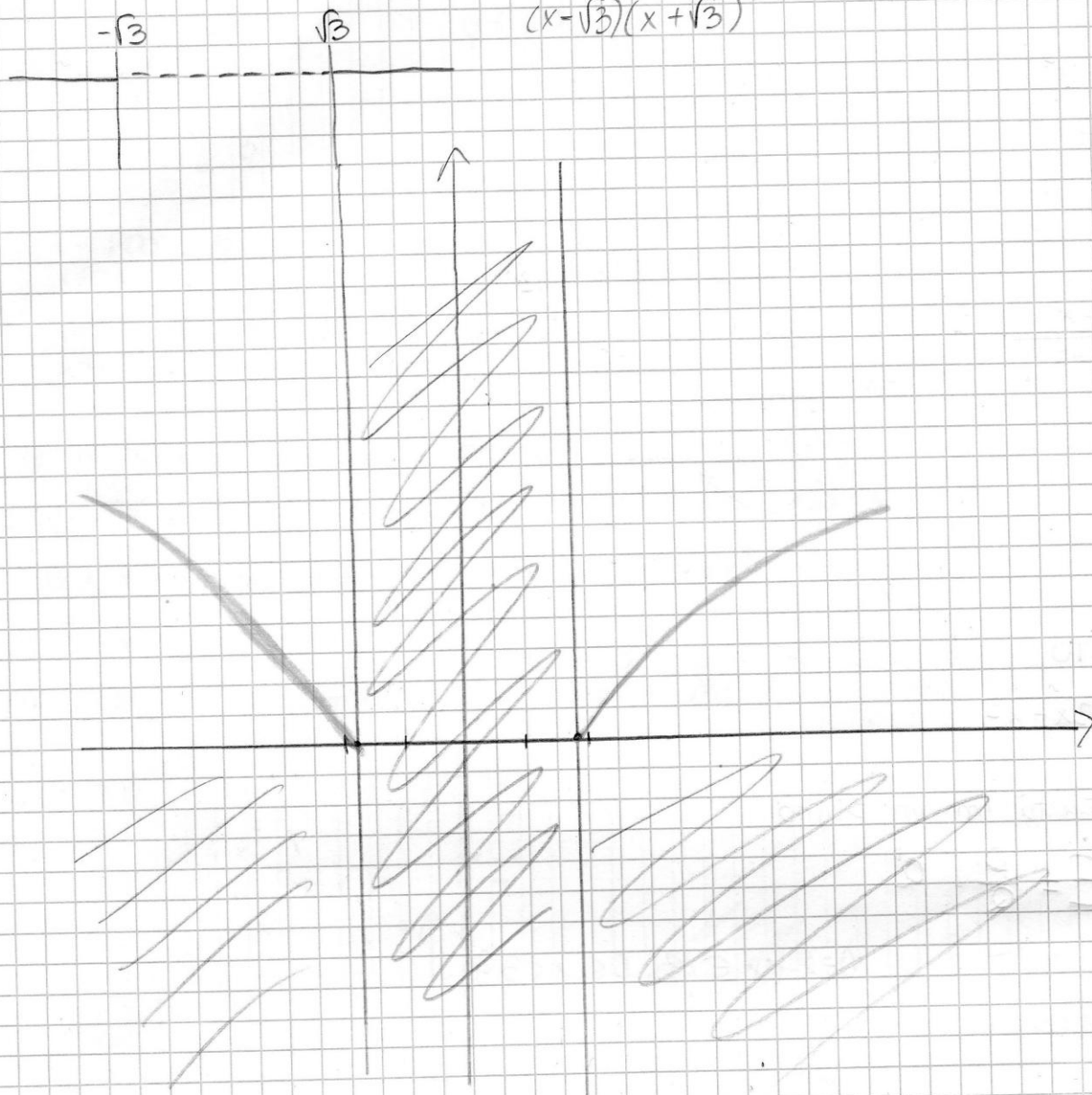
$$y = \sqrt{x^2 - 3}$$

$$x^2 - 3 \geq 0$$

$$x = \pm \sqrt{3}$$

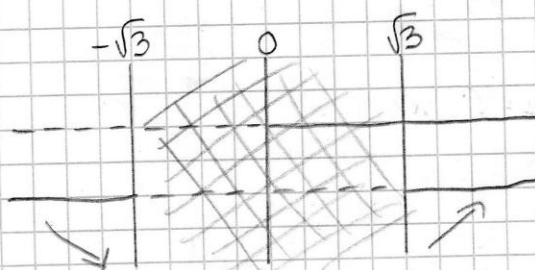
$$D = \{x \in \mathbb{R} : x \leq -\sqrt{3} \vee x \geq \sqrt{3}\}$$

$$(x - \sqrt{3})(x + \sqrt{3})$$



$$y' = \frac{1}{2} (x^2 - 3)^{-\frac{1}{2}} \cdot 2x$$

$$y' = \frac{1}{2} \frac{2x}{(x^2 - 3)^{\frac{1}{2}}} = \frac{x}{\sqrt{x^2 - 3}}$$



$$y = \sqrt{3x - x^2}$$

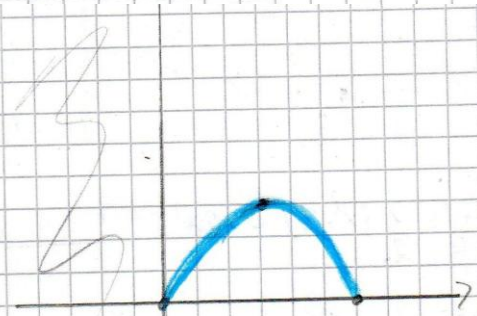
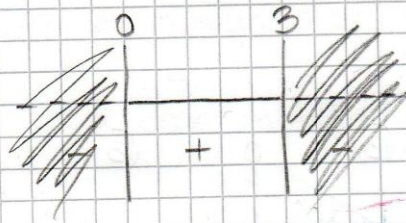
$$3x - x^2 > 0$$

$$-x^2 + 3x > 0$$

$$D = 0$$

$$x_{1,2} = \begin{cases} 3 \\ 0 \end{cases}$$

$$D = \{ \forall x \in \mathbb{R} : 0 \leq x \leq 3 \}$$

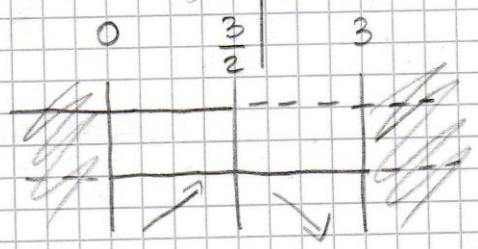


$$y = (3x - x^2)^{1/2}$$

$$y' = \frac{1}{2} (3x - x^2)^{-1/2} (3 - 2x) =$$

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

$$-2x = -3 \rightarrow x = \frac{3}{2}$$



$$F\left(\frac{3}{2}\right) = \frac{3}{2}$$