

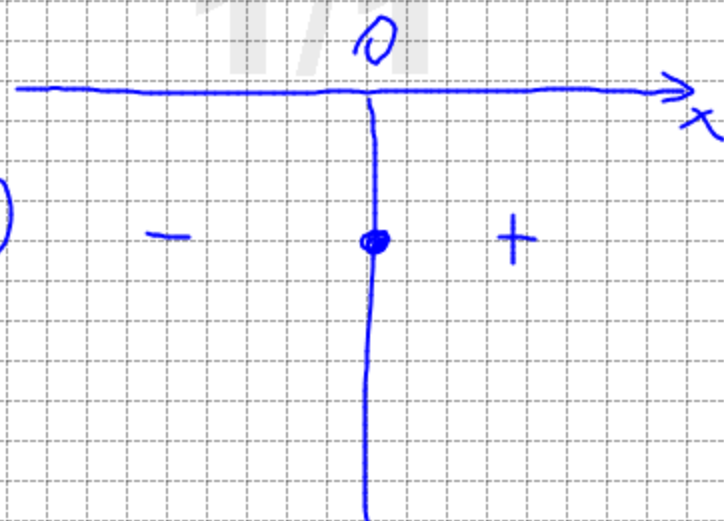
$$y = x^3 \quad D_f = \mathbb{R} = (-\infty; +\infty)$$

- segno e zero:

$$x^3 > 0 \quad x > 0 \quad f(x) \quad - \quad +$$

$$x^2 > 0 \text{ sempre}$$

$$f(0) = 0$$



- limiti e asintoti:

$$\lim_{x \rightarrow -\infty} x^3 = -\infty \quad \lim_{x \rightarrow +\infty} x^3 = +\infty$$

$$m = \lim_{x \rightarrow \pm\infty} \frac{f(x)}{x} = \lim_{x \rightarrow \pm\infty} x^2 = +\infty$$

- simetrie, parità, disparità:

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

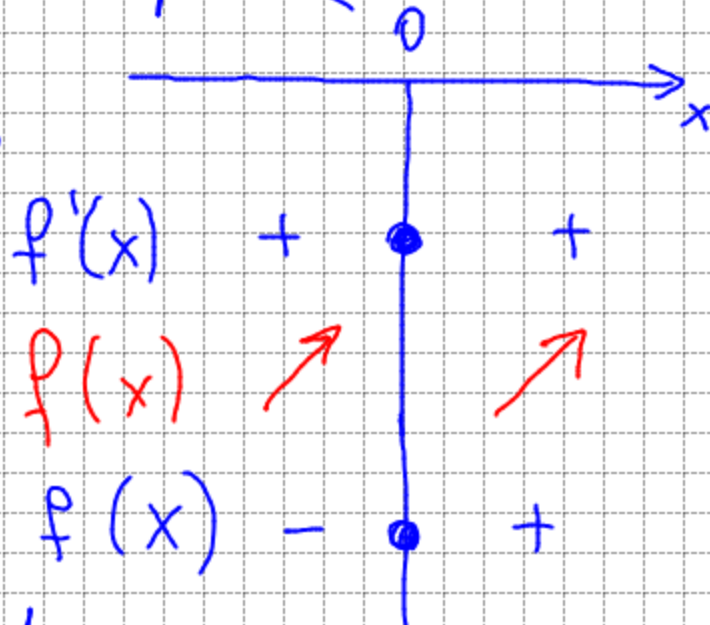
dispari. $y = x^3$ simmetria rispetto all'origine.

- massimi e minimi, studio derivate prime:

$$f'(x) = 3x^2 \quad 3x^2 \geq 0$$

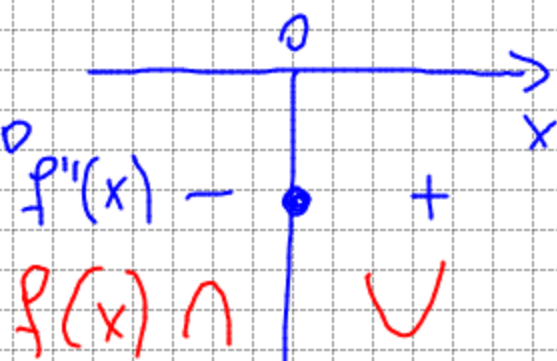
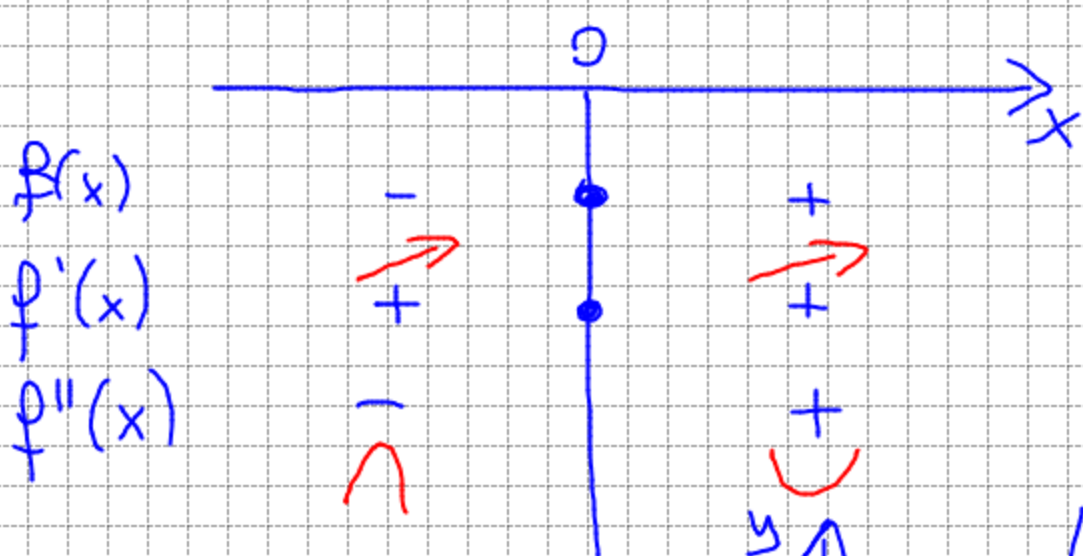
$$f'(0) = 0$$

$(0, 0)$



- f''(x), studio derivate seconda:

$$f''(x) = 6x \quad 6x \geq 0 \quad x \geq 0$$



$f(x) = x^3$ è dispari
passa per $O(0, 0)$

