

ES N 23 PAG 309

$$\lim_{x \rightarrow 0^-} \log_3(x^2 - 4x) = -\infty$$

$\forall M > 0 \Rightarrow -M < 0 \exists I_{-M}(-\infty)$ e corrispondente
 mentre $\exists I_{\epsilon}^-(0) \mid \forall x \in I_{\epsilon}^-(0)$ si ha che

$$f(x) < -M$$

$$\begin{cases} \log_3(x^2 - 4x) < -M \\ x < 0 \end{cases} \Rightarrow \begin{cases} x^2 - 4x > 0 \\ x^2 - 4x < 3^{-M} \\ x < 0 \end{cases}$$

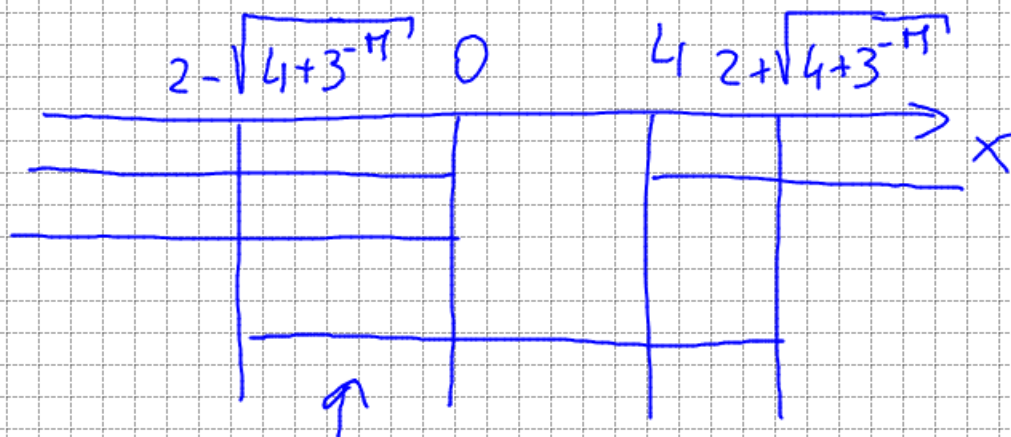
$$x < 0 \vee x > 4$$

$$x < 0$$

$$x^2 - 4x - 3^{-M} = 0$$

$$x_{1,2} = \frac{2 \pm \sqrt{4 + 3^{-M}}}{1}$$

$$2 - \sqrt{4 + 3^{-M}} < x < 2 + \sqrt{4 + 3^{-M}}$$



$(2 - \sqrt{4 + 3^{-M}}; 0)$ intorno sinistra di 0