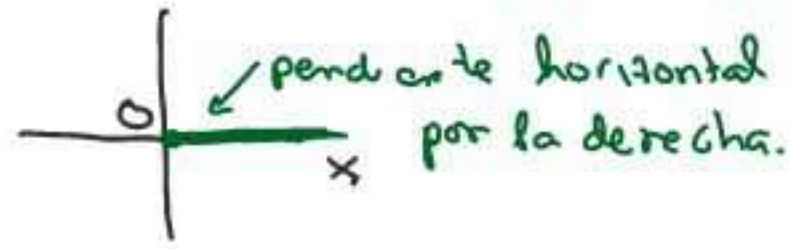
Problema 5.6

$$f(x) = \begin{cases} \dfrac{x}{1+e^{1/x}} & \text{si } x \neq 0 \\ 0 & \text{si } x = 0 \end{cases}$$

$$f'_+(0) = \lim_{x\to 0^+} \frac{f(x)-f(0)}{x-0} = \lim_{x\to 0^+} \frac{1}{1+e^{1/x}}$$

$$= \frac{1}{1+e^{\infty}} = 0$$



$$f'_-(0) = \lim_{x\to 0^-} \frac{f(x)-f(0)}{x-0} = \lim_{x\to 0^-} \frac{1}{1+e^{1/x}}$$

$$= \frac{1}{1+e^{-\infty}} = 1$$