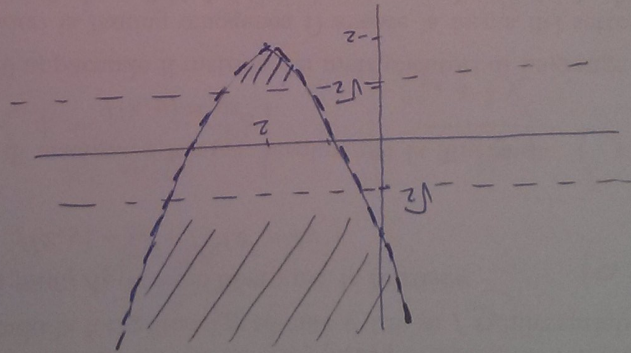


$$f(x,y) = \frac{\lg(y^2-2)}{x^2+3} + \frac{\sqrt{2+y-(x-2)^2}}{1}$$

$$\begin{cases} y^2-2 > 0 \\ 2+y-(x-2)^2 > 0 \end{cases} \Leftrightarrow \begin{cases} y > \sqrt{2} & y < -\sqrt{2} \\ y > (x-2)^2-2 \end{cases}$$



$$E = \{(x,y) \in \mathbb{R}^2 : y > (x-2)^2-2, y < \sqrt{2}\}$$

$$E = \{(x,y) \in \mathbb{R}^2 : y > \max\{(x-2)^2-2, \sqrt{2}\}, y < -\sqrt{2}\}$$

E é aberto, pois os fatos mon