

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

$$D_{\text{Dom}}(f) = \{(x,y) \in \mathbb{R}^2 : 1 - (x+y)^2 \geq 0\}$$

$$1 - (x+y)^2 \geq 0 \Rightarrow 1 \geq (x+y)^2 / \sqrt{}$$

$$1 \geq |x+y| \quad \boxed{\sqrt{a^2} = |a|} \rightarrow \text{propiedad}$$

$$\boxed{-1 \leq x+y \leq 1}$$

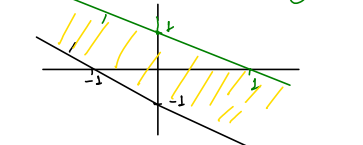
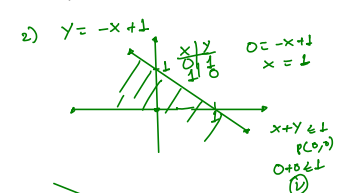
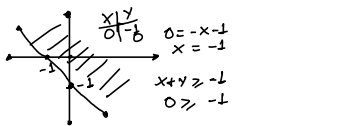
$$|x| \begin{cases} x & \text{si } x \geq 0 \\ -x & \text{si } x < 0 \end{cases}$$

$$1) \quad x+y = -1$$

$$y = -x-1$$

$$2) \quad x+y = 1$$

$$y = -x+1$$



$$f(x,y) = \ln(y-1-|x|) + \sqrt{4-x^2-y^2}$$

$$D_{\text{Dom}}(f) = \{(x,y) \in \mathbb{R}^2 : y-1-|x| > 0 \wedge 4-x^2-y^2 \geq 0\}$$

$$D_{\text{Dom}}(f) = D_{\text{Dom}}(1) \cap D_{\text{Dom}}(2)$$

$$D_{\text{Dom}}(1) : y-1-|x| > 0$$

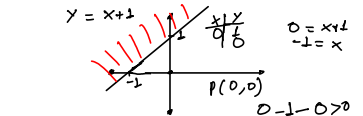
$$|x| \begin{cases} +x & \text{si } x \geq 0 \\ -x & \text{si } x < 0 \end{cases}$$

$$1. \text{ER caso: } x \geq 0$$

$$y-1-x > 0 \Rightarrow \text{curva frontera}$$

$$y-1-x = 0$$

$$y = x+1$$

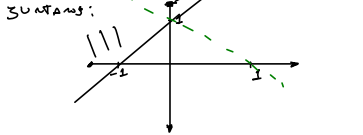
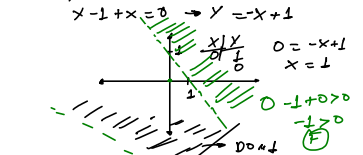


$$2. \text{ER caso: } x < 0$$

$$y-1-(-x) > 0$$

$$y-1+x > 0$$

$$y-1+x = 0 \Rightarrow y = -x+1$$

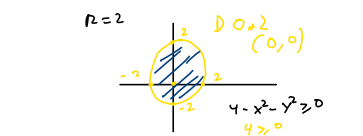


$$D_{\text{Dom}}(2) : 4-x^2-y^2 \geq 0$$

$$4-x^2-y^2 = 0$$

$$4 = x^2+y^2 \Rightarrow R^2 = x^2+y^2$$

$$R = 2$$



$$D_{\text{Dom}}(f) = D_{\text{Dom}}(1) \cap D_{\text{Dom}}(2) \cap D_{\text{Dom}}(3)$$

