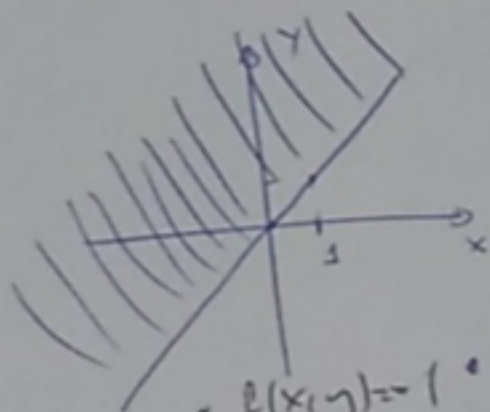


TP2

3a) $f(x,y) = \sqrt{y-x}$

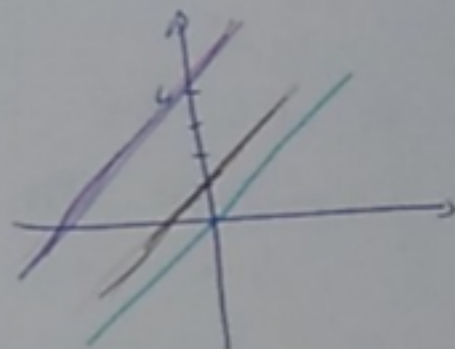
$D = \{ (x,y) : (x,y) \in \mathbb{R}^2, y-x \geq 0 \}$ $I = \mathbb{R}$



$y \geq x$
 $0 \leq x$

C.N.

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



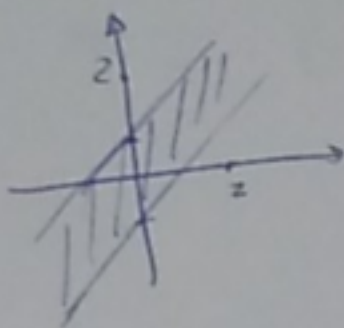
• $f(x,y) = 1$ • $f(x,y) = 0$ • $f(x,y) = 2$
 $\sqrt{y-x} = 1$ $\sqrt{y-x} = 0$ $\sqrt{y-x} = 2$
 $y-x = 1^2$ $y-x = 0^2$ $y-x = 2^2$
 $y = x+1$ $y = x$ $y = x+4$

Borde o frontera de D . $b(D) = fr(D) = \{ (x,y) : (x,y) \in \mathbb{R}^2, y=x \}$

$fr(D) \subset D$ es conjunto cerrado.

D es no acotado y a que no existen disco por lo contrario.

$\pi/2$
 $\rightarrow b) f(x,y) = \arcsin(y-x)$
 $D = \{(x,y) : (x,y) \in \mathbb{R}^2; -1 \leq y-x \leq 1\}$ $I = [-\pi/2, \pi/2]$



$$-1+x \leq y \leq 1+x$$

$$-1+0 \leq 0 \leq 1+0 \quad \checkmark$$

$$-1+2 \leq 0 \leq 1+2 \quad \times$$

$$-1+0 \leq 2 \leq 1+0 \quad \times$$

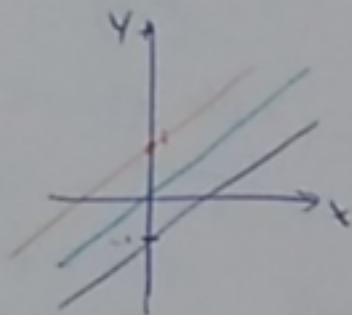
C.N

$$f(x,y) = -\pi/2$$

$$\arcsin(y-x) = -\pi/2$$

$$y-x = -1$$

$$y = x-1$$



$$f(x,y) = 0$$

$$\arcsin(y-x) = 0$$

$$y-x = 0$$

$$y = x$$

$$f(x,y) = \pi/2$$

$$\arcsin(y-x) = \pi/2$$

$$y-x = 1$$

$$y = 1+x$$

$$b(D) = f(D) = \{(x,y) : (x,y) \in \mathbb{R}^2; y = 1+x \text{ ó } y = -1+x\}$$

$b(D) \subseteq D$ Das errado.

Das no acertado, no exist un disco con ~~contenida~~ que lo contenga.

- 8 I próprio f II próprio e III próprio a
- IV próprio c V próprio d VI próprio b