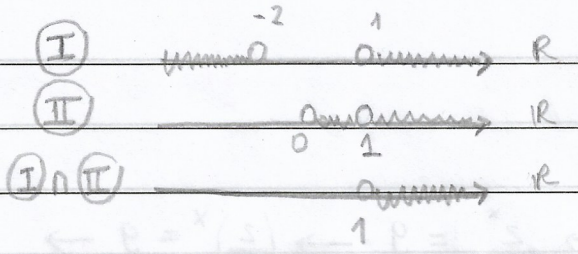
DATA



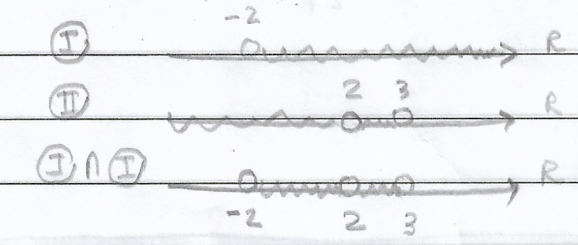
$D = \{x \in \mathbb{R} \mid x > 1\}$

a) $f(x) = \log_{(3-x)} (x+2)$

I) $x + 2 > 0 \rightarrow x > -2$

II) $0 < 3 - x \neq 1 \rightarrow 3 - x > 0 \rightarrow -x > -3 \rightarrow x < 3$

$3 - x \neq 1 \rightarrow -x \neq -2 \rightarrow x \neq 2$



$D = \{x \in \mathbb{R} / -2 \leq x < 3 \text{ e } x \neq 2\}$

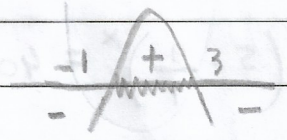
c) $f(x) = \log_{(2x-3)} (3 + 2x - x^2)$

I) $3 + 2x - x^2 > 0 \rightarrow \Delta = 2^2 - 4 \cdot (-1) \cdot 3 \rightarrow \Delta = 4 + 12 \rightarrow \Delta = 16$

$x = \frac{-2 \pm 4}{-2}$ $\quad x_1 = \frac{2}{-2} = -1$ $\quad x^2 = \frac{-6}{-2} = 3$

II) $0 < 2x - 3 \neq 1 \rightarrow 2x - 3 > 0$

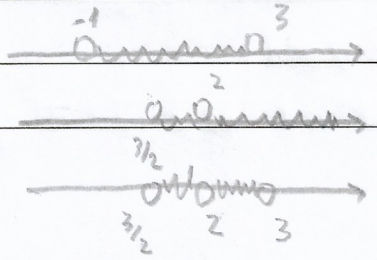
$\rightarrow 2x > 3 \rightarrow x > \frac{3}{2}$



$-1 < x < 3$

$2x - 3 \neq 1 \rightarrow 2x \neq 4$

$x \neq 2$



$D = \{x \in \mathbb{R} / \frac{3}{2} < x < 3 \text{ E } x \neq 2\}$