

$$\textcircled{\text{I}} \quad \begin{array}{c} -2 \quad 1 \\ \text{-----} \rightarrow \mathbb{R} \end{array}$$

$$\textcircled{\text{II}} \quad \begin{array}{c} 0 \quad 1 \\ \text{-----} \rightarrow \mathbb{R} \end{array}$$

$$\textcircled{\text{I} \cap \text{II}} \quad \begin{array}{c} 1 \\ \text{-----} \rightarrow \mathbb{R} \end{array}$$

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

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

$$\textcircled{\text{I}} \quad x+2 > 0 \rightarrow x > -2$$

$$\textcircled{\text{II}} \quad 0 < 3-x \neq 1 \rightarrow 3-x > 0 \rightarrow -x > -3 \rightarrow x < 3$$

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

$$\textcircled{\text{I}} \quad \begin{array}{c} -2 \\ \text{-----} \rightarrow \mathbb{R} \end{array}$$

$$\textcircled{\text{II}} \quad \begin{array}{c} 2 \quad 3 \\ \text{-----} \rightarrow \mathbb{R} \end{array}$$

$$\textcircled{\text{I} \cap \text{II}} \quad \begin{array}{c} -2 \quad 2 \quad 3 \\ \text{-----} \rightarrow \mathbb{R} \end{array}$$

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

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

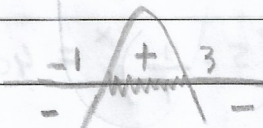
$$\textcircled{\text{I}} \quad 3+2x-x^2 > 0 \rightarrow \Delta = 2^2 - 4 \cdot (-1) \cdot 3 \rightarrow \Delta = 4 + 12 \rightarrow \Delta = 16$$

$$\textcircled{\text{II}} \quad 0 < 2x-3 \neq 1 \rightarrow 2x-3 > 0$$

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

$$x_2 = \frac{-6}{-2} = 3$$

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



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

$$-1 < x < 3$$

$$x \neq 2$$

$$D = \left\{x \in \mathbb{R} \mid \frac{3}{2} < x < 3 \text{ e } x \neq 2\right\}$$

$$\textcircled{\text{I}} \quad \begin{array}{c} -1 \quad 3 \\ \text{-----} \rightarrow \mathbb{R} \end{array}$$

$$\textcircled{\text{II}} \quad \begin{array}{c} 2 \\ \text{-----} \rightarrow \mathbb{R} \end{array}$$

$$\textcircled{\text{I} \cap \text{II}} \quad \begin{array}{c} \frac{3}{2} \quad 2 \quad 3 \\ \text{-----} \rightarrow \mathbb{R} \end{array}$$