104. Resolução: ☑

$$\frac{x}{x+1} - \frac{x}{x-1} \geq 0 \longrightarrow$$

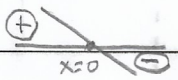
$$\frac{x(x-1) - x(x+1)}{(x+1)\cdot(x-1)} \geq 0 \longrightarrow$$

$$\frac{x^2 - x - x^2 - x}{x^2 - x + x - 1} \geq 0 \longrightarrow$$

$$\frac{-2x}{x^2-1} \geq 0$$

$f(x)$

$g(x)$

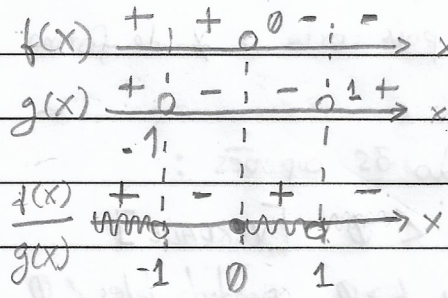


$f(x) = -2x \longrightarrow -2x = 0 \longrightarrow x = 0$

$g(x) = x^2 - 1 \longrightarrow x^2 - 1 = 0$

↳ $x^2 = 1 \rightarrow x = \pm\sqrt{1}$

$x = 1$ ou $x = -1$



$S = \{x \in \mathbb{R} \,/\, x < -1 \text{ ou } 0 \leq x < 1\}$

Alternativa (B)

105 - Resolução - ☑

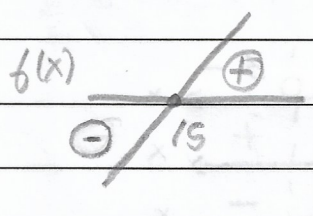
O conjunto solução $\frac{6x}{x+3} < 5$

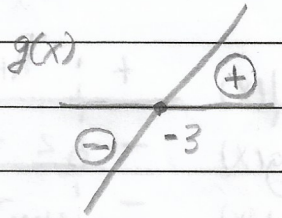
$$\rightarrow \frac{6x}{x+3} - \frac{5}{1} < 0 \rightarrow \frac{6x - 5(x+3)}{x+3}$$

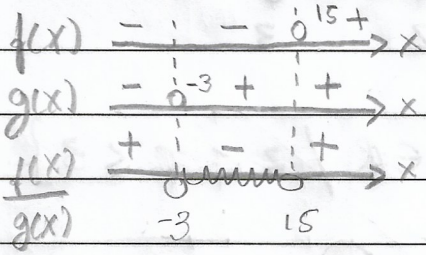
$$\rightarrow \frac{6x - 5x - 15}{x+3} \rightarrow \frac{x - 15}{x+3} < 0$$

$f(x) = x - 15 \longrightarrow x = 15$ RAIZ

$g(x) = x + 3 \longrightarrow x = -3$ RAIZ







$S = \{x \in \mathbb{R} \,/\, -3 < x < 15\}$

Alternativa (D)

106 - Resolução: ☑

$$\frac{x+1}{x-2} \geq 4 \longrightarrow \frac{x+1}{x-2} - \frac{4}{1} \geq 0$$

$$\rightarrow \frac{x + 1 - 4\cdot(x-2)}{x-2} \longrightarrow$$