

$$\frac{3x^2 + x - 10}{x^2 - 9} < 1$$

$$\frac{3x^2 + x - 10 - x^2 + 9}{x^2 - 9} < 0$$

$$\frac{2x^2 + x - 1}{x^2 - 9} < 0$$

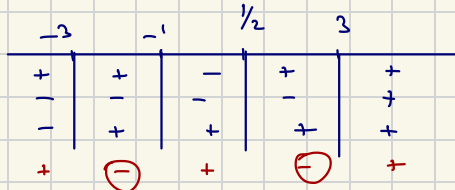
N:  $2x^2 + x - 1 > 0$

$$\Delta = 9 \leadsto \sqrt{\Delta} = 3$$

$$x < -1 \vee x > \frac{1}{2}$$

$$x_1 = -1 \quad x_2 = \frac{1}{2}$$

D<sub>1</sub>:  $x > 3$   
 $x > -3$

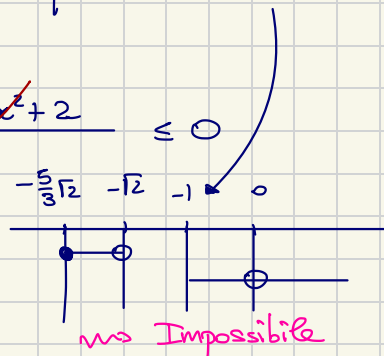


$$-3 < x < -1 \quad \vee \quad \frac{1}{2} < x < 3$$

$$\left. \begin{aligned} (46) + 471 \quad (I) \quad & \frac{3x - \sqrt{2}}{x + \sqrt{2}} + \frac{x^2 + 6\sqrt{2}x - 14}{x^2 - 2} \leq 1 \\ & \frac{-x - 2 + \sqrt{3}}{x - \sqrt{3}x} > \frac{1+x}{x + \sqrt{3}} - x \end{aligned} \right\} \begin{aligned} & -\frac{5}{3}\sqrt{2} \leq x < -\sqrt{2} \\ & x > -1 \text{ com } x \neq 0 \end{aligned}$$

$$(II) \quad \frac{3x^2 - 3\sqrt{2}x - \sqrt{2}x + 2 + \cancel{x^2} + 6\sqrt{2}x - 14 - \cancel{x^2} + 2}{(x + \sqrt{2})(x - \sqrt{2})} \leq 0$$

$$\frac{3x^2 + 2\sqrt{2}x - 10}{(x + \sqrt{2})(x - \sqrt{2})} \leq 0$$



N ≥ 0  $3x^2 + 2\sqrt{2}x - 10 \geq 0$

$$\frac{\Delta}{4} = 2 + 30 = 32$$

$$x \leq -\frac{5}{3}\sqrt{2}$$

$$\sqrt{\frac{\Delta}{4}} = 4\sqrt{2}$$

$$x_1/x_2 = \frac{-\sqrt{2} \pm 4\sqrt{2}}{3} \begin{cases} > -\frac{5}{3}\sqrt{2} \\ < \sqrt{2} \end{cases}$$

$$x \geq \sqrt{2}$$

$$D_1 > 0$$

$$D_2 > 0$$

$$x > -\sqrt{2}$$

$$x > \sqrt{2}$$

	$-\frac{5}{3}\sqrt{2}$	$-\sqrt{2}$		$\sqrt{2}$		
N	+	•	-	-	•	+
D <sub>1</sub>	-	-	0	+	0	+
	-	-	-	-	0	+
	+	-		+		+

$$-\frac{5}{3}\sqrt{2} \leq x < -\sqrt{2}$$

$$\frac{-x-2+\sqrt{3}}{x-\sqrt{3}x} > \frac{1+x}{x+\sqrt{3}x} - x$$

$$x(1-\sqrt{3}) \quad x(1+\sqrt{3})$$

$$\frac{-x-2+\sqrt{3}-\sqrt{3}x-2\sqrt{3}+3}{x(1-\sqrt{3})(1+\sqrt{3})} > \frac{1-\sqrt{3}+x-\sqrt{3}x-2x^2}{x(1-\sqrt{3})(1+\sqrt{3})}$$

$$-2$$

$$\frac{-2x^2-2x}{-2x} > 0$$

$$\frac{-2x(x+1)}{-2x} > 0$$

$$\leadsto \frac{x(x+1)}{x} > 0$$

$$x+1 > 0 \leadsto \boxed{x > -1}$$

$$\text{Cf. } x \neq 0$$

$$479 \quad k$$

$$3k + 2k^{-1} < 7 \leadsto 3k + \frac{2}{k} < 7$$

$$\frac{3k^2 - 7k + 2}{k} < 0$$

$$\frac{7 \pm 5}{6} \begin{matrix} > \\ < \end{matrix} \frac{1}{3}$$

$$+ \quad - \quad 2$$

$$\frac{1}{3} < x < 2$$

$$3k^2 - 6k - k + 2$$

$$3k(k-2) - (k-2)$$

$$(3k-1)(k-2)$$