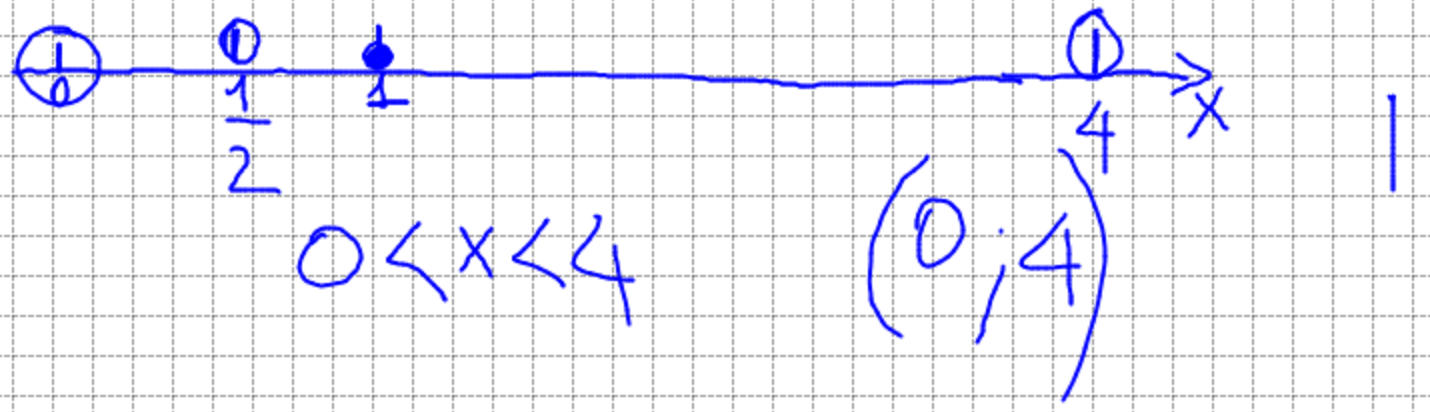
№ 17

A ∪ B



$0 < x < 4$

$(0;4)$

n 36

$x(x-2) > (x-1)^2 + 2$

$x^2 - 2x > (x-1)(x-1) + 2$

$x^2 - 2x > x^2 - 2x + 1 + 2$

$0 > 3 \quad \nexists x \in \mathbb{R}$

n 50

$1 - 2x \geq -2(a-1)$

$1 - 2x \geq -2a + 2$

$1 - 2x + 2a - 2 \geq 0$

$-2x + 2a \geq -1 + 1$

$-2x + 2a \geq 1$

$-2x + 2a - 1 \geq 0$

$2x - 2a + 1 \leq 0$

- DISCUSSIONE $\boxed{2x \leq 2a - 1}$

Se $a > 0 \rightarrow x \leq \frac{2a-1}{2}$

Se $a = 0 \rightarrow 2(0) \leq 2(0) - 1$

Se $a < 0 \rightarrow 2x \leq 2a - 1$

$\frac{(-2a)}{-2a} x \geq \frac{1-2a}{-2a} \quad x \geq 2 - \frac{1}{a}$

m252

$$\frac{x(-x+8)-(2x+9)}{x^2-4} \leq 0$$

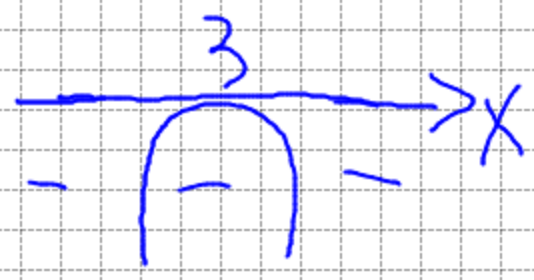
$$\frac{-x^2+8x-2x-9}{x^2-4} \leq 0$$

$$\frac{-x^2+6x-9}{x^2-4} \leq 0$$

N) ≥ 0 $\quad -x^2+6x-9 \geqslant 0$

$x^2-6x+9 \leq 0$

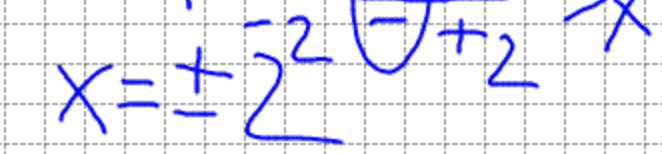
$$x_{1,2} = \frac{6 \pm \sqrt{36-4(9)}}{2} = 3$$

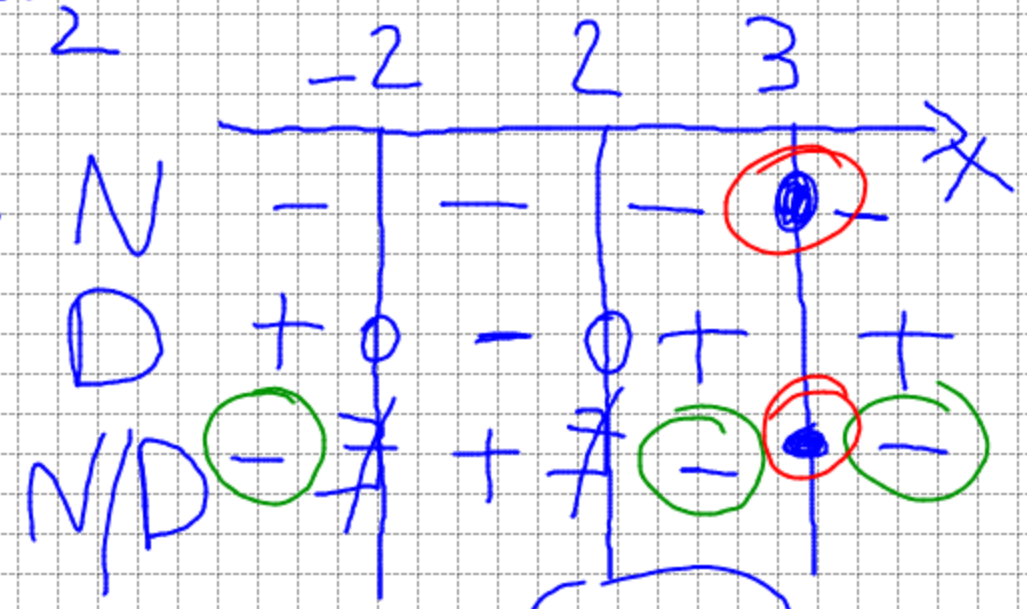


D >0 $\quad x^2-4 > 0$

$x^2 = 4$

$x = \pm 2$





$x < -2 \cup (x > 2)$

$x < -2 \cup 2 < x \leqslant 3 \cup x \neq 3$

$x < -2 \cup 2 < x < 3 \cup x > 3$

$$\begin{cases} 2x > \sqrt{8} \\ (x+1)^2 + 1 \le 2(x+2) \\ \dfrac{x^2}{\sqrt{2}} + x(\sqrt{3}-1) \le \sqrt{6} \end{cases} \quad \begin{cases} x > \dfrac{2\sqrt{2}}{2} \\ x^2 + 2x + 1 + 1 - 2x - 4 \le 0 \\ \dfrac{x^2 + \sqrt{6}x - \sqrt{2}x - 2\sqrt{3}}{\sqrt{2}} \le 0 \end{cases}$$

$$\begin{cases} x > \sqrt{2} \\ x^2 - 2 \le 0 \\ x^2 + (\sqrt{6} - \sqrt{2})x - 2\sqrt{3} \le 0 \end{cases} \quad \begin{cases} x > \sqrt{2} \\ -\sqrt{2} \le x \le \sqrt{2} \\ \sqrt{2} - \sqrt{6} \le x \le 0 \end{cases}$$

$$x_{1,2} = \frac{-\sqrt{6} + \sqrt{2} \pm \sqrt{6 + 2 - 2\sqrt{12} + 8\sqrt{3}}}{2} =$$

$$(\sqrt{6} - \sqrt{2})^2$$

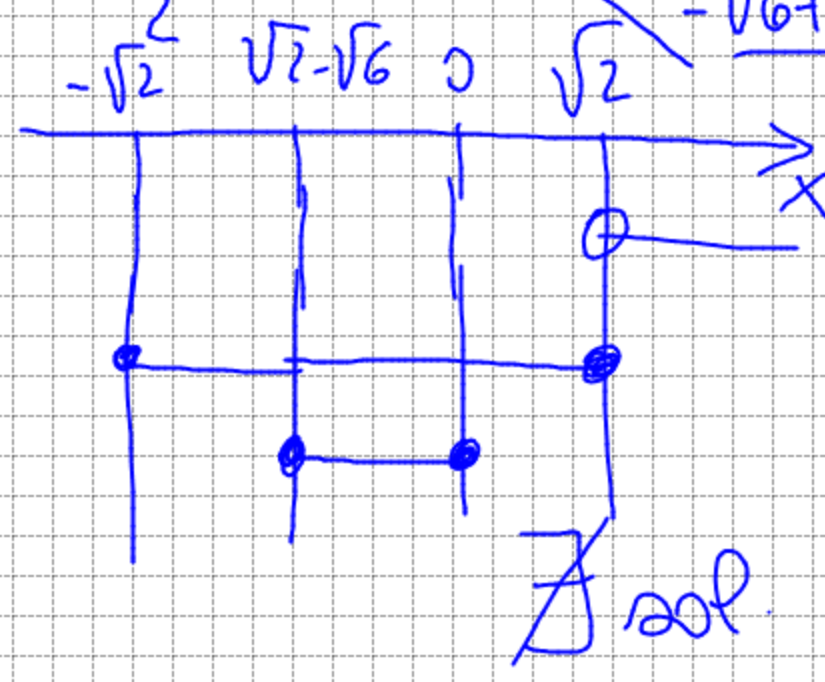
$$6 + 2 - 2\sqrt{12}$$

$$6 + 2 - 4\sqrt{3}$$

$$= \frac{-\sqrt{6} + \sqrt{2} \pm \sqrt{6 + 2 - 4\sqrt{3} + 8\sqrt{3}}}{2} =$$

$$= \frac{-\sqrt{6} + \sqrt{2} \pm \sqrt{6 + 2 + 4\sqrt{3}}}{2} = \frac{-\sqrt{6} + \sqrt{2} \pm \sqrt{(\sqrt{6} + \sqrt{2})^2}}{2} =$$

$$= \frac{-\sqrt{6} + \sqrt{2} \pm (\sqrt{6} - \sqrt{2})}{2} = \begin{cases} \dfrac{-\sqrt{6} + \sqrt{2} - \sqrt{6} + \sqrt{2}}{2} = \sqrt{2} - \sqrt{6} \\ \dfrac{-\sqrt{6} + \sqrt{2} + \sqrt{6} - \sqrt{2}}{2} = 0 \end{cases}$$



$$\begin{cases} x > \sqrt{2} \\ -\sqrt{2} \le x \le \sqrt{2} \\ \sqrt{2} - \sqrt{6} \le x \le 0 \end{cases}$$

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