DISEQUAZIONI FRATTE (e/o FATTORIATE)

$$\frac{N}{D(x)} \gtrless 0 \qquad (F_1)\cdot(F_2) \gtrless 0$$

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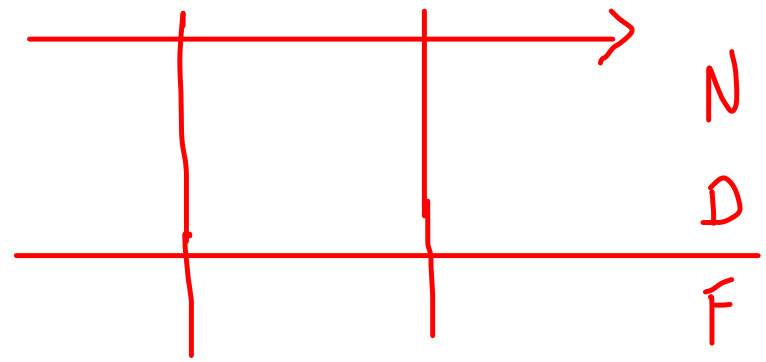
$$\frac{N}{D(x)} \geq 0$$

N: >0

D: >0

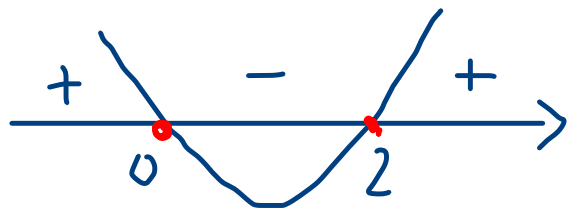


$$\frac{x^2-2x}{3+x} \leq 0$$

$\frac{0}{N} = 0$ $\qquad$ $\frac{N}{0}$ IMP

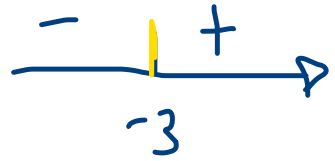
N: $x^2-2x > 0$

$x = \begin{cases} 0 \\ 2 \end{cases}$



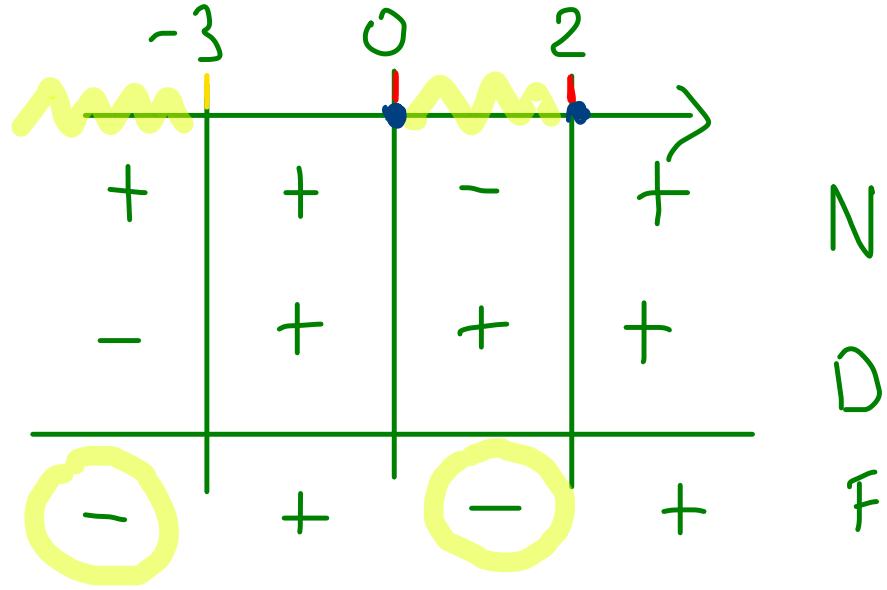
D: $3+x > 0$ $\quad +?$

$x > -3$



$3+x < 0$ $\quad -?$

$x < -3$

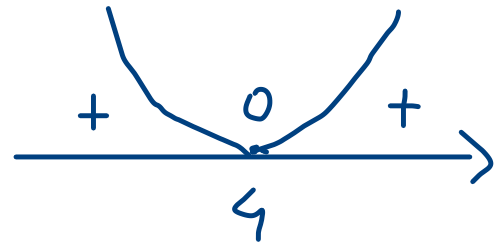


$x < -3 \quad \cup \quad 0 \leq x \leq 2$

$$\frac{x^2-8x+16}{(x+1)\cdot(2x-11)} < 0$$

$-1 < x < 4 \cup 4 < x < \frac{11}{2}$

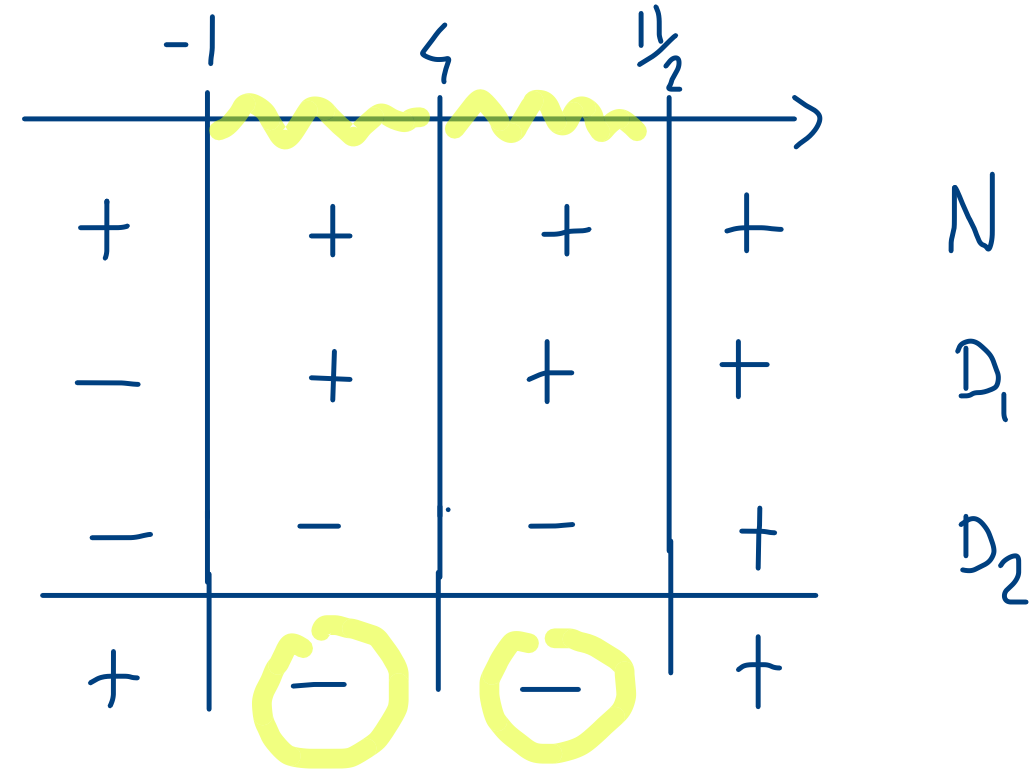
N: $x^2 - 8x + 16 > 0$



$-1 < x < \frac{11}{2}$ con $x \neq 4$

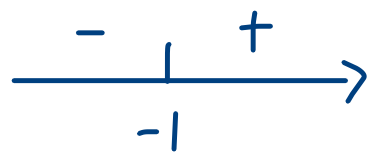
$x^2 - 8x + 16 = 0$

$\Delta = 0 \qquad x_{1,2} = \frac{8 \pm 0}{2} = 4$



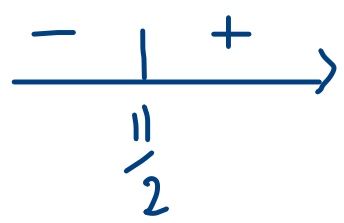
D_1: $x + 1 > 0$

$x > -1$



D_2: $2x - 11 > 0$

$x > \frac{11}{2}$



$$\frac{6-4x}{x^2+2x-3}+\frac{x+3}{x-1}\le\frac{2}{x+3}$$

$$\frac{6-4x}{x^2+2x-3}+\frac{x+3}{x-1}-\frac{2}{x+3}\le 0$$

$(x-1)(x+3)$

$$\frac{6-4x+(x+3)^2-2(x-1)}{(x-1)(x+3)}\le 0$$

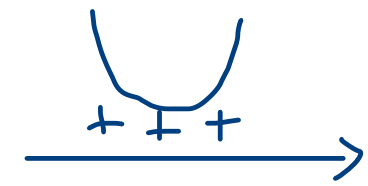
$$\frac{6-4x+x^2+6x+9-2x+2}{(x-1)(x+3)}\le 0$$

$$\frac{x^2+17}{(x-1)(x+3)}\le 0$$

$a(x-x_1)(x-x_2)$

N: $x^2+17>0$

$\Delta<0$



D_1: $x-1>0$

$x>1$

D_2: $x+3>0$

$x>-3$

$-3<x<1$