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$$\sqrt[3]{\frac{2x+3}{-1-x}} \geq \sqrt[3]{\frac{-2x^2-1}{2x^2-3x-5}}$$

$$\left[-2 \leq x < -1 \vee \frac{5}{2} < x \leq 4\right]$$

$$\frac{2x+3}{-1-x} \geq \frac{-2x^2-1}{2x^2-3x-5}$$

CAMBIO SEGNI

$$\frac{2x+3}{x+1} \leq \frac{2x^2+1}{2x^2-3x-5}$$

$$\hookrightarrow 2x^2+2x-5x-5$$

$$2x(x+1)-5(x+1)$$

$$(x+1)(2x-5)$$

$$\frac{2x+3}{x+1} - \frac{2x^2+1}{(x+1)(2x-5)} \leq 0$$

$$\frac{(2x+3)(2x-5)-2x^2-1}{(x+1)(2x-5)} \leq 0$$

$$\frac{4x^2-10x+6x-15-2x^2-1}{(x+1)(2x-5)} \leq 0$$

$$\frac{2x^2-4x-16}{(x+1)(2x-5)} \leq 0$$

$$\frac{\cancel{2}(x^2-2x-8)}{(x+1)(2x-5)} \leq 0$$

$D_1 \quad D_2$

$$N > 0 \quad x^2-2x-8 > 0$$

$$\frac{\Delta}{4} = 1+8=9$$

$$x = 1 \pm 3 = \begin{cases} -2 \\ 4 \end{cases}$$

$$x < -2 \vee x > 4$$

$$D_1 \quad x+1 > 0$$

$$x > -1$$

$$D_2 \quad 2x-5 > 0$$

$$x > \frac{5}{2}$$

	-2	-1	$\frac{5}{2}$	4		
	+	0	-	-	0	+
	-	-	<del>+</del>	+	+	
	-	-	-	<del>+</del>	+	
	+	0	<del>-</del>	<del>+</del>	0	+

$$\boxed{-2 \leq x < -1 \vee \frac{5}{2} < x \leq 4}$$

$$\frac{\sqrt{6x-x^2}}{3-2x} \geq 1$$

$$\left[ \frac{3}{5} \leq x < \frac{3}{2} \right]$$

$$\frac{\sqrt{6x-x^2}}{3-2x} - 1 \geq 0$$

$$\frac{\sqrt{6x-x^2} - 3 + 2x}{3-2x} \geq 0$$

$$N > 0 \quad \sqrt{6x-x^2} - 3 + 2x > 0 \quad \sqrt{6x-x^2} > 3-2x$$

$$\begin{cases} 3-2x < 0 \\ 6x-x^2 \geq 0 \\ x^2-6x \leq 0 \\ x(x-6) \leq 0 \end{cases} \vee \begin{cases} 3-2x \geq 0 \\ 6x-x^2 > (3-2x)^2 \end{cases}$$

$$\begin{cases} x > \frac{3}{2} \\ 0 \leq x \leq 6 \end{cases} \vee \begin{cases} x \leq \frac{3}{2} \\ 6x-x^2 > 9+4x^2-12x \end{cases}$$

$$\frac{3}{2} < x \leq 6 \quad \vee \quad \begin{cases} x \leq \frac{3}{2} \\ 5x^2 - 18x + 9 < 0 \end{cases}$$

$$\frac{\Delta}{4} = 81 - 45 = 36$$

$$x = \frac{9 \pm 6}{5} = \begin{cases} \frac{15}{5} \\ 3 \end{cases}$$

$$\frac{15}{5} < x < 3$$

$$\frac{15}{5} < x \leq \frac{3}{2}$$

$$\Rightarrow$$

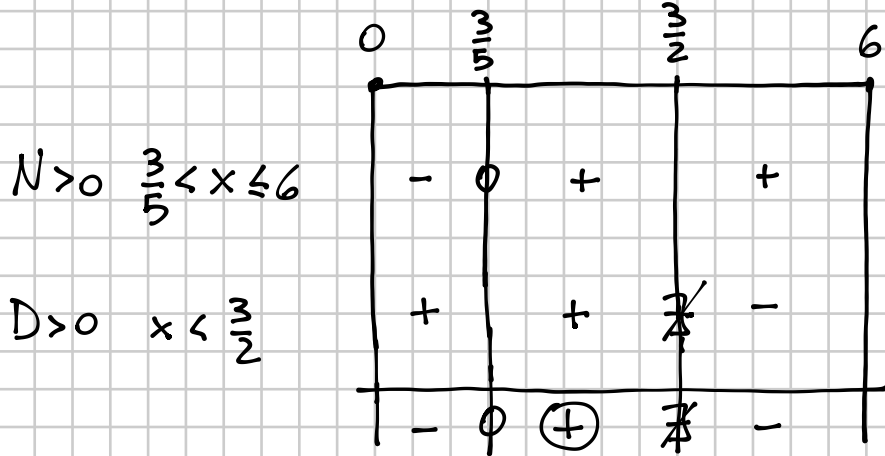
$$\frac{15}{5} < x \leq 6$$

$$N > 0 \quad \frac{15}{5} < x \leq 6$$

$$D > 0 \quad 3-2x > 0$$

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

Il numeratore esiste  $x$  e solo se  $6x - x^2 \geq 0$ , cioè se  $0 \leq x \leq 6$



$$\frac{3}{5} < x < \frac{3}{2}$$