

PW: UH2FCBM (password per entrare nella classe virtuale MyZanichelli)

$$|x| = \begin{cases} \rightarrow x \wedge x \geq 0 \\ \searrow -x \wedge x < 0 \end{cases}$$

$$|x| - |3 - 2x| = 1$$

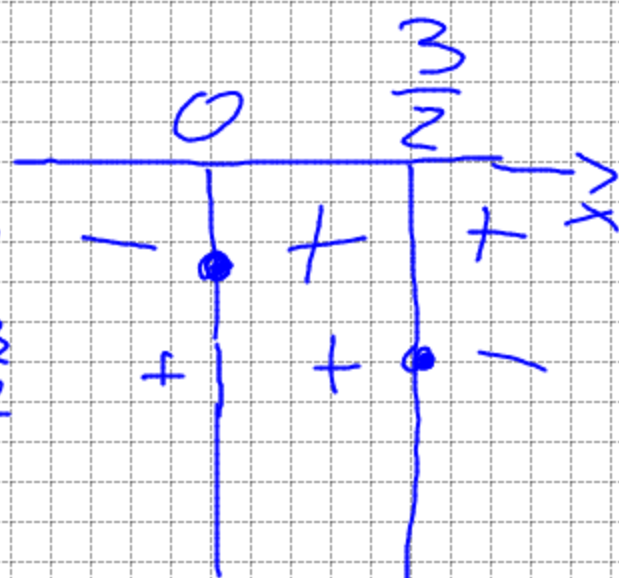
$$x \geq 0$$

$$3 - 2x \geq 0$$

$$-2x \geq -3 \quad x \geq 0$$

$$2x \leq 3 \quad x \leq \frac{3}{2}$$

$$x \leq \frac{3}{2}$$



$$\left\{ \begin{array}{l} x < 0 \\ -(3-2x) \\ -x - 3 + 2x = 1 \end{array} \right. \cup \left\{ \begin{array}{l} 0 \leq x < \frac{3}{2} \\ x - 3 + 2x = 1 \end{array} \right. \cup \left\{ \begin{array}{l} x \geq \frac{3}{2} \\ x + 3 - 2x = 1 \end{array} \right.$$

$$\left\{ \begin{array}{l} x < 0 \\ x = 4 \text{ no ecc.} \end{array} \right. \cup \left\{ \begin{array}{l} 0 \leq x < \frac{3}{2} \\ 3x = 4 \end{array} \right. \cup \left\{ \begin{array}{l} x \geq \frac{3}{2} \\ -x = -2 \end{array} \right.$$

$$\left\{ \begin{array}{l} x < 0 \\ x = 4 \text{ no ecc.} \end{array} \right. \cup \left\{ \begin{array}{l} 0 \leq x < \frac{3}{2} \\ x = \frac{4}{3} \text{ ecc.} \end{array} \right. \cup \left\{ \begin{array}{l} x \geq \frac{3}{2} \\ x = 2 \text{ ecc.} \end{array} \right.$$

Es. n° 287 p48

$$\frac{7(x+2)}{x+3} + \frac{5x}{3-2x} + \frac{2(x^2+x-17)}{3-2x^2-3x} \leq 0$$

$\begin{matrix} \text{c} & \text{a} & \text{b} \end{matrix}$

$$x_{1,2} = \frac{3 \pm \sqrt{9+72}}{-4} = \frac{3 \pm \sqrt{81}}{-4} = \frac{3 \pm 9}{-4} =$$

$$\begin{cases} x_1 = \frac{3}{2} \\ x_2 = -3 \end{cases}$$

$$-2x^2 - 3x + 9 = -2\left(x - \frac{3}{2}\right)(x + 3) = (3 - 2x)(x + 3)$$

$$ax^2 + bx + c = 0$$

$$a(x - x_1)(x - x_2) = 0$$

$\left. \begin{array}{l} x = x_1 \\ x = x_2 \end{array} \right\}$ le due radici dell'equazione.

$$\frac{7(x+2)(3-2x) + 5x(x+3) + 2x^2 + x - 34}{(3-2x)(x+3)} \leq 0$$

$$\frac{7(x+2)(3-2x) + 5x(x+3) + 2x^2 + 2x - 34}{(3-2x)(x+3)} \leq 0$$

$$\frac{(7x+14)(3-2x) + 5x^2 + 15x + 2x^2 + 2x - 34}{(3-2x)(x+3)} \leq 0$$

$$\frac{21x - 14x^2 + 42 - 28x + 5x^2 + 15x + 2x^2 + 2x - 34}{(3-2x)(x+3)} \leq 0$$

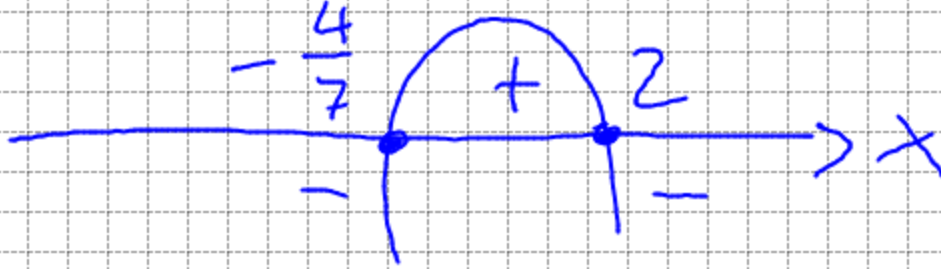
$$\frac{-7x^2 + 10x + 8 \leq 0}{(3-2x)(x+3)}$$

$$N \geq 0 \quad -7x^2 + 10x + 8 \geq 0$$

$$-7x^2 + 10x + 8 = 0$$

$$x_{1,2} = \frac{-10 \pm \sqrt{100 + 224}}{-14} = \frac{-10 \pm \sqrt{324}}{-14}$$

$$= \frac{-10 \pm 18}{-14} = \begin{cases} x_1 = +2 \\ x_2 = -\frac{4}{7} \end{cases}$$



$$D > 0 \quad (3-2x)(x+3) > 0$$

$$\begin{aligned} -2x &> -3 \\ 2x &< 3 \\ x &< \frac{3}{2} \end{aligned}$$

$$x > -3$$

	-3		$\frac{3}{2}$		∞
D_1	+		+		-
D_2	-		+		+
D	-		+		-

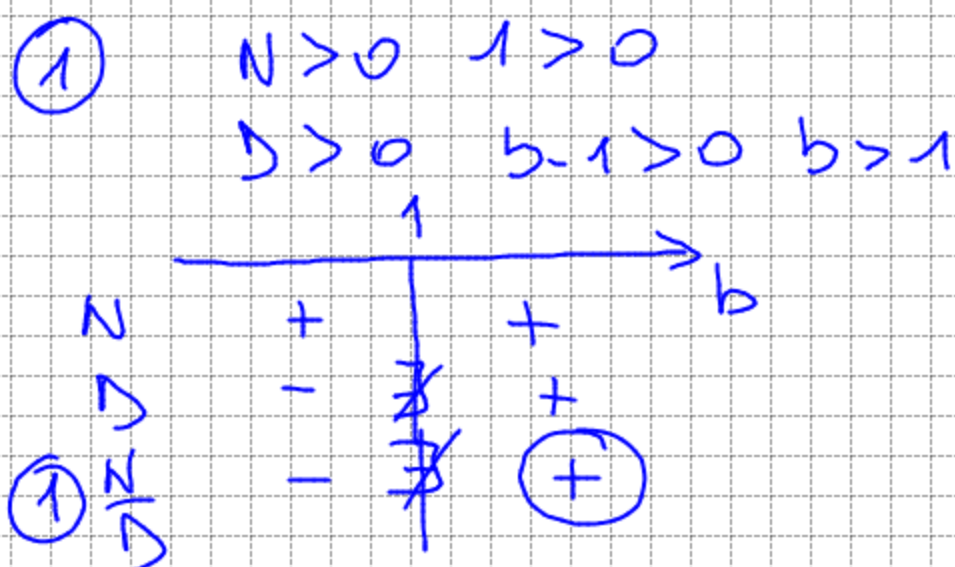
	-3	$-\frac{4}{7}$	$\frac{3}{2}$	2	
N	-	-	+	+	-
D	-	+	+	-	-
$\frac{N}{D}$	+	-	+	-	+

$$S: -3 < x \leq -\frac{4}{7} \cup \frac{3}{2} < x \leq 2$$

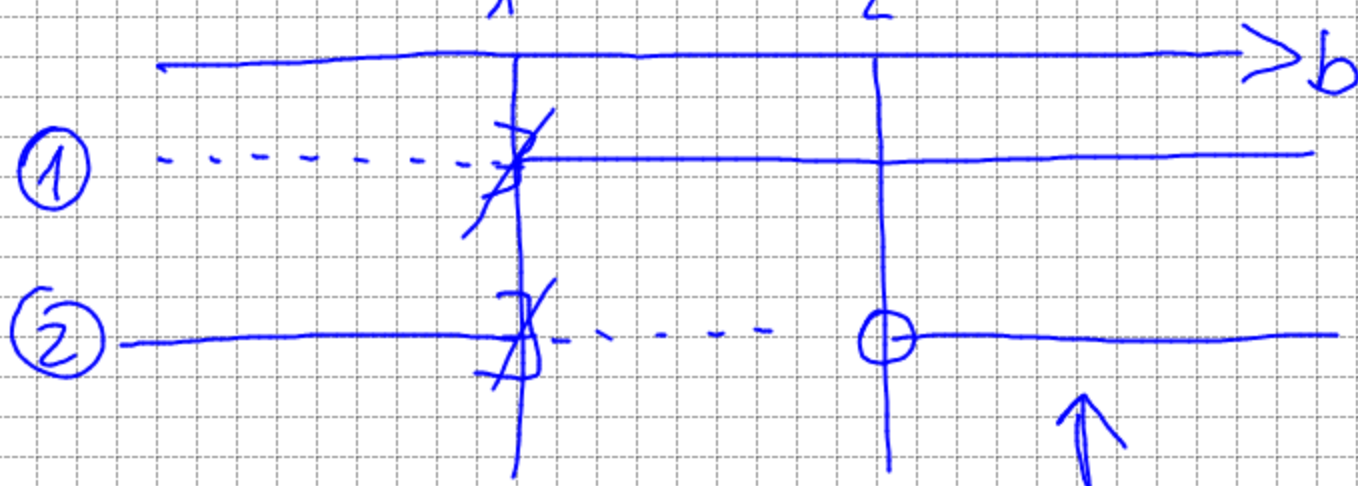
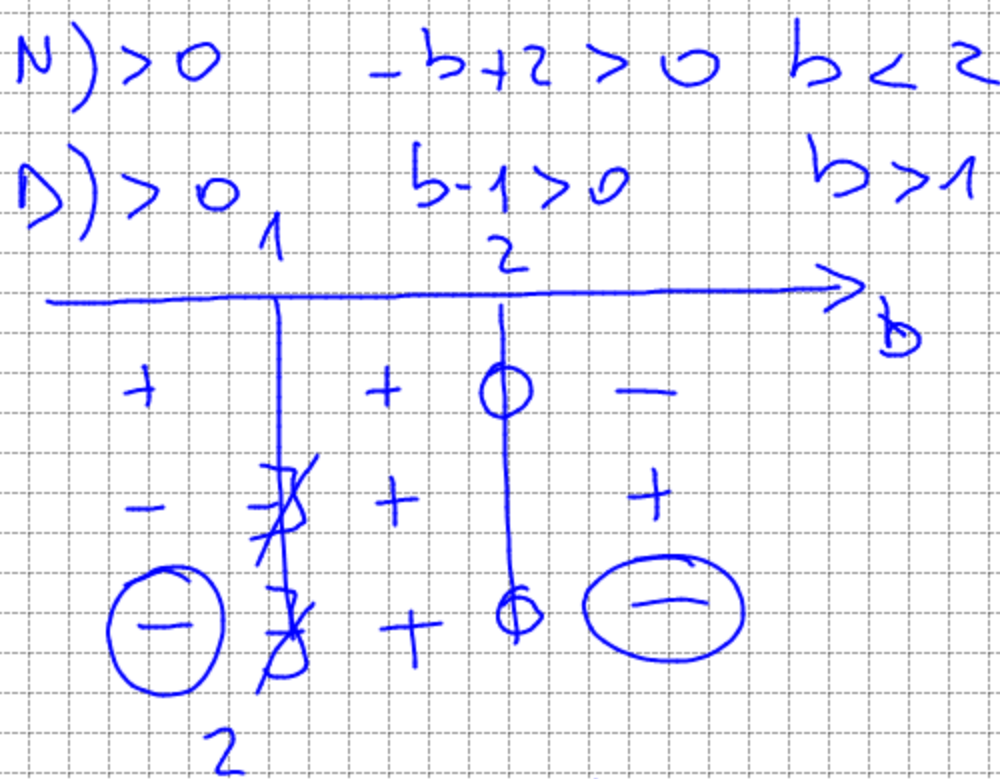
$bx - 2 - x = (1-b)x$ Det i valori di b per cui la soluzione è un numero positivo minore di 1.
 $bx - x - 1x + bx - 2 = 0$
 $x(2b-2) = 2$

$b \neq 1 \quad x = \frac{2}{2(b-1)} \quad 0 < \frac{1}{b-1} < 1$

① $\begin{cases} \frac{1}{b-1} > 0 \\ \frac{1}{b-1} < 1 \end{cases}$



② $\frac{1-b+1}{b-1} < 0$
 $\frac{-b+2}{b-1} < 0$



S: $b > 2$