

DISINQUAZIONE TRATTA

$$\frac{1}{x^3+3x^2-x-3} + \frac{4}{5x+5} > \frac{1}{x^2-1}$$

$$\frac{1}{x^2(x+3)-(x+3)} + \frac{4}{5(x+1)} > \frac{1}{(x-1)(x+1)}$$

$$\frac{1}{(x+3)(x+1)(x-1)} + \frac{4}{5(x+1)} > \frac{1}{(x+1)(x-1)}$$

$$\frac{1}{(x+3)(x+1)(x-1)} + \frac{4}{5(x+1)} - \frac{1}{(x+1)(x-1)} > 0$$

$$\frac{5 + 4(x-1)(x+3) - 5(x+3)}{5(x+1)(x-1)(x+3)} > 0$$

$$\frac{5 + 4x^2 + 12x - 4x - 12 - 5x - 15}{5(x+1)(x-1)(x+3)} > 0 \quad \frac{4x^2 + 3x - 22}{5(x+1)(x-1)(x+3)} > 0$$

$$N > 0 \quad 4x^2 + 3x - 22 > 0 \quad 4x^2 + 3x - 22 = 0 \quad x_{1,2} = \frac{-3 \pm \sqrt{9+352}}{8} =$$

$$\begin{matrix} + & & + \\ -11/4 & & 2 \end{matrix} \Rightarrow \frac{-3 \pm 19}{8} = \begin{matrix} -11/4 \\ 2 \end{matrix}$$

$$x < -\frac{11}{4} \vee x > 2$$

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

$$D_2 > 0 \quad x > 1$$

$$B_3 > 0 \quad x > -3$$

	-3	$-11/4$	-1	1	2		
+	+	○	-	-	-	○	+
-	-	-	○	+	+	+	+
-	-	-	-	○	+	+	+
-	○	+	+	+	+	+	+
-	(+)	-	(+)	-	(+)		

$$S_F: \begin{matrix} -3 < x < -\frac{11}{4} \quad \checkmark \\ -1 < x < 1 \quad \checkmark \\ x > 2 \end{matrix}$$