

SISTEMI DI DISEQUAZIONI 2° GRADO

ESERCIZIO GUIDATO

$$\begin{cases} -2x^2 < 0 & \textcircled{1} \\ x - 2x^2 < 0 & \textcircled{2} \\ x^2 - 11x + 10 \geq 0 & \textcircled{3} \end{cases}$$

$\textcircled{1} \quad -2x^2 < 0$ **MONOMIA** $\forall x \in \mathbb{R} \wedge x \neq 0$

$\textcircled{2} \quad x - 2x^2 < 0$ **SPURIA** $+ 2x^2 - x > 0$ VALORI ESTERNI

$$2x^2 - x = 0 \quad x(2x - 1) = 0 \quad \begin{cases} x = 0 \\ x = \frac{1}{2} \end{cases}$$

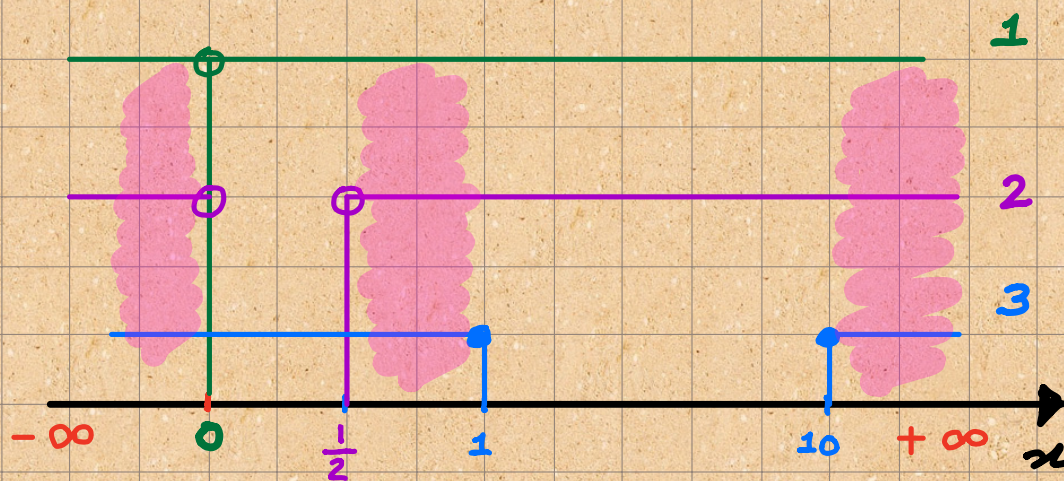
VALORI ESTERNI: $x < 0 \vee x > \frac{1}{2}$

$\textcircled{3} \quad x^2 - 11x + 10 \geq 0$ **TRINOMIO NOTEVOLE**

$$(x - 1) \cdot (x - 10) = 0 \quad \begin{cases} x = 1 \\ x = 10 \end{cases}$$

VALORI ESTERNI: $x < \underline{1} \vee x > \underline{10}$

GRAFICO DEL SISTEMA: VALORI COMUNI



$$S: \quad x < 0 \vee \quad \frac{1}{2} < x \leq 1 \quad \vee \quad x \geq 10$$

$$S = \left(-\infty ; 0 \right] \cup \left[\frac{1}{2} ; 1 \right] \cup \left[10 ; +\infty \right)$$

DISEQUAZIONI FRATTE 2° GRADO

ESERCIZIO GUIDATO

$$\frac{x^2 + 5x - 14}{x^2 - 64} < 0$$

STUDIO DEL SEGNO

$$N \geq 0 \Rightarrow x^2 + 5x - 14 \geq 0 \quad \textcircled{1} \quad \text{COMPLETA}$$

$$D > 0 \Rightarrow x^2 - 64 > 0 \quad \textcircled{2} \quad \text{PURA}$$

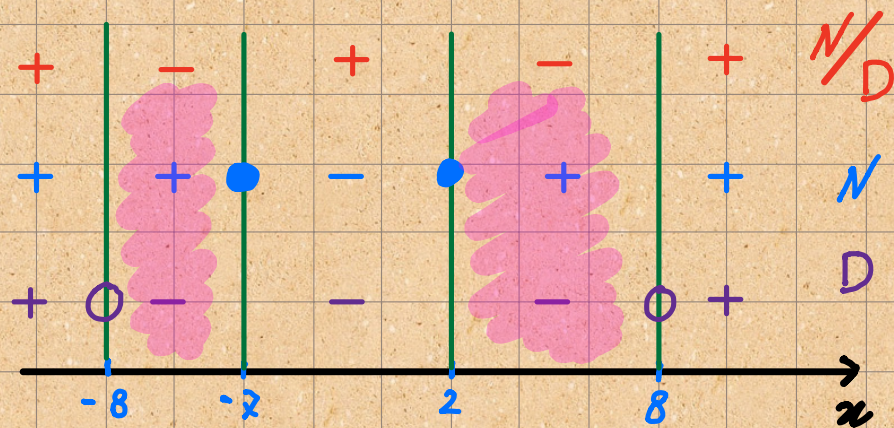
$$\textcircled{1} \quad (x + 7) \cdot (x - 2) = 0 \quad \begin{cases} x = -7 \\ x = 2 \end{cases}$$

$$\text{VALORI ESTERNI:} \quad x < -7 \vee x > 2$$

$$\textcircled{2} \quad x^2 = 64 \quad x = \pm 8$$

$$\text{VALORI ESTERNI:} \quad x < -8 \vee x > 8$$

GRAFICO DEI SEGNI



$$S: \quad -8 < x \leq -2 \quad \vee \quad 2 \leq x < 8$$

$$S =] -8 ; -2] \cup [2 ; 8 [$$