

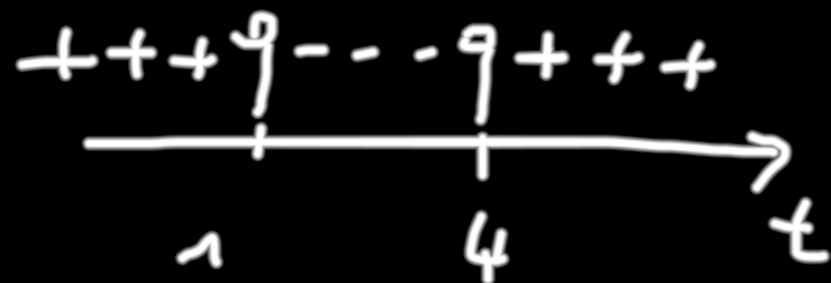
Disequazioni biquadratiche e trinomie

$$x^4 - 5x^2 + 4 < 0 \quad x^2 = t$$

$$t^2 - 5t + 4 < 0$$

$$t^2 - 5t + 4 = 0$$

$$t_{1/2} = \frac{5 \pm \sqrt{25 - 16}}{2} = \frac{5 \pm 3}{2} = \begin{cases} t_1 = 4 \\ t_2 = 1 \end{cases}$$

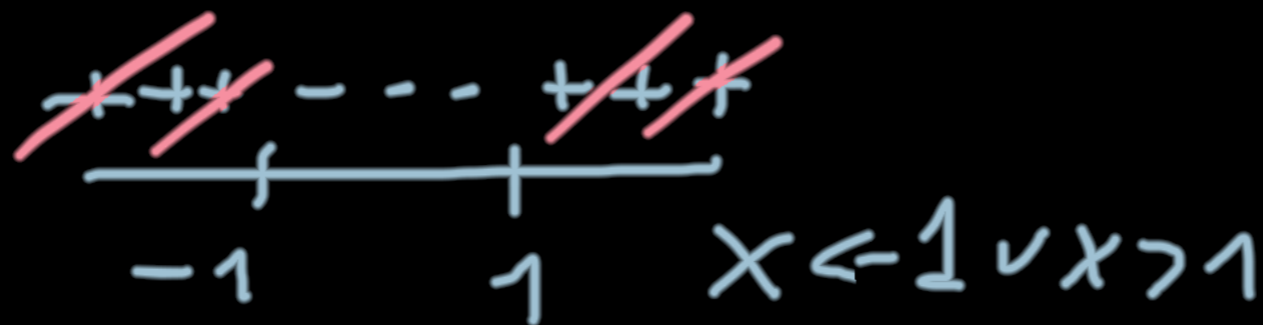


$$1 < t < 4 \text{ intersezione}$$

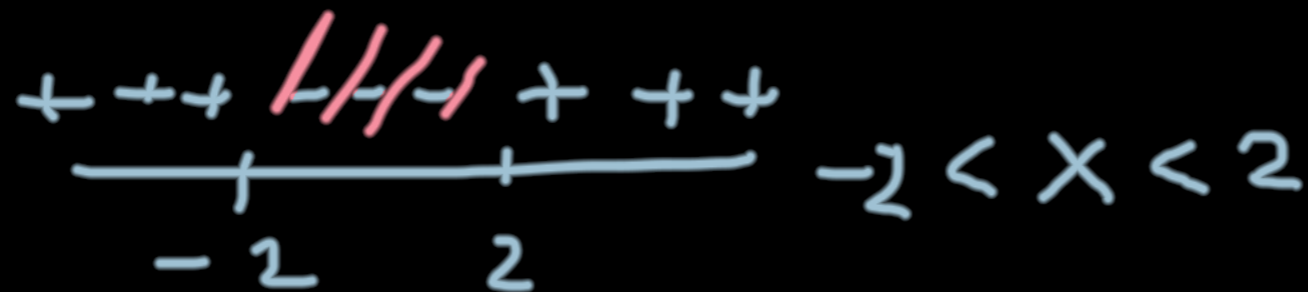
$$1 < x^2 < 4$$

$$1) \begin{cases} x^2 > 1 \\ x^2 < 4 \end{cases}$$

$$1) x^2 - 1 > 0 \rightarrow x^2 - 1 = 0 \quad x = \pm 1$$

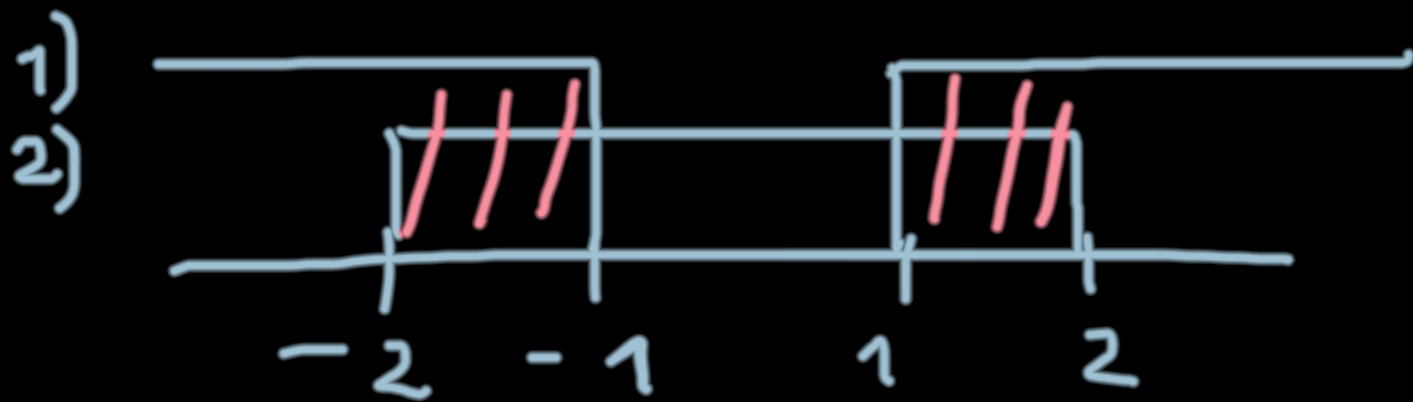


$$2) x^2 - 4 < 0 \rightarrow x^2 - 4 = 0 \quad x = \pm 2$$



$$1) \begin{cases} x < -1 \vee x > 1 \\ 2) \begin{cases} -2 < x < 2 \end{cases} \end{cases}$$

G.F. (GRAFICO FINALE
DEL SISTEMA
TABELLA DI VERITA')



$$S_{\neq} = \left\{ \begin{array}{l} -2 < x < -1 \vee \\ 1 < x < 2 \end{array} \right\}$$

ES. 2

$$z^4 - 26z^2 + 25 > 0 \quad z^2 = t$$

$$t^2 - 26t + 25 > 0$$

$$t^2 - 26t + 25 = 0$$

$$t_{1,2} = 13 \pm \sqrt{169 - 25} = 13 \pm 12 =$$

$$t_1 = 25 \quad t_2 = 1$$



$$t < 1 \vee$$
$$t > 25$$

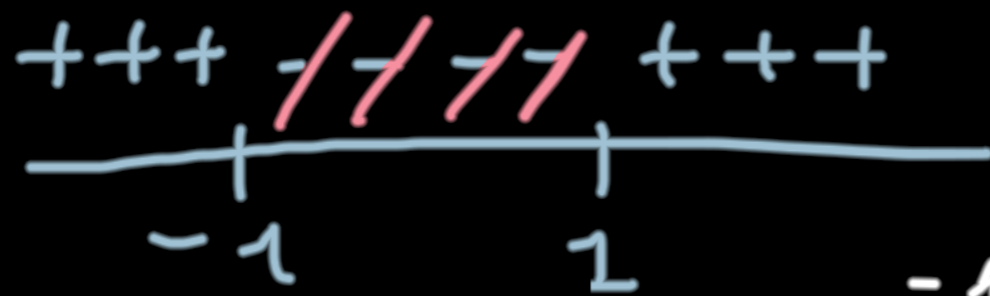
UNIONE

$$z^2 < 1 \quad \cup \quad z^2 > 25$$

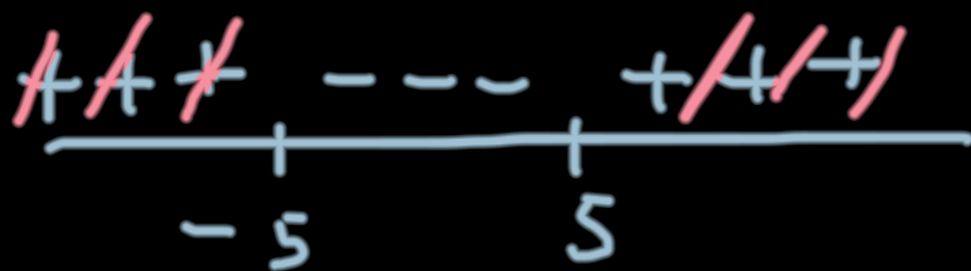
UNIONE

$$z^2 - 1 = 0 \quad z = \pm 1$$

$$z^2 - 25 = 0 \quad z = \pm 5$$



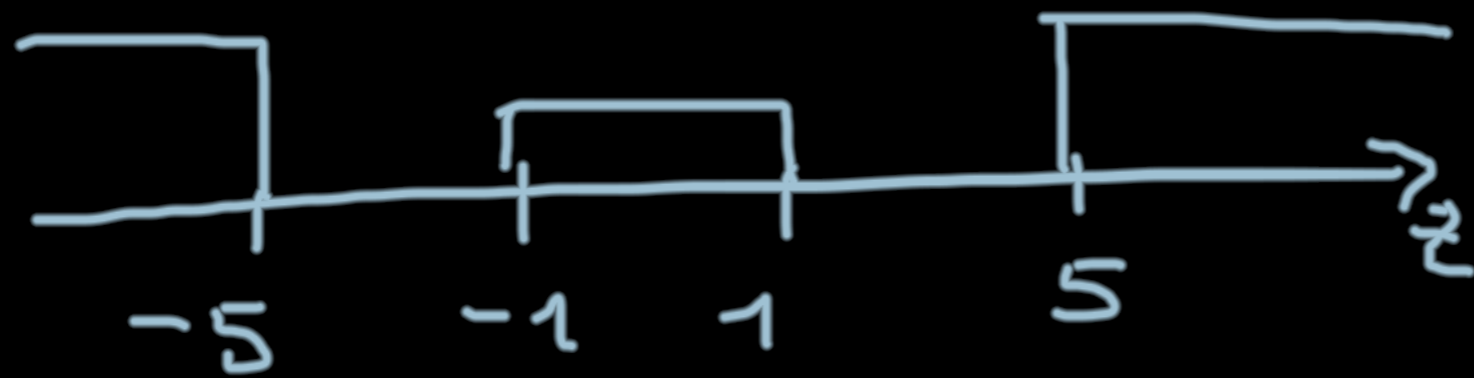
$$-1 < z < 1$$



$$z < -5 \vee$$

$$z > 5$$

UNIONE



$$S_f = \{ x < -5 \cup -1 < x < 1 \cup x > 5 \}$$

ESERCIZI

$$4x^4 - 21x^2 - 25 < 0 \quad \left[-\frac{5}{2} < x < \frac{5}{2}\right]$$

$$\frac{4-b^2}{b^2+2b+1} - \frac{2-b^2}{b^2+1} > 2 \quad \text{impossibile}$$

$$x^4 - x^3 - 7x^2 + x + 6 < 0 \quad \begin{array}{l} -2 < x < -1 \vee \\ 1 < x < 3 \end{array}$$

$$\frac{1}{y+1} + \frac{1}{y+2} < \frac{5}{y+5} \quad \begin{array}{l} -5 < y < -2 \\ -\frac{5}{3} < y < -1 \end{array}$$

$$\frac{a^2}{a-1} + \frac{a}{2a-3} < 3 \quad \begin{array}{l} y > 1 \\ 0 < a < 1 \\ \frac{5}{4} < a < \frac{3}{2} \\ a > 2 \end{array}$$