

SISTEMI DI DISEQUAZIONI

- 1 $\begin{cases} 3x^2 - 4x - 7 < 0 \\ \frac{4x-6}{3} + x < x+1 \end{cases}$ $\left[-1 < x < \frac{9}{4}\right]$
- 2 $\begin{cases} 3x^2 - x + 5 < 0 \\ \frac{x+2}{3} - x < \frac{x-1}{4} \end{cases}$ $[nessuna\ soluzione]$
- 3 $\begin{cases} x^2 + 3x > 4 \\ x(x+1) - 6x + 6 > 0 \end{cases}$ $[x < -4 \vee 1 < x < 2 \vee x > 3]$
- 4 $\begin{cases} 7 + 2x > 1 + \frac{x}{3} \\ 2 - x < \frac{5x-1}{2} \\ x^2 - 5x + 6 < 0 \end{cases}$ $[nessuna\ soluzione]$
- 5 $\begin{cases} x^2 - 10x + 32 > 0 \\ 5x < 11 \end{cases}$ $\left[x < \frac{11}{5}\right]$
- 6 $\begin{cases} 3x^2 - 2x - 3 > 0 \\ 11x > \frac{16}{5} \end{cases}$ $\left[x > \frac{1 + \sqrt{10}}{3}\right]$
- 7 $\begin{cases} \frac{1}{6}x^2 - \frac{5}{6}x + 1 > 0 \\ x + \frac{3}{2} > \frac{1}{2}x + 1 \end{cases}$ $[x > 3 \vee -1 < x < 2]$
- 8 $\begin{cases} 3x^2 - x - 2 > 0 \\ 6x^2 - x - 7 > 0 \end{cases}$ $\left[x < -1 \vee x > \frac{7}{6}\right]$
- 9 $\begin{cases} x^2 - 5x + 6 < 0 \\ x^2 + 3x - 4 > 0 \end{cases}$ $[2 < x < 3]$
- 10 $\begin{cases} x^2 - 4x + 4 > 0 \\ x^2 + 3x + 5 > 0 \end{cases}$ $[x \neq 2]$
- 11 $\begin{cases} 6x^2 + 7x + 2 < 0 \\ 4x^2 - 3x + 15 > 0 \end{cases}$ $\left[-\frac{2}{3} < x < -\frac{1}{2}\right]$
- 12 $\begin{cases} (3x-1)^2 > (x+5)^2 + 2 \\ x^2 - 2x + 1 < 0 \end{cases}$ $[nessuna\ soluzione]$
- 13 $\begin{cases} 3x^2 + 5x > 2 \\ \frac{1}{3}x^2 + x + \frac{2}{3} > 0 \\ x^2 + x > 1 \end{cases}$ $\left[x > \frac{1}{2}(\sqrt{5}-1) \vee x < -2\right]$
- 14 $\begin{cases} x^2 - 5x + 6 \geq 0 \\ 2(2x-9) < x \\ x^2 + 2x - 15 \leq 0 \end{cases}$ $[-5 \leq x \leq 2 \vee x = 3]$

- 15
$$\begin{cases} 2x^2 - x - 6 \geq 0 \\ \frac{x-2}{6} + \frac{1}{3} \leq \frac{1}{2} \\ (2x-1)(1+x) \leq 5+2x \end{cases} \quad \left[x = -\frac{3}{2} \vee x = 2 \right]$$
- 16
$$\begin{cases} x^2 - 7x - 8 \geq 0 \\ \frac{2x+5}{x-4} < \frac{x+3}{8-2x} \end{cases} \quad \left[-\frac{13}{5} < x \leq -1 \right]$$
- 17
$$\begin{cases} 3(x-1)^2 \leq 25-x \\ \frac{3x+7}{x+1} < \frac{3x-7}{x-1} \end{cases} \quad [-2 \leq x < -1 \vee 0 < x < 1]$$
- 18
$$\begin{cases} \frac{x^4-1}{x^4-x^2-2} \leq 0 \\ (x+1)(x-2) \geq 0 \end{cases} \quad [-\sqrt{2} < x \leq -1]$$
- 19
$$\begin{cases} x^4 + 7x^2 - 8 \geq 0 \\ 1 \leq \frac{1}{x} \end{cases} \quad [x=1]$$
- 20
$$\begin{cases} (1-x)(2-x) + x^2 + 5x > 3x^2 - 1 \\ x^4 - x^2 \geq 0 \end{cases} \quad [x=0 \vee 1 \leq x < 3]$$
- 21
$$\begin{cases} x(x+2) < x+7-2(1-3x) \\ 2x^2 - x^3 < 0 \end{cases} \quad \left[2 < x < \frac{5+3\sqrt{5}}{2} \right]$$
- 22
$$\begin{cases} x^3 - x^2 - x + 1 \leq 0 \\ x^2 + 2x - 24 \geq 0 \end{cases} \quad [x < -6]$$
- 23
$$\begin{cases} \frac{x+1}{x-2} < 1 \\ 4x^2 - 1 > 2x+1 \end{cases} \quad \left[x < -\frac{1}{2} \vee 1 < x < 2 \right]$$
- 24
$$\begin{cases} \frac{x^2-4x+4}{3-x} \geq 2 \\ \frac{7-x}{2} - x^2 - 4 < 0 \end{cases} \quad [x \leq 1 - \sqrt{3} \vee 1 + \sqrt{3} \leq x < 3]$$
- 25
$$\begin{cases} \frac{3}{2}x^2 - 4x(x-1) + (2x+1)^2 < 4 \\ \frac{x-1}{2} - x(x+3) > x^2 - x \end{cases} \quad [\textit{nessuna soluzione}]$$