

Raccolta di sistemi di disequazioni

Solved Systems of Linear Inequalities

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- 1.** $\begin{cases} x + 1 > 2 \\ x - 1 < 3 \end{cases}$ $[1 < x < 4]$
- 2.** $\begin{cases} 3x - 2 < 2x - 1 \\ 12 - x > 3 - 4x \end{cases}$ $[-3 < x < 1]$
- 3.** $\begin{cases} x - 2x \leq 5 \\ 2x - 5 \leq x + 2 \end{cases}$ $[-5 \leq x \leq 7]$
- 4.** $\begin{cases} 6x - \frac{3}{4}x \geq \frac{1}{4}x + 5 \\ 12x - \frac{3}{2}x \leq \frac{x}{2} + 10 \end{cases}$ $[x = 1]$
- 5.** $\begin{cases} 15x + 12 - 6 \cdot (2x + 2) \leq 2 \cdot (x + 2) \\ \frac{15x - 3}{2} - \frac{2 \cdot (5x + 5)}{3} < 3x - 6 + \frac{8 \cdot (x + 1)}{3} \end{cases}$ $[-1 < x \leq 4]$
- 6.** $\begin{cases} \frac{x - 1}{3} + \frac{x - 2}{2} < 2 \\ x - \frac{3 - x}{2} \geq 1 \end{cases}$ $\left[\frac{5}{3} \leq x < 4\right]$
(*)
- 7.** $\begin{cases} 2x - 5 > 0 \\ 2 - x > 0 \end{cases}$ $[nessun\ valore\ di\ x]$
(*)
- 8.** $\begin{cases} 3x - 2 \leq 0 \\ x + 5 > 0 \end{cases}$ $\left[-5 < x \leq \frac{2}{3}\right]$
(*)
- 9.** $\begin{cases} 2(x + 1) < 7 - x \\ 3(x + 4) > 2 + 3(2x - 1) \end{cases}$ $\left[x < \frac{5}{3}\right]$
(*)
- 10.** $\begin{cases} 3x^2 - 5x - 2 > 0 \\ x^2 - 4x + 3 < 0 \end{cases}$ $[2 < x < 3]$
(*)
- 11.** $\begin{cases} x^2 + 3x - 4 \geq 0 \\ x^2 - 5x + 6 \geq 0 \end{cases}$ $[x \leq -4 \vee 1 \leq x \leq 2 \vee x \geq 3]$
(*)
- 12.** $\frac{3x - 2}{x + 5} > 0$ $\left[x < -5 \vee x > \frac{2}{3}\right]$
(*)

13. $\frac{x^2 - 7x + 6}{x^2 - x - 6} > 0$

$$\left[-2 < x < 1 \vee 3 < x < 6 \right]$$

(*)

14. $\frac{3x^2 - 5x + 2}{3x^2 + 4x - 4} \leq 0$

$$\left[-2 < x < \frac{2}{3} \vee \frac{2}{3} < x \leq 1 \right]$$

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Soluzioni

$$\begin{cases} x + 1 > 2 \\ x - 1 < 3 \end{cases}$$

$$\begin{cases} x > 2 - 1 \\ x < 3 + 1 \end{cases}$$

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

$$[1 < x < 4]$$

$$\begin{cases} 3x - 2 < 2x - 1 \\ 12 - x > 3 - 4x \end{cases}$$

$$\begin{cases} 3x - 2x < -1 + 2 \\ -x + 4x > 3 - 12 \end{cases}$$

$$\begin{cases} x < 1 \\ 3x > -9 \end{cases}$$

$$\begin{cases} x < 1 \\ x > -3 \end{cases}$$

$$[-3 < x < 1]$$

$$\begin{cases} x - 2x \leq 5 \\ 2x - 5 \leq x + 2 \end{cases}$$

$$\begin{cases} -x \leq 5 \\ 2x - x \leq +2 + 5 \end{cases}$$

$$\begin{cases} x \geq -5 \\ x \leq 7 \end{cases}$$

$$[-5 \leq x \leq 7]$$

$$\begin{cases} 6x - \frac{3}{4}x \geq \frac{1}{4}x + 5 \\ 12x - \frac{3}{2}x \leq \frac{x}{2} + 10 \end{cases}$$

$$\begin{cases} 24x - 3x \geq x + 20 \\ 24x - 3x \leq x + 20 \end{cases}$$

$$\begin{cases} 24x - 3x - x \geq +20 \\ 24x - 3x - x \leq +20 \end{cases}$$

$$\begin{cases} 20x \geq +20 \\ 20x \leq +20 \end{cases}$$

$$\begin{cases} 20x \geq +20 \\ 20x \leq +20 \end{cases}$$

$$\begin{cases} x \geq 1 \\ x \leq 1 \end{cases}$$

$$[x = 1]$$

$$\begin{cases} 15x + 12 - 6 \cdot (2x + 2) \leq 2 \cdot (x + 2) \\ \frac{15x - 3}{2} - \frac{2 \cdot (5x + 5)}{3} < 3x - 6 + \frac{8 \cdot (x + 1)}{3} \end{cases}$$

$$\begin{cases} 15x + 12 - 12x - 12 \leq 2x + 4 \\ 45x - 9 - 20x - 20 < 18x - 36 + 16x + 16 \end{cases}$$

$$\begin{cases} 15x - 12x - 2x \leq +4 \\ 45x - 20x - 16x - 18x < -36 + 16 + 9 + 20 \end{cases}$$

$$\begin{cases} x \leq +4 \\ -9x < 9 \end{cases}$$

$$\begin{cases} x \leq +4 \\ x > -1 \end{cases}$$

$$[-1 < x \leq 4]$$

$$\begin{cases} \frac{x-1}{3} + \frac{x-2}{2} < 2 \\ x - \frac{3-x}{2} \geq 1 \end{cases}$$

$$\begin{cases} 2x - 2 + 3x - 6 < 12 \\ 2x - 3 + x \geq 2 \end{cases}$$

$$\begin{cases} 2x - 2 + 3x - 6 < 12 \\ 2x - 3 + x \geq 2 \end{cases}$$

$$\begin{cases} 2x + 3x < 12 + 2 + 6 \\ 2x + x \geq 2 + 3 \end{cases}$$

$$\begin{cases} 5x < 20 \\ 3x \geq 5 \end{cases}$$

$$\left[\frac{5}{3} \leq x < 4 \right]$$

$$\begin{cases} x < 4 \\ x \geq \frac{5}{3} \end{cases}$$

$$\begin{cases} 2x - 5 > 0 \\ 2 - x > 0 \end{cases}$$

$$\begin{cases} 2x > 5 \\ -x > -2 \end{cases}$$

$$\begin{cases} x > \frac{5}{2} \\ x < 2 \end{cases}$$

[nessun valore di x]

Altri esercizi

$$15. \quad \begin{cases} 3x - 2 \leq 0 \\ x + 5 > 0 \end{cases} \quad \left[-5 < x \leq \frac{2}{3} \right]$$

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$$16. \quad \begin{cases} 2(x + 1) < 7 - x \\ 3(x + 4) > 2 + 3(2x - 1) \end{cases} \quad \left[x < \frac{5}{3} \right]$$

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$$17. \quad \begin{cases} 3x^2 - 5x - 2 > 0 \\ x^2 - 4x + 3 < 0 \end{cases} \quad [2 < x < 3]$$

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$$18. \quad \begin{cases} x^2 + 3x - 4 \geq 0 \\ x^2 - 5x + 6 \geq 0 \end{cases} \quad [x \leq -4 \vee 1 \leq x \leq 2 \vee x \geq 3]$$

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$$19. \quad \frac{3x - 2}{x + 5} > 0 \quad \left[x < -5 \vee x > \frac{2}{3} \right]$$

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$$20. \quad \frac{x^2 - 7x + 6}{x^2 - x - 6} > 0 \quad [-2 < x < 1 \vee 3 < x < 6]$$

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$$21. \quad \frac{3x^2 - 5x + 2}{3x^2 + 4x - 4} \leq 0 \quad \left[-2 < x < \frac{2}{3} \vee \frac{2}{3} < x \leq 1 \right]$$

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