

Risolvere i seguenti sistemi di disequazioni:

$$88) \begin{cases} x + 3 > 7 \\ x - 8 < 0. \end{cases} \quad [4 < x < 8]$$

$$89) \begin{cases} 5x - 3 > 12 \\ 3x - 2 > 13. \end{cases} \quad [x > 5]$$

$$90) \begin{cases} \frac{x-5}{3} + 1 > 2 \\ \frac{x+2}{4} + 3 < 6. \end{cases} \quad [8 < x < 10]$$

$$91) \begin{cases} \frac{2x-1}{6} > \frac{5x-2}{2} \\ \frac{2x+1}{10} - \frac{x-1}{4} > -\frac{x+1}{4}. \end{cases} \quad \left[-3 < x < \frac{5}{13}\right]$$

$$92) \begin{cases} \frac{x}{2} - 3(2-x) > \frac{1+x}{4} \\ \frac{1+3x}{4} < 1 - \frac{2x-1}{3}. \end{cases} \quad [\text{nessuna soluzione}]$$

$$93) \begin{cases} \frac{x-1}{5} - x < \frac{4-x}{2} \\ (1-x) + \frac{3}{2}x < 0. \end{cases} \quad \left[-\frac{22}{3} < x < -2 \right]$$

$$94) \begin{cases} \frac{3x-1}{2} - \frac{x-2}{6} < \frac{x}{3} \\ \frac{3x-1}{2} > \frac{2x-14}{3}. \end{cases} \quad \left[-5 < x < \frac{1}{6} \right]$$

$$95) \begin{cases} (3x+2)^2 - 4x(2x-3) > x(x-4) \\ (2x-5)^2 + 4x(3-x) > -3 - 4x. \end{cases} \quad \left[\frac{1}{7} < x < 7 \right]$$

$$96) \begin{cases} x(x+2) < 0 \\ \frac{x+1}{3} + 1 < x. \end{cases} \quad [\text{nessuna soluzione}]$$

$$97) \begin{cases} x^2 + x - 2 > (x-1)^3 - x(x-1)^2 \\ 4x^2 + 5x + 1 < 0. \end{cases} \quad \left[-1 < x < -\frac{1}{2} \right]$$

$$98) \begin{cases} x^2 + x - 20 \leq 0 \\ (x+4)^5 > 0 \\ (6-x)^3 > 0. \end{cases} \quad [-4 < x \leq 4]$$

$$99) \begin{cases} (x+2)(x-1) > 0 \\ \frac{1}{2}x + 1 < \frac{3}{2}x - 1. \end{cases} \quad [x > 2]$$

$$100) \begin{cases} 2x^2 - 3x < 0 \\ x(x-8) < 0 \\ 2x(x+2) > 0. \end{cases} \quad \left[0 < x < \frac{3}{2} \right]$$

$$101) \begin{cases} 3 - 4x \leq 0 \\ 10 - 13x > 0 \\ 9x - 7 < 0 \\ 5x - 4 \leq 0. \end{cases} \quad \left[\frac{3}{4} \leq x < \frac{10}{13} \right]$$

$$102) \begin{cases} x^2 - 10x + 25 < 0 \\ 3x - 5 \geq 0 \end{cases} \quad [\text{nessuna soluzione}]$$

$$103) \begin{cases} 3x - x^2 - 5 > 0 \\ 3x - 4 < 0 \end{cases} \quad [\text{nessuna soluzione}]$$

$$104) \begin{cases} x^2 - 4 \leq 0 \\ 4x - x^2 \geq 3. \end{cases} \quad [1 \leq x \leq 2]$$

$$105) \begin{cases} 6x^2 - 19x + 15 \geq 0 \\ 5x^2 - 13x + 8 > 0. \end{cases} \quad \left[x < 1 \text{ o } x \geq \frac{5}{3} \right]$$

$$106) \begin{cases} x^2 - x + 1 > 0 \\ x^2 - 2x - 2 \leq 0. \end{cases} \quad [1 - \sqrt{3} \leq x \leq 1 + \sqrt{3}]$$

$$107) \begin{cases} x^2 > 0 \\ 2x^2 - 1 \geq 0 \\ x^2 + 1 > 0. \end{cases} \quad \left[x \leq -\frac{\sqrt{2}}{2} \text{ o } x \geq \frac{\sqrt{2}}{2} \right]$$

$$108) \begin{cases} \left(x - \frac{1}{2}\right) \left(x + \frac{1}{2}\right) > \frac{1}{2} \\ \frac{x^2 - 1}{2} + x > 0. \end{cases} \quad \left[x < -1 - \sqrt{2}, x > \frac{\sqrt{3}}{2} \right]$$

$$109) \begin{cases} x^2 - 6x + 5 > 0 \\ x^2 - 2x - 3 < 0 \\ x^2 - 4 > 0. \end{cases} \quad [\text{nessuna soluzione}]$$

$$110) \begin{cases} x^2 - 1 \geq \frac{4}{\sqrt{5}}x \\ 2(x-2)(x+1) + 1 < 3x \end{cases} \quad \left[-\frac{1}{2} < x \leq -\frac{\sqrt{5}}{5} \text{ o } \sqrt{5} \leq x < 3 \right]$$

$$111) \begin{cases} \frac{4-x}{2} - 3x + 1 < 5x - \frac{x-2}{3} + 1 - \frac{1}{6}x \\ x(10-x) \leq -x + 28. \end{cases} \quad \left[\frac{1}{6} < x < 4 \text{ o } x > 7 \right]$$

$$112) \begin{cases} (3x-2)(x+1) + 2 > 0 \\ (x-1)^2 < 4. \end{cases} \quad \left[-1 < x < -\frac{1}{3} \text{ o } 0 < x < 3 \right]$$

$$113) \begin{cases} 3x - 1 < 4 + x \\ x - 2 > 0 \\ 2x - 1 < x + 3. \end{cases} \quad \left[2 < x < \frac{5}{2} \right]$$

$$114) \begin{cases} 7 - 2x > 3x - 1 \\ x + 9 < 0 \\ 4(x+1) + 3 > x - 1. \end{cases} \quad [\text{nessuna soluzione}]$$

$$5) \left\{ \begin{array}{l} \frac{2-x}{3} - \frac{x+1}{4} > \frac{x-1}{6} \\ \frac{x-4}{5} + \frac{x-5}{4} < \frac{1}{20}x \end{array} \right. \quad [x < \frac{7}{9}]$$

$$6) \left\{ \begin{array}{l} \frac{1}{3}x + \frac{1}{5}x < 8 \\ \frac{1}{2}x - \frac{4}{9}x < 5 \end{array} \right. \quad [x < 15]$$

$$7) \left\{ \begin{array}{l} \frac{6-2x}{3} < \frac{1}{2}x - \frac{3}{4} \\ \frac{1}{4}x - \frac{1}{2} > 2x - \frac{1}{4} \end{array} \right. \quad [\text{nessuna soluzione}]$$

$$8) \left\{ \begin{array}{l} 6+2x > \frac{1}{3}x \\ 2-x > \frac{1}{2}(5x-1) \end{array} \right. \quad [-\frac{18}{5} < x < \frac{5}{7}]$$

$$9) \left\{ \begin{array}{l} 2(3x-1) + 2x > 1 \\ \frac{4}{5} - \frac{1}{2}(1+2x) < \frac{7}{10}x - \frac{3}{10} \end{array} \right. \quad [x > \frac{3}{8}]$$

$$10) \left\{ \begin{array}{l} \frac{1}{3}(x-1) + \frac{1}{2}(x-2) - 2 < 0 \\ x-1 - \frac{1}{2}(3-x) > 0 \end{array} \right. \quad [\frac{5}{3} < x < 4]$$

$$11) \left\{ \begin{array}{l} \frac{3}{7}(2x-5) - \frac{3}{5}(x+1) > 0 \\ \frac{1}{4}x - 2 < \frac{1}{3}x - \frac{1}{2} \end{array} \right. \quad [x > \frac{32}{3}]$$

$$12) \left\{ \begin{array}{l} \frac{3}{5}x + \frac{1}{20} - \frac{1}{5}(4+x) < \frac{1}{5} \\ \frac{x+2}{3} + 1 - x^2 > x(1-x) - 1 \end{array} \right. \quad [x < \frac{19}{8}]$$

$$13) \left\{ \begin{array}{l} 2x+3(x-2) < x-2 \\ 2(x+3) - x > 2 \end{array} \right. \quad [-4 < x < 1]$$

$$124) \begin{cases} \frac{x+3}{2} - \frac{1}{4}(x+1) < \frac{x}{2} - 3 \\ \frac{4+2x}{3} + \frac{1}{3}(4-3x) + 1 < \frac{1}{2}(1+x). \end{cases} \quad [x > 17]$$

$$125) \begin{cases} \frac{1}{2}(x-1) + \frac{2}{3}(x+1) > \frac{1}{2}x - \frac{7}{6} \\ \frac{1}{2}x + \frac{1}{4}(8x-1) < \frac{1}{2}(x+1) - \frac{11}{4}. \end{cases} \quad [-2 < x < -1]$$

$$126) \begin{cases} (x+1)^2 - (x-1)^2 < -1 \\ x^2 + x < x(x+2) - 1. \end{cases} \quad [\text{nessuna soluzione}]$$

$$127) \begin{cases} 2x - 5 < 0 \\ 2x - x^2 - 3 > 0. \end{cases} \quad [\text{nessuna soluzione}]$$

$$128) \begin{cases} x^2 - 5x + 4 < 0 \\ 6x - x^2 - 9 < 0. \end{cases} \quad [1 < x < 3 \quad \text{o} \quad 3 < x < 4]$$

$$129) \begin{cases} 4x^2 - 12x + 9 \geq 0 \\ (3-x)(4x-3) \geq 3x. \end{cases} \quad \left[x = \frac{3}{2} \right]$$

$$130) \begin{cases} x^2 - 9 > 0 \\ x^2 + 5 > 0 \\ x^2 - 5x > 0. \end{cases} \quad [x < -3 \quad \text{o} \quad x > 5]$$

$$131) \begin{cases} \frac{x+1}{x-1} < 0 \\ 2x(x+3) > 0. \end{cases} \quad [0 < x < 1]$$

$$132) \begin{cases} \frac{2x-1}{x-2} > 0 \\ x \left(x - \frac{1}{2} \right) > 0. \end{cases} \quad [x < 0 \quad \text{o} \quad x > 2]$$

$$133) \begin{cases} \frac{x-1}{x} + x - 1 > 0 \\ \frac{x+1}{x-1} - 1 + 3x > 0. \end{cases} \quad [x > 1]$$

$$134) \begin{cases} \frac{x^2+1}{x-1} + 2(x+1) > 0 \\ \frac{(x-1)(x+1)-2}{x} - x > 0 \end{cases} \quad \left[-\frac{\sqrt{3}}{3} < x < 0 \right]$$

$$135) \begin{cases} \frac{2}{x-3} < 0 \\ \frac{(x-3)(x+3)}{x+12} \geq 0 \end{cases} \quad [-12 < x \leq -3]$$

$$136) \begin{cases} \frac{2x+3}{7} - \frac{x-1}{14} \geq \frac{1}{2} + x \\ \frac{x-5}{8} - \frac{x}{4} < \frac{2x-5}{2} \end{cases} \quad [\text{nessuna soluzione}]$$

$$137) \begin{cases} \frac{7x-1}{8} - \frac{7-2x}{4} + \frac{3}{2} - x > x + \frac{1}{4} \\ \frac{2x-1}{9} - \frac{1}{3} \left(\frac{x-1}{3} - \frac{1}{2} + \frac{1}{2}x \right) < \frac{x}{2} + 1 \end{cases} \quad \left[-\frac{3}{2} < x < -\frac{1}{9} \right]$$

$$138) \begin{cases} \frac{2}{5}(x-1) - \frac{3}{2}(x+1) \leq \frac{3}{10}(x+1) \\ \frac{4}{3}(x+1) + \frac{1}{2}(x-1) > \frac{5}{6}(2x-1) \end{cases} \quad \left[x \geq -\frac{11}{7} \right]$$

$$139) \begin{cases} \frac{2x+1}{x+3} < 0 \\ \frac{3x-\sqrt{2}}{3-2x} \geq 0 \end{cases} \quad [\text{nessuna soluzione}]$$

$$140) \begin{cases} \frac{x-1}{2-x} \leq 1 \\ \frac{1-x}{2-x} < 0 \end{cases} \quad \left[1 < x \leq \frac{3}{2} \right]$$

$$141) \begin{cases} \frac{4x+1}{4-2x} < 0 \\ \frac{2x+7}{x-3} < 0 \end{cases} \quad \left[-\frac{7}{2} < x < -\frac{1}{4} \quad \text{o} \quad 2 < x < 3 \right]$$

$$142) \begin{cases} \frac{3x + \sqrt{6}}{2x} \geq 0 \\ \frac{3x}{3x - 4} \leq 0. \end{cases} \quad \left[0 < x < \frac{4}{3} \right]$$

$$143) \begin{cases} \frac{3x + 1}{x - 3} - \frac{3x - 1}{x - 1} \geq \frac{8x - 1}{x^2 - 4x + 3} \\ \frac{5x + 1}{x + 1} - 4 \geq 0. \end{cases} \quad [1 < x < 3]$$

$$144) \begin{cases} \frac{x - 2}{x + 2} - \frac{x + 2}{x - 2} \geq 0 \\ \frac{x + 1}{x - 2} - \frac{x - 2}{x - 3} \leq 0. \end{cases} \quad [x < -2 \quad \text{o} \quad 0 \leq x < 2]$$

$$145) \begin{cases} \frac{5}{x - 5} + \frac{x}{x + 5} < \frac{x^2}{x^2 - 25} \\ \frac{2x - 1}{2} - \frac{3}{x} \geq x. \end{cases} \quad [-5 < x < 0]$$

$$146) \begin{cases} x^2 - x + 2 > 0 \\ 4x^2 + 12x + 9 > 0. \end{cases} \quad \left[\forall x \in \mathbb{R}, x \neq -\frac{3}{2} \right]$$

$$147) \begin{cases} 1 - x^2 > 0 \\ 1 + x^2 > 0 \\ x^2 > 0. \end{cases} \quad [-1 < x < 0 \quad \text{o} \quad 0 < x < 1]$$

$$148) \begin{cases} 1 - x^2 > 0 \\ 1 + x^2 > 0 \\ x^2 \geq 0. \end{cases} \quad [-1 < x < 1]$$

$$149) \begin{cases} x^3 < 0 \\ 6 - x^2 < 0 \\ 5x - x^2 - 6 > 0. \end{cases} \quad [\text{nessuna soluzione}]$$

$$150) \begin{cases} x^2 - 3x + 2 \leq 0 \\ x^2 - 2x + 1 \leq 0 \\ x^2 - 1 \geq 0. \end{cases} \quad [x = 1]$$

$$151) \begin{cases} x^3 + x^2 + x - 3 < 0 \\ x^3 - 3x^2 + 4x - 12 \geq 0. \end{cases} \quad [\text{nessuna soluzione}]$$

$$152) \begin{cases} -3x^4 + 2x^2 + 5 < 0 \\ x^4 - 13x^2 + 36 > 0. \end{cases} \quad \left[x < -3, -2 < x < -\sqrt{\frac{5}{3}}, \sqrt{\frac{5}{3}} < x < 2, x > 3 \right]$$

$$153) \begin{cases} 2 + x^2 \geq 0 \\ \frac{3x}{(x-2)^2} - \frac{2}{x+2} - \frac{8}{x^2-4} \leq 0. \end{cases} \quad [x \leq -4]$$

$$154) \begin{cases} x^3 + 1 < 0 \\ 2\sqrt{2} - \frac{2}{x} \geq x. \end{cases} \quad [x < -1]$$

$$155) \begin{cases} 16x^4 - 1 > 0 \\ \frac{x-1}{x+1} + \frac{x+1}{x-1} \leq \frac{8}{x^2-1}. \end{cases} \quad [-\sqrt{3} \leq x < 1 \text{ o } 1 < x \leq \sqrt{3}]$$

$$156) \begin{cases} \frac{5}{2}x^3 > 0 \\ 4 - x^2 \geq 0 \\ 2x^3 + 3x^2 - 8x - 12 \geq 0. \end{cases} \quad [x = 2]$$

$$157) \begin{cases} x^4 - 1 > 0 \\ x^4 - 5x^2 - 14 < 0 \\ -2x^3 + 3x^2 + 5x \leq 0. \end{cases} \quad \left[\frac{5}{2} \leq x < \sqrt{7} \right]$$

$$158) \begin{cases} x^3 - x^2 > 0 \\ x^3 - x > 0 \\ x^3 - 1 > 0. \end{cases} \quad [x > 1]$$

$$159) \begin{cases} 8 - x^3 \leq 0 \\ \frac{2}{x} + \frac{1}{2} - \frac{5}{x+1} \geq 0 \\ x^6 - 1 > 0. \end{cases} \quad [x \geq 4]$$

$$160) \begin{cases} 3x^4 - 13x^3 - 17x^2 + 37x - 10 > 0 \\ x^3 - x^2 - x + 1 > 0 \\ x^3 - 2x^2 + 2x - 1 > 0. \end{cases} \quad [x > 5]$$