

1	$\begin{cases}  2x^2 + 1  < 3 -  x  \\ \frac{\sqrt{2-x^2} - 3x + 1}{\left  \frac{x}{x-3} \right  - 2} > 0 \end{cases}$	$\frac{3 + \sqrt{19}}{10} < x < \frac{-1 + \sqrt{17}}{4}$
2	$\begin{cases} \frac{x^2 - 3x - 18}{x^2 - 12x + 32} \leq 0 \\ \frac{1 - x^2}{1 - x + \sqrt{x^2 - 3x}} > 0 \end{cases}$	$-1 < x \leq 0 \cup 3 \leq x < 4 \cup 6 \leq x < 8$
3	$\begin{cases}  x - 3  + 2x - 5 -  3 - x^2  < -5 \\ \frac{-x^2 + 2x + 8}{-x - 1} < 0 \\ \frac{\sqrt{1-x} + 1}{x + 4} > 1 \end{cases}$	$-4 < x < -2$
4	$\begin{cases} \frac{ 1 - x^2  - 1}{x^2 - 2x + 3} \leq 2 \\ \frac{x}{2 + x - \sqrt{ x  - x^2}} > 0 \end{cases}$	$0 < x \leq 1$
5	$\begin{cases} \frac{x^2 - 3}{1 - x^2} > -1 \\ \frac{\sqrt{x} - 2x + 3}{ 2 + x  - x^2 -  3x } > 0 \end{cases}$	$x > \frac{9}{4}$
6	$\begin{cases} \frac{4 - x^2}{3x + 1} > 0 \\ \frac{3 - 2x}{x^2 - 5x + 4} \leq 0 \end{cases}$	$1 < x \leq \frac{3}{2}$
7	$\begin{cases} \frac{5x^2 - 4x - 1}{x(x - 2)} < 0 \\ \frac{1}{x} - \frac{3}{x^2 - 1} < \frac{1}{x + 1} \end{cases}$	$-\frac{1}{5} < x < 0 \cup 1 < x < 2$
8	$\begin{cases} \frac{3x}{x^2 + 1} - 1 > 0 \\ -\frac{x^2 + 2}{3x + 2} + 1 \leq 0 \end{cases}$	$\textit{impossibile}$
9	$\begin{cases} \frac{3}{x} - \frac{1}{x^2} > 2 \\ 5(x^2 - 1)(x + 2) < 0 \end{cases}$	$\frac{1}{2} < x < 1$

10	$\begin{cases} \frac{1-4x^2}{x^2-3x} \geq 0 \\ \frac{1}{x+2} - \frac{1}{x^2+x-2} < 0 \end{cases}$	$1 < x < 2$
11	$\begin{cases} \sqrt{3x-1} - x \leq 0 \\ \frac{4x^2+1}{3x^2-4x+1} > 0 \end{cases}$	$x \geq \frac{3+\sqrt{5}}{2}$
12	$\begin{cases} x\sqrt{\frac{2}{x}} - 4 > 0 \\ \frac{1-x^3}{4x^2+3x-1} \leq 0 \end{cases}$	$x > 8$
13	$\begin{cases} \frac{x^5-1}{x^4-1} \geq 0 \\ 2\sqrt{x^2-3x}-x > 0 \end{cases}$	$-1 < x < 0 \cup x > 4$
14	$\begin{cases} \frac{2}{x+4} - \frac{1}{1-x} \leq \frac{1}{x^2+3x-4} \\ \frac{1}{\sqrt{2x-1}} > 0 \end{cases}$	$\frac{1}{2} < x < 1$
15	$\begin{cases} \sqrt{2x(x-1)} + 3x \geq 0 \\ \sqrt{3-x} > \frac{1}{2\sqrt{x}} \end{cases}$	$1 \leq x < \frac{3+2\sqrt{2}}{2}$
16	$\begin{cases} \frac{2-\sqrt{x}}{\sqrt{x}+\sqrt[3]{x}} > 0 \\ \frac{\sqrt{x^3-1}-1}{x^2-4x+4} \geq 0 \end{cases}$	$\sqrt[3]{2} \leq x < 2 \cup 2 < x < 4$
17	$\begin{cases} \frac{1+x^4}{x^3+1} \geq 0 \\ \frac{\sqrt{4x^2-4x+1}}{ x^2 -4} < 0 \end{cases}$	$-1 < x < \frac{1}{2} \cup \frac{1}{2} < x < 2$
18	$\begin{cases} \frac{1}{x^2} \geq  x  \\ \frac{ x^2+4 -4x}{x^2-2x-3} \leq 0 \end{cases}$	$-1 < x < 0 \cup 0 < x < 1$

## Sistemi di disequazioni ed equazioni

19	$\begin{cases} \sqrt{2x^2 - 1} + \frac{ x }{2} > 0 \\ \frac{\sqrt{2x^2 - 1}}{\sqrt{ x  - 1}} > 1 \end{cases}$	$x < -1 \cup x > 1$
20	$\begin{cases} xy = -8 \\ x^3 + y^3 = 56 \end{cases}$	$x = 4, y = -2; x = -2, y = 4$
21	$\begin{cases} x + y = 7 \\ x^4 + y^4 = 337 \end{cases}$	$x = 3, y = 4; x = 4, y = 3$
22	$\begin{cases} xy = 12 \\ x^4 + y^4 = 337 \end{cases}$	$x = 3, y = 4; x = 4, y = 3;$ $x = -3, y = -4; x = -4, y = -3$
23	$\begin{cases} x + y = 3 \\ x^3 + y^3 = 9 \end{cases}$	$x = 1, y = 2; x = 2, y = 1$
24	$\begin{cases} xy = 3 \\ x^3 + y^3 = 28 \end{cases}$	$x = 1, y = 3; x = 3, y = 1$
25	$\begin{cases} x + y = 0 \\ x^4 - y^4 + x - y = 6 \end{cases}$	$x = 3; y = -3$