

## Esercizi sulle disequazioni

1.  $3x^2 > 0$  [ $x \neq 0$ ]
2.  $\sqrt{2}x^2 + 1 \leq 0$  [nessuna soluzione]
3.  $9 - 4x^2 \leq 0$  [ $x \leq -\frac{3}{2}$  e  $x \geq \frac{3}{2}$ ]
4.  $x^2 - 6x + 5 > 0$  [ $x < 1$  e  $x > 5$ ]
5.  $3 - x^2 + 2x \geq 0$  [ $1 \leq x \leq 3$ ]
6.  $x^2 - 5x + 6 \geq 0$  [ $x \leq 2$  e  $x \geq 3$ ]
7.  $x^2 - 6x + 9 \leq 0$  [ $x = 3$ ]
8.  $\frac{x^2 - 1}{x} > 0$  [ $-1 < x < 0$  e  $x > 1$ ]
9.  $\frac{x^2 + 2x - 3}{4 - x^2} \geq 0$  [ $-3 \leq x < -2$  e  $1 \leq x < 2$ ]
10.  $\frac{x^2 - 2x}{x} \leq 0$  [ $x < 0$  e  $0 < x \leq 2$ ]
11.  $\frac{2x^2 + 3x + 4}{x^2 - 9} > 0$  [ $x < -3$  e  $x > 3$ ]
12.  $\frac{(16 - x^2)(x + 3)}{x^2 - 2x} \geq 0$  [ $x \leq 4$ ;  $-3 \leq x < 0$ ;  $2 < x \leq 4$ ]
13.  $\frac{(30 + 13x - 3x^2)(1 - x)}{2x^2 - 3x - 5} < 0$  [ $x < -6$ ;  $-1 < x < 1$ ;  $\frac{5}{3} < x < \frac{5}{2}$ ]
14.  $\begin{cases} (2x^2 + 7) > 0 \\ x + 1 \geq 0 \\ x^2 - 6 > 0 \end{cases}$  [ $x > \sqrt{6}$ ]
15.  $\begin{cases} \frac{x^2+1}{9-x^2} > 0 \\ 10 - x^2 - 3x \geq 0 \end{cases}$  [ $-3 < x \leq 2$ ]
16.  $\begin{cases} \frac{x-3}{x^2+2x+1} \leq 0 \\ x^2 - 4x + 3 \geq 0 \end{cases}$  [ $x < -1$ ;  $-1 < x \leq 1$  e  $x = 3$ ]
17.  $\begin{cases} \frac{3x-x^2}{x+1} < 0 \\ 5x - x^2 - 6 \geq 0 \end{cases}$  [nessuna soluzione]