

1	$-x(x+1)(1-x) < 0$	$x < -1 \cup 0 < x < 1$
2	$\frac{x-2}{2x-3} \geq 2$	$\frac{4}{3} \leq x \leq \frac{3}{2}$
3	$\frac{x}{4(1+x)} - \frac{1}{4} > \frac{3}{x}$	$x < -1 \cup -\frac{12}{13} < x < 0$
4	$(x-1)(x+2)(3-x) \leq 0$	$-2 \leq x \leq 1 \cup x \geq 3$
5	$(2x+1)^2 \leq (2x+1)(x-2)$	$-3 \leq x \leq -\frac{1}{2}$
6	$\frac{2x}{x+2} < 2\left(1 - \frac{x+2}{4x}\right)$	$-2 < x < 0$
7	$1 + \frac{x+1}{x} \leq \frac{6}{x+1}$	$-1 \leq x \leq 0 \cup \frac{1}{2} \leq x \leq 1$
8	$\frac{x-1}{x} + \frac{x+1}{x-1} < 3 - \frac{2}{x(x-1)}$	$x < -1 \cup 0 < x < 1 \cup x > 3$
9	$\frac{3x-1}{3-2x} + \frac{x+2}{2x-3} \geq 0$	<i>impossibile</i>
10	$\frac{x-2}{x+5} > \frac{3}{x-2} + 1$	$x < -5 \cup -\frac{1}{10} < x < 2$
11	$\frac{1}{x-1} \leq 3$	$x \leq 1 \cup x \geq \frac{4}{3}$
12	$\frac{x}{x-2} + \frac{2+3x}{x+1} > 4$	$-4 < x < -1 \cup x > 2$
13	$\frac{1-x}{x+2} \leq \frac{2}{x-1}$	$x \leq -2 \cup x \geq 1$
14	$(x+2)(x-3) < (x-2)(x+3)$	$x > 0$
15	$\frac{x-2}{3x-5} \geq \frac{6}{17}$	$-4 \leq x < \frac{5}{3}$
16	$\frac{1}{x} > \frac{1}{4-x}$	$0 < x < 2 \cup x > 4$
17	$\frac{6x+6}{(3-x)(3+x)} + \frac{2}{x+3} > \frac{3}{3-x}$	$x < 3$

18	$\frac{7}{x-7} - \frac{3}{x-3} \leq 0$	$x \leq 0 \cup 3 < x < 7$
19	$\frac{1-4x+3x^2}{(x-2)(x-3)} < 3$	$x < \frac{17}{11} \cup 2 < x < 3$
20	$\frac{x-2}{x-3} > \frac{x-5}{x+2}$	$-2 < x < \frac{19}{8} \cup x > 3$
21	$(x-1)^3 - (x+1)^3 + 6x\left(x - \frac{1}{2}\right) < (x-1)^2 - (x+1)^2$	$x < 2$
22	$(1-x)^3 + (1+x)^3 < 6x^2 - x + 3$	$x < 1$
23	$\frac{3x-6}{x(x+1)} > 0$	$-1 < x < 0 \vee x > 2$
24	$\frac{(x+1)(x-3)}{1-2x} > 0$	$x < -1 \vee \frac{1}{2} < x < 3$
25	$\frac{(2-x)(3-x)}{x} < 0$	$x < 0 \vee 2 < x < 3$
26	$\frac{x^2-1}{x+3} > \frac{3}{x+3}$	$-3 < x < -2 \vee x > 2$
27	$\frac{x^2-x}{x+1} > 0$	$-1 < x < 0 \vee x > 1$
28	$\frac{x^2+x}{3x-1} > 0$	$-1 < x < 0 \vee x > \frac{1}{3}$
29	$(x+1)(x-1) > 0$	$x < -1 \vee x > 1$
30	$(x+3)(x-5)(x+1) > 0$	$-3 < x < -1 \vee x > 5$
31	$(x-1)(x+1) - (x-3)^2 < 3$	$x < \frac{13}{6}$
32	$4(2x-1) - x + (2x-1)^2 > 4(x-2)^2 - 12(x-1)$	$x > 1$
33	$(x-1)^3 - (x+1)^3 > 2x - 2 - 6x^2 + 2(x+1)(x-1) - 2(x-2)^2$	$x < 1$
34	$(x+3)^3 - 4[x+5 - (x+8)]^3 > (x-3)^2(x+3) + 12(x+1)^2$	$x > -8$

35	$\frac{x^3 + x^2}{(1-x)(x+3)(2-x)} \leq 0$	$x = 0 \vee -3 < x \leq -1$ $\vee 1 < x < 2$
36	$\frac{x+3}{x+5} - 1 > \frac{2x-1}{x+5}$	$-5 < x < -\frac{1}{2}$
37	$\frac{(4-x)(x+2)}{3x-1} < 0$	$-2 < x < \frac{1}{3} \vee x > 4$
38	$\frac{x^2+3}{3-x} > \frac{4}{3-x}$	$x < 1 \vee 1 < x < 3$
39	$\frac{2x+3}{4-x^2} - 1 > \frac{1-x}{2+x}$	$x < -2 \vee \frac{3}{5} < x < 2$
40	$\frac{2}{(x+5)^3} > 0$	$x > -5$
41	$-\frac{3}{(2-3x)^5} > 0$	$x > \frac{2}{3}$
42	$\frac{8}{(12x-6)^4} > 0$	$x \neq \frac{1}{2}$
43	$\frac{(x-1)^3+2}{(x+1)^3} > 1$	$x < -1$
44	$\frac{x-1}{x+3} < \frac{2}{x-2} + 1$	$-3 < x < \frac{1}{3} \vee x > 2$
45	$\frac{1-2x}{x-3} - 2 < \frac{5-4x}{x-1}$	$1 < x < \frac{4}{3} \vee x > 3$
46	$\frac{-2x(x-1)^2}{(x+3)^3(2-x)} \geq 0$	$-3 < x \leq 0 \vee x = 1$ $\vee x > 2$
47	$\frac{x^2(2x+1)^5}{(x-3)^9(x^2+4)} \leq 0$	$-\frac{1}{2} \leq x < 3$
48	$(x-2)^8(x^2+1)^{10}(3-x) \geq 0$	$x \leq 3$
49	$-\frac{x^2}{(1-x)^5} < 0$	$x < 1 \wedge x \neq 0$

## Disequazioni riconducibili al primo grado

50	$\frac{2x-3}{x^2-25} > \frac{1}{x-5} + \frac{1}{x+5}$	$-5 < x < 5$
51	$\frac{8x^2+4x-14}{4x^2-1} <$	$x < -\frac{1}{2} \vee \frac{1}{2} < x < 3$
52	$\frac{x}{x-2} + \frac{2+3x}{x+1} > 4$	$-4 < x < -1 \vee x > 2$
53	$\frac{x-2}{x+5} > \frac{3}{x-2} + 1$	$x < -5 \vee -\frac{1}{10} < x < 2$
54	$\frac{(x-7)(x+1)}{x^2(x-5)^4} < 0$	$-1 < x < 0 \vee 0 < x < 5$ $\vee 5 < x < 7$
55	$\frac{(4x+9)^4(2x-7)^6}{(x-20)^2} \geq 0$	$x \neq 20$
56	$x^2 - 9 < (x-3)(x+3) + 2x$	$x > 0$
57	$\frac{x-1}{x-2} \geq \frac{3}{4-2x}$	$x \leq -\frac{1}{2} \vee x > 2$
58	$\frac{3}{2} \frac{2x-1}{6-x} \geq \frac{3}{2(x-6)}$	$0 \leq x < 6$
59	$x \left( \frac{5}{3}x - 2x \right) - \frac{1}{3} < -\frac{x}{3}(x+2) - \frac{19}{6}$	$x < -\frac{17}{4}$
60	$(2y+3)^2 - (2y+1)^2 \geq (1-y)^2 - y^2$	$y \geq -\frac{7}{10}$
61	$(x-3)(x+3) - (x-1)^2 > 2x+1$	<i>impossibile</i>
62	$\frac{1-4x+3x^2}{(x-2)(x-3)} < 3$	$x < \frac{17}{11} \cup 2 < x < 3$