

risolvere le seguenti disequazioni riconducibili al primo grado mediante scomposizione

1	$x(x - 1) < 0$	$0 < x < 1$
2	$6x(x - 2) < 0$	$0 < x < 2$
3	$5x(3 - 2x) \geq 0$	$0 \leq x \leq \frac{3}{2}$
4	$-x(6x - 5) \leq 0$	$x \leq 0 \vee x \geq \frac{5}{6}$
5	$2x(x + 1) < 0$	$-1 < x < 0$
6	$(x - 1)(x + 2) > 0$	$x < -2 \vee x > 1$
7	$(x - 3)(x + 3) > 0$	$x < -3 \vee x > 3$
8	$(x + 9)(x - 10) \leq 0$	$-9 \leq x \leq 10$
9	$(x - 8)(x + 1) \geq 0$	$x \leq -1 \vee x \geq 8$
10	$(x + 1)(x - 1) > 0$	$x < -1 \vee x > 1$
11	$x(2 - x)(x + 4) > 0$	$x < -4 \vee 0 < x < 2$
12	$-x(x + 1)(1 - x) < 0$	$x < -1 \vee 0 < x < 1$
13	$(x - 1)(x + 2)(3 - x) \leq 0$	$-2 \leq x \leq 1 \vee x \geq 3$
14	$(x + 3)(x - 5)(x + 1) > 0$	$-3 < x < -1 \vee x > 5$
15	$(x - 2)^2 > 0$	$x \neq 2$

16	$(x - 2)^2 \geq 0$	R
17	$(x - 2)^2 < 0$	\emptyset
18	$(x - 2)^2 \leq 0$	$x = 2$
19	$(x - 2)^3 > 0$	$x > 2$
20	$(x - 2)^3 \geq 0$	$x \geq 2$
21	$(x - 2)^3 < 0$	$x < 2$
22	$(x - 2)^3 \leq 0$	$x \leq 2$
23	$(x + 9)^{10} \geq 0$	R
24	$(x - 5)^{11} \geq 0$	$x \geq 5$
25	$(2x + 8)^{10} < 0$	\emptyset
26	$(3x - 12)^{15} \leq 0$	$x \leq 4$
27	$(5x + 1)^5 (x - 5)^{21} > 0$	$x < -\frac{1}{5} \vee x > 5$
28	$(4x^2 + 9)^8 \geq 0$	R
29	$(x - 2)^8 (x^2 + 1)^{10} (3 - x) \geq 0$	$x \leq 3$
30	$x^2 + 2x + 1 > 0$	$x \neq -1$
31	$x^2 + 2x + 1 \geq 0$	R

32	$x^2 + 2x + 1 < 0$	\emptyset
33	$x^2 + 2x + 1 \leq 0$	$x = -1$
34	$x^2 - x - 6 > 0$	$x < -2 \vee x > 3$
35	$x^2 + 3x - 4 < 0$	$-4 < x < 1$
36	$-8x^2 + 6x + 5 \geq 0$	$-\frac{1}{2} \leq x \leq \frac{5}{4}$
37	$x^3 - 2x^2 - 5x + 6 \leq 0$	$x \leq -2 \vee 1 \leq x \leq 3$
38	$x^3 - 2x^2 - 5x + 6 \geq 0$	$-2 \leq x \leq 1 \vee x \geq 3$
39	$x^2 - 9 < (x - 3)(x + 3) + 2x$	$x > 0$
40	$x(5x - 2) - 3 > -x(x + 6) - 6$	R
41	$(x + 2)(x - 3) < (x - 2)(x + 3)$	$x > 0$
42	$(x - 1)(x + 1) - (x - 3)^2 < 3$	$x < \frac{13}{6}$
43	$(2x + 1)^2 \leq (2x + 1)(x - 2)$	$-3 \leq x \leq -\frac{1}{2}$
44	$(x - 3)(x + 3) - (x - 1)^2 > 2x + 1$	\emptyset
45	$(2y + 3)^2 - (2y + 1)^2 \geq (1 - y)^2 - y^2$	$y \geq -\frac{7}{10}$
46	$4(2x - 1) - x + (2x - 1)^2 > 4(x - 2)^2 - 12(x - 1)$	$x > 1$
47	$(1 - x)^3 + (1 + x)^3 < 6x^2 - x + 3$	$x < 1$

48	$(x - 1)^3 - (x + 1)^3 + 6x \left(x - \frac{1}{2}\right) < (x - 1)^2 - (x + 1)^2$	$x < 2$
49	$(x - 1)^3 - (x + 1)^3 > 2x - 2 - 6x^2 + 2(x + 1)(x - 1) - 2(x - 2)^2$	$x < 1$
50	$(x + 3)^3 - 4[x + 5 - (x + 8)]^3 > (x - 3)^2(x + 3) + 12(x + 1)^2$	$x > -8$
51	$\frac{2 - x}{5} \leq 0$	$x \geq 2$
52	$\frac{6x + 5}{8} > 0$	$x > -\frac{5}{6}$
53	$\frac{1}{x} \leq 0$	$x < 0$
54	$\frac{-2}{x} > 0$	$x < 0$
55	$\frac{5}{x - 2} \leq 0$	$x < 2$
56	$\frac{-7}{5 + x} \geq 0$	$x < -5$
57	$\frac{12}{3x + 1} < 0$	$x < -\frac{1}{3}$
58	$\frac{x - 2}{x + 3} > 0$	$x < -3 \vee x > 2$
59	$\frac{x + 3}{x - 2} > 0$	$x < -3 \vee x > 2$
60	$-\frac{2x + 3}{5x + 1} \geq 0$	$-\frac{3}{2} \leq x < -\frac{1}{5}$
61	$\frac{2x - 1}{x - 3} > 0$	$x < \frac{1}{2} \vee x > 3$

62	$\frac{5-x}{2x+2} < 0$	$x < -1 \vee x > 5$
63	$\frac{x-2}{x-16} < 0$	$2 < x < 16$
64	$\frac{2x-1}{5-x} \leq 0$	$x \leq \frac{1}{2} \vee x > 5$
65	$\frac{3x+7}{4x-1} \geq 0$	$x \leq -\frac{7}{3} \vee x > \frac{1}{4}$
66	$\frac{3-x}{2-7x} \geq 0$	$x < \frac{2}{7} \vee x \geq 3$
67	$\frac{x+5}{x-2} \leq 0$	$-5 \leq x < 2$
68	$\frac{2+x}{x-1} < 0$	$-2 < x < 1$
69	$\frac{1-3x}{4x-3} < 0$	$x < \frac{1}{3} \vee x > \frac{3}{4}$
70	$\frac{2-x}{4+x} \geq 0$	$-4 < x \leq 2$
71	$\frac{2x-5}{4x+1} < 0$	$-\frac{1}{4} < x < \frac{5}{2}$
72	$\frac{2x}{x+1} \leq 0$	$-1 < x \leq 0$
73	$\frac{x-2}{x-16} < 0$	$2 < x < 16$
74	$\frac{3x+6}{2x-8} > 0$	$x < -2 \vee x > 4$
75	$\frac{3x+2}{4x+6} > 0$	$x < -\frac{3}{2} \vee x > -\frac{2}{3}$

76	$\frac{7x - 2}{8 - 4x} < 0$	$x < \frac{2}{7} \vee x > 2$
77	$\frac{7}{x - 5} < 0$	$x < 5$
78	$\frac{1 - x}{2x} \geq 0$	$0 < x \leq 1$
79	$\frac{3x - 6}{2x + 1} \geq 0$	$x < -\frac{1}{2} \vee x \geq 2$
80	$\frac{37 - 25x}{4x - 5} > 0$	$\frac{5}{4} < x < \frac{37}{25}$
81	$\frac{2x}{x + 1} \leq 0$	$-1 < x \leq 0$
82	$\frac{2x - 5}{4x + 1} \leq 0$	$-\frac{1}{4} < x \leq \frac{5}{2}$
83	$\frac{x - 5}{x + 3} \leq 0$	$-3 < x \leq 5$
84	$\frac{4 + 10x}{4 - 3x} < 0$	$x < -\frac{2}{5} \vee x > \frac{4}{3}$
85	$\frac{2 - x}{x + 4} \geq 0$	$-4 < x \leq 2$
86	$\frac{3x - 15}{2x + 4} > 0$	$x < -2 \vee x > 5$
87	$\frac{x^2 - x}{x + 1} > 0$	$-1 < x < 0 \vee x > 1$
88	$\frac{x^2 + x}{3x - 1} > 0$	$-1 < x < 0 \vee x > \frac{1}{3}$
89	$\frac{(4 - x)(x + 2)}{3x - 1} < 0$	$-2 < x < \frac{1}{3} \vee x > 4$

90	$\frac{2}{(x+5)^3} > 0$	$x > -5$
91	$-\frac{3}{(2-3x)^5} > 0$	$x > \frac{2}{3}$
92	$\frac{8}{(12x-6)^4} > 0$	$x \neq \frac{1}{2}$
93	$\frac{(x-3)(2x-5)}{(4-3x)(3x-8)} \leq 0$	$x < \frac{4}{3} \vee \frac{5}{2} \leq x < \frac{8}{3} \vee x \geq 3$
94	$\frac{-2x(x-1)^2}{(x+3)^3(2-x)} \geq 0$	$-3 < x \leq 0 \vee x = 1 \vee x > 2$
95	$\frac{x^2(2x+1)^5}{(x-3)^9(x^2+4)} \leq 0$	$-\frac{1}{2} \leq x < 3$
96	$-\frac{x^2}{(1-x)^5} < 0$	$x < 0 \vee 0 < x < 1$
97	$\frac{(x-7)(x+1)}{x^2(x-5)^4} < 0$	$-1 < x < 0 \vee 0 < x < 5 \vee 5 < x < 7$
98	$\frac{(4x+9)^4(2x-7)^6}{(x-20)^2} \geq 0$	$x \neq 20$
99	$\frac{x^3+x^2}{(1-x)(x+3)(2-x)} \leq 0$	$-3 < x \leq -1 \vee x = 0 \vee 1 < x < 2$
100	$\frac{3x-6}{x(x+1)} > 0$	$-1 < x < 0 \vee x > 2$
101	$\frac{(x+1)(x-3)}{1-2x} > 0$	$x < -1 \vee \frac{1}{2} < x < 3$
102	$\frac{(2-x)(3-x)}{x} < 0$	$x < 0 \vee 2 < x < 3$
103	$\frac{1}{x-1} \leq 3$	$x < 1 \vee x \geq \frac{4}{3}$

104	$\frac{x-2}{2x-3} \geq 2$	$\frac{4}{3} \leq x < \frac{3}{2}$
105	$\frac{x}{x-2} > 5$	$2 < x < \frac{5}{2}$
106	$\frac{3x}{x-6} \geq 8$	$6 < x \leq \frac{48}{5}$
107	$\frac{22-x}{1-x} - 7 \geq 0$	$-\frac{5}{2} \leq x < 1$
108	$\frac{1-x}{3x} - 1 \geq 0$	$0 < x \leq \frac{1}{4}$
109	$\frac{15}{7+x} - 15 \geq 0$	$-7 < x \leq -6$
110	$2 - \frac{x-12}{3x+1} \leq 0$	$-\frac{14}{5} \leq x < -\frac{1}{3}$
111	$2 - \frac{5}{x-10} < 0$	$10 < x < \frac{25}{2}$
112	$\frac{6}{x-3} - \frac{5}{2} > 0$	$3 < x < \frac{27}{5}$
113	$5 - \frac{1+2x}{2x-1} \geq 0$	$x < \frac{1}{2} \vee x \geq \frac{3}{4}$
114	$\frac{2}{3} - \frac{10}{3-x} > 0$	$x < -12 \vee x > 3$
115	$\frac{1-x}{3x} - 1 \geq 0$	$0 < x \leq \frac{1}{4}$
116	$\frac{x+4}{x-3} < 2$	$x < 3 \vee x > 10$
117	$\frac{x+3}{x-2} < 1$	$x < 2$

118	$\frac{2x - 1}{x - 3} > 2$	$x > 3$
119	$\frac{5x + 12}{7x - 1} < 1$	$x < \frac{1}{7} \vee x > \frac{13}{2}$
120	$\frac{2 - 3x}{x + 2} < \frac{2}{3}$	$x < -2 \vee x > \frac{2}{11}$
121	$\frac{x - 2}{2x - 1} > 2$	$0 < x < \frac{1}{2}$
122	$\frac{2x + 5}{3x - 1} > 4$	$\frac{1}{3} < x < \frac{9}{10}$
123	$\frac{7x - 5}{8x + 3} > 4$	$-\frac{17}{25} < x < -\frac{3}{8}$
124	$\frac{2x}{1 + x} > -3$	$x < -1 \vee x > -\frac{3}{5}$
125	$\frac{16}{2x - 5} > 3$	$\frac{5}{2} < x < \frac{31}{6}$
126	$\frac{2x - 3}{x - 5} > 2$	$x > 5$
127	$\frac{3x - 2}{5 - 3x} \geq 1$	$\frac{7}{6} \leq x < \frac{5}{3}$
128	$\frac{2x + 1}{3x - 4} < 2$	$x < \frac{4}{3} \vee x > \frac{9}{4}$
129	$5 < \frac{1 + 2x}{2x - 1}$	$\frac{1}{2} < x < \frac{3}{4}$
130	$\frac{x - 1}{x + 1} - 1 < \frac{1 - 3x}{1 + x}$	$-1 < x < 1$
131	$\frac{15}{7} \leq -\frac{1}{x + 6}$	$-\frac{97}{15} \leq x < -6$

132	$\frac{2}{6x-7} - \frac{1}{4} \geq 1$	$\frac{7}{6} < x \leq \frac{43}{30}$
133	$8 \geq \frac{11}{x} - \frac{1}{4}$	$x < 0 \vee x \geq \frac{4}{3}$
134	$\frac{3(4+5x)}{x} \geq -\frac{5}{4}$	$x \leq -\frac{48}{65} \vee x > 0$
135	$-3 + \frac{1-x}{9} \geq \frac{x}{3}$	$x \leq -\frac{13}{2}$
136	$-3 > \frac{3}{x-6} + \frac{1}{5}$	$\frac{81}{16} < x < 6$
137	$\frac{2}{3x-3} < \frac{4}{3-x}$	$x < 1 \vee \frac{9}{7} < x < 3$
138	$\frac{x-2}{3x-5} > \frac{6}{19}$	$x < \frac{5}{3} \vee x > 8$
139	$\frac{13}{x+4} \leq \frac{15}{2x-3}$	$x < -4 \vee \frac{3}{2} < x \leq 9$
140	$\frac{4}{7x-3} < \frac{3}{3-2x}$	$x < \frac{3}{7} \vee \frac{21}{29} < x < \frac{3}{2}$
141	$\frac{6}{2x-1} > \frac{5}{x-2}$	$x < -\frac{7}{4} \vee \frac{1}{2} < x < 2$
142	$\frac{7}{x-7} - \frac{3}{x-3} \leq 0$	$x \leq 0 \vee 3 < x < 7$
143	$\frac{3x-1}{3-2x} + \frac{x+2}{2x-3} \geq 0$	\emptyset
144	$\frac{3}{4-x} < \frac{6}{4x-3}$	$\frac{3}{4} < x < \frac{11}{6} \vee x > 4$
145	$\frac{6}{2x+1} < \frac{5}{2-3x}$	$x < -\frac{1}{2} \vee \frac{1}{4} < x < \frac{2}{3}$

146	$\frac{7}{3x-1} < \frac{12}{5x+6}$	$-\frac{6}{5} < x < \frac{1}{3} \vee x > 54$
147	$\frac{8}{2x+5} \geq \frac{7}{3x-2}$	$-\frac{5}{2} < x < \frac{2}{3} \vee x \geq \frac{51}{10}$
148	$\frac{x-4}{3} - \frac{3}{x-4} \geq \frac{1}{3}x$	$\frac{7}{4} \leq x < 4$
149	$\frac{1}{2x-1} > -\frac{1}{3}$	$x < -1 \vee x > \frac{1}{2}$
150	$\frac{3}{8} < -\frac{5}{2x-4}$	$-\frac{14}{3} < x < 2$
151	$\frac{2}{4x+1} > -\frac{3}{2}$	$x < -\frac{7}{12} \vee x > -\frac{1}{4}$
152	$\frac{\frac{5}{3x-2}}{\frac{7}{x-2}} < 0$	$\frac{2}{3} < x < 2$
153	$-\frac{5}{3} > \frac{4}{\frac{3}{2}-x}$	$\frac{3}{2} < x < \frac{39}{10}$
154	$\frac{\frac{3}{4}}{x-5} \geq \frac{1}{3}$	$5 < x \leq \frac{29}{4}$
155	$\frac{5x-1}{x+4} - 3 < \frac{1-2x}{4+x}$	$-4 < x < \frac{7}{2}$
156	$\frac{x}{4(1+x)} - \frac{1}{4} > \frac{3}{x}$	$x < -1 \vee -\frac{12}{13} < x < 0$

157	$\frac{x}{x-2} + \frac{2+3x}{x+1} > 4$	$-4 < x < -1 \vee x > 2$
158	$\frac{1-x}{x+2} \leq \frac{2}{x-1}$	$x < -2 \vee x > 1$
159	$\frac{x-2}{3x-5} \geq \frac{6}{17}$	$-4 \leq x < \frac{5}{3}$
160	$\frac{1}{x} > \frac{1}{4-x}$	$0 < x < 2 \vee x > 4$
161	$\frac{x-2}{x-3} > \frac{x-5}{x+2}$	$-2 < x < \frac{19}{8} \vee x > 3$
162	$\frac{x^2-1}{x+3} > \frac{3}{x+3}$	$-3 < x < -2 \vee x > 2$
163	$\frac{x+3}{x+5} - 1 > \frac{2x-1}{x+5}$	$-5 < x < -\frac{1}{2}$
164	$\frac{x^2+3}{3-x} > \frac{4}{3-x}$	$x < -1 \vee 1 < x < 3$
165	$\frac{2x+3}{4-x^2} - 1 > \frac{1-x}{2+x}$	$x < -2 \vee \frac{3}{5} < x < 2$
166	$\frac{x-1}{x+3} < \frac{2}{x-2} + 1$	$-3 < x < \frac{1}{3} \vee x > 2$
167	$\frac{1-2x}{x-3} - 2 < \frac{5-4x}{x-1}$	$1 < x < \frac{4}{3} \vee x > 3$
168	$\frac{x}{x-2} + \frac{2+3x}{x+1} > 4$	$-4 < x < -1 \vee x > 2$

169	$\frac{x-2}{x+5} > \frac{3}{x-2} + 1$	$x < -5 \vee -\frac{1}{10} < x < 2$
170	$\frac{x-1}{x-2} \geq \frac{3}{4-2x}$	$x \leq -\frac{1}{2} \vee x > 2$
171	$\frac{32x-1}{26-x} \geq \frac{3}{2(x-6)}$	$0 \leq x < 6$
172	$\frac{x-2}{x+5} > \frac{3}{x-2} + 1$	$x < -5 \vee -\frac{1}{10} < x < 2$
173	$1 + \frac{x+1}{x} \leq \frac{6}{x+1}$	$-1 < x < 0 \vee \frac{1}{2} \leq x \leq 1$
174	$\frac{x-1}{x} + \frac{x+1}{x-1} < 3 - \frac{2}{x(x-1)}$	$x < -1 \vee 0 < x < 1 \vee x > 3$
175	$\frac{2x}{x+2} < 2 \left(1 - \frac{x+2}{4x} \right)$	$-2 < x < 0$
176	$\frac{1-4x+3x^2}{(x-2)(x-3)} < 3$	$x < \frac{17}{11} \vee 2 < x < 3$
177	$\frac{6x+6}{(3-x)(3+x)} + \frac{2}{x+3} > \frac{3}{3-x}$	$x < 3 \wedge x \neq -3$
178	$\frac{(x-1)^3+2}{(x+1)^3} > 1$	$x < -1$
179	$\frac{2x-3}{x^2-25} > \frac{1}{x-5} + \frac{1}{x+5}$	$-5 < x < 5$
180	$\frac{1-4x+3x^2}{(x+2)(x-3)} < 3$	$-2 < x < 3 \vee x > 19$