

diseguazioni polinomiali intere o frazionarie lineari e di grado superiore al primo

1	$\frac{x}{2} + \frac{x-1}{3} - 1 < 2x + \frac{7}{3}$	$x > -\frac{22}{7}$
2	$2x - \frac{1+3x}{2} - \frac{1}{2}(x-1) \leq 3x - \frac{x+6}{4}$	$x \geq \frac{6}{11}$
3	$\frac{2-x}{12} - \frac{1+3x}{4} + \frac{1}{4} - \frac{2x-2}{3} > 3 - \frac{x}{2}$	$x < -\frac{13}{6}$
4	$x - \frac{1}{3}x + \frac{x+3}{6} - \frac{x-1}{4} < 6$	$x < 9$
5	$2 \left[\frac{5-2x}{4} - 3(x-1) \right] - 4 \leq \frac{5-7x}{2} + 3$	$x \geq -\frac{2}{7}$
6	$\frac{2x+3}{4} - 2x + \frac{3x+1}{3} \leq 1 - \frac{x+2}{12}$	$x \geq \frac{3}{5}$
7	$\frac{x-\frac{1}{3}}{2} - \frac{2x-\frac{1}{2}}{6} \geq \frac{2}{3} \left(\frac{2}{3}x + 2 \right) + \frac{2x-1}{3}$	$x \leq -\frac{39}{34}$
8	$\frac{2x-1}{3} + 2x - \frac{3}{2} > \frac{4x+1}{6} - 3 \left(x + \frac{1}{2} \right)$	$x > \frac{1}{10}$
9	$\frac{2}{3} \left[3(x-2) + \frac{1-2x}{4} - \frac{1}{2}x \right] \leq x + \frac{1}{2}$	$x \leq 13$

10	$\frac{1}{2} - \frac{1}{3}[x - 2(1 - 3x)] < \frac{x-1}{6} - \frac{x+1}{5}$	$x > \frac{2}{3}$
11	$2\left[\frac{x-1}{6} + 4\left(\frac{1-2x}{3} + \frac{x}{2}\right)\right] + 2 < \frac{x-2}{3}$	$x > \frac{15}{4}$
12	$\frac{5}{4} - \frac{2 - \frac{1}{2}x}{10} - \frac{3 - \frac{2}{3}x}{2} < 1 - \frac{\frac{1}{2} - 3x}{5}$	$x > -\frac{81}{13}$
13	$\frac{3}{2} - \frac{1-x}{2 - \frac{1}{2}} - \frac{3-x}{1 + \frac{1}{2}} < \frac{2}{3}(1 + 6x)$	$x > -\frac{11}{16}$
14	$\frac{3-x}{10} - \frac{3x-1}{2} < \frac{1}{5} - x$	$x > 1$
15	$\frac{x-1}{2} - \frac{\frac{2-x}{3}}{\frac{1}{3}} - \frac{1-\frac{x}{2}}{2 - \frac{1}{2}} > \frac{2x-1}{\frac{1}{2} + \frac{1}{3}} - \frac{x - \frac{1}{4}}{\frac{3}{4}}$	$x > 3$
16	$\frac{3}{4}x - \frac{\left(\frac{1}{3} + 2^{-1}\right)x}{(1 - 2^{-1})^{-1}} < \frac{3}{4}x + \frac{1}{2}$	$x > -\frac{6}{5}$
17	$\frac{x}{1 + \sqrt{5}} < \frac{x-1}{1 - \sqrt{5}}$	$x < \frac{\sqrt{5}}{10} + \frac{1}{2}$
18	$\frac{x}{\sqrt{2}} + \frac{\sqrt{2}}{\sqrt{2} - 2} > x - \frac{1}{2 - \sqrt{2}}$	$x < -1 - \sqrt{2}$

19	$\frac{\sqrt{5}x + 1}{\sqrt{5} - 1} \geq \frac{2\sqrt{5} + x}{2\sqrt{5} + 1}$	$x \geq \frac{9 - 4\sqrt{5}}{11}$
20	$\frac{x - 1 + \sqrt{2}}{x\sqrt{2}} < \frac{1}{2}$	$-\sqrt{2} < x < 0$
21	$\frac{1 - x}{2 - x} > \frac{1}{\sqrt{3}}$	$x < \frac{1 - \sqrt{3}}{2} \vee x > 2$
22	$\frac{x^2}{4} - x < \frac{21}{4}$	$-3 < x < 7$
23	$\frac{2}{5}(x - 2)(x - 4) < \frac{x + 4}{2} - \frac{x^2}{4}$	$\frac{6}{13} < x < 4$
24	$\frac{x(x + 4)}{15} > 1 - \frac{x(x - 7)}{30}$	$x < -\frac{10}{3} \vee x > 3$
25	$(3x + 2)^2 \geq (3x - 2)^2$	$x \geq 0$
26	$4x^2 + 21 - x > 0$	R
27	$\frac{x - (1 + x^2)}{4} + 1 > \frac{2 - x^2}{2}$	$x < \frac{-\sqrt{5} - 1}{2} \vee x > \frac{\sqrt{5} - 1}{2}$

28	$\frac{x^2 - 2}{4} - \frac{x - 1 - \frac{1}{2}(2x - 1)(2x + 1)}{\frac{1}{2}} < \frac{4}{3}x^2 - \frac{2x - 1}{3}$	\emptyset
29	$x - \frac{1 + 2x}{3} - \frac{(2 + x)(2 - x)}{5} < \frac{4}{15} + \frac{2 + x^2}{5}$	$x < \frac{27}{5}$
30	$\frac{x^2 - 9}{6} + \frac{1 + x^2}{3} \geq \frac{1}{2}(x + 4 + 2x^2)$	\emptyset
31	$\frac{(2x - 3)(2x + 1)}{4} + \frac{7x}{12} < \frac{(x - 1)(x + 2)}{6} - \frac{9}{4}$	\emptyset
32	$\frac{23 + (x - 2)(x + 1)}{3} - 5 < \frac{(x - 1)(x + 2)}{2} + \frac{x - x^2}{4}$	$4 < x < 9$
33	$\frac{1}{9}\left[x(x - 1) - \frac{(2x - 1)^2 + 3}{4}\right] + \frac{1}{6}\left(x + \frac{1}{3}\right) \leq \frac{1}{4}(x + 1) + 2x - 1$	$x \geq \frac{1}{3}$
34	$\frac{(x + \sqrt{2})(\sqrt{2} - x)}{4} + \frac{x}{3} > \frac{2(x + 1) - 3(1 - 2x)}{6} - \frac{1}{4}x^2$	$x < \frac{2}{3}$
35	$(1 + 4x)[4x^2 - (1 - 2x)^2] + 3 < 2(x + 1) + 2x(3 - x)$	$0 < x < \frac{4}{9}$
36	$4x(x - 2) \leq 11 + (x - 4)^2$	$-3 \leq x \leq 3$

37	$(2x - 5)^6 \geq 0$	R
38	$3x^2 - 5x - 1 + 3(x - 1)(x + 1) \geq 0$	$x \leq -\frac{1}{2} \vee x \geq \frac{4}{3}$
39	$(x - 3)(x + 1)(2x + 3) > 0$	$-\frac{3}{2} < x < -1 \vee x > 3$
40	$(4 - x)^2(x + 5)(2x - 1) \geq 0$	$x \leq -5 \vee x \geq \frac{1}{2}$
41	$(1 - 3x)(1 + x^2 + 2x)(x - 2x^2) < 0$	$x < -1 \vee -1 < x < 0 \vee \frac{1}{3} < x < \frac{1}{2}$
42	$\frac{1}{x^2 + 2} \geq 0$	R
43	$\frac{2}{x^2 + 1} > 1$	$-1 < x < 1$
44	$\frac{2}{x - 1} + \frac{1}{x + 1} > -2$	$x < \frac{-3 - \sqrt{17}}{4} \vee -1 < x < \frac{-3 + \sqrt{17}}{4} \vee x > 1$
45	$(3x^2 - 4)\left(1 + \frac{1}{x - 1}\right) < 0$	$-\frac{2\sqrt{3}}{3} < x < 0 \vee 1 < x < \frac{2\sqrt{3}}{3}$
46	$1 + \frac{1}{3 - 2x} < \frac{1}{x + 1}$	$-1 < x < \frac{2 - \sqrt{6}}{2} \vee \frac{3}{2} < x < \frac{2 + \sqrt{6}}{2}$

47	$\frac{x}{x-1} + \frac{x-1}{x+1} < 3 - \frac{2}{x^2-1}$	$x < -3 \vee -1 < x < 1 \vee x > 2$
48	$\frac{x+2}{2-x} < \frac{2x+1}{2x-1}$	$x < -1 \vee \frac{1}{2} < x < 1 \vee x > 2$
49	$\frac{1}{2} + \frac{(x+2)(x+1)}{x-1} - \frac{3x+1}{3} < 0$	$-\frac{11}{25} < x < 1$
50	$\frac{x^2 - 6x + 9}{x^2(x^2 + 4x + 4)} < 0$	\emptyset
51	$\frac{(x-2)(5x+1)}{(x+1)} > 0$	$-1 < x < -\frac{1}{5} \vee x > 2$
52	$\frac{(3-x)(4x-1)}{2x(4x-3)} > 0$	$0 < x < \frac{1}{4} \vee \frac{3}{4} < x < 3$
53	$\frac{(4x-3)(2x-1)}{3x(6x-5)} < 0$	$0 < x < \frac{1}{2} \vee \frac{3}{4} < x < \frac{5}{6}$
54	$\frac{(x^2-4)(x+1)}{(2-3x)(1-3x)} \geq 0$	$-2 \leq x < -1 \vee \frac{1}{3} < x < \frac{2}{3} \vee x \geq 2$
55	$\frac{3x^2 - 75}{x(x+4)(x-1)} \leq 0$	$x \leq -5 \vee -4 < x < 0 \vee 1 < x \leq 5$
56	$\frac{x^7(8-x)^9}{(x+2)^{11}} > 0$	$x < -2 \vee 0 < x < 8$

57	$\frac{14}{(2x - 12)^{10}} < 0$	\emptyset
58	$-\frac{7}{(3x + 6)^4} < 0$	$x \neq -2$
59	$\frac{18}{(5x + 10)^7} < 0$	$x < -2$
60	$\frac{1}{(x - 2)^3} < 1$	$x < 2 \vee x > 3$
61	$\frac{x^3 - 3x^2}{(x - 1)^3} \geq 0$	$x < 1 \vee x \geq 3$
62	$\frac{x - 1}{x^2 + 2x + 2} < 0$	$x < 1$
63	$\frac{4x^2 - 3x - 1}{x - 2} < 1$	$x < \frac{1}{2} \vee \frac{1}{2} < x < 2$
64	$\frac{6x^2 - 7x + 3}{2x(3x - 1)} < 1$	$0 < x < \frac{1}{3} \vee x > \frac{3}{5}$
65	$\frac{3 + 2x}{2x - 1} - \frac{10}{4x + 2} > 1$	$x < -\frac{1}{2} \vee \frac{1}{2} < x < \frac{9}{2}$

66	$\frac{2-x}{1-x} + 1 \geq \frac{x^2-3}{x^2-2x+1}$	$x < 1 \vee 1 < x \leq 2 \vee x \geq 3$
67	$1 - \frac{2x}{x-3} > \frac{2(2x+7)}{(x-3)^2}$	\emptyset
68	$\frac{2x}{2x^2+7x+5} > \frac{x}{x^2+6x+5}$	$x < -5 \vee -\frac{5}{2} < x < -1 \vee x > 0$
69	$\frac{x+2}{x^2+2} + \frac{x-2}{x^3-2x^2+2x-4} > \frac{2}{x-2}$	$x < 2$
70	$\frac{2}{x^2+7x+12} - \frac{x+1}{x+3} - \frac{x-3}{x+4} \geq 0$	$-4 < x \leq -\frac{7}{2} \vee -3 < x \leq 1$
71	$\frac{x}{2x+1} < \frac{2-x^2}{4x^2+4x+1} + 3$	$x \neq -\frac{1}{2}$
72	$\frac{x^2+x+1}{2x^2-5x+3} - \frac{x-3}{2x-3} > \frac{x+2}{x-1}$	$1-\sqrt{3} < x < 1 \vee \frac{3}{2} < x < 1+\sqrt{3}$
73	$\frac{x^2}{1+x-2x^2} + \frac{x-2}{x-1} - \frac{x+2}{2x+1} > 0$	$x < -\frac{1}{2} \vee 0 < x < 1$
74	$\frac{x+2}{2x+1} - \frac{x-1}{4x^2-1} \leq \frac{2}{2x-1}$	$\frac{1-\sqrt{7}}{2} \leq x < -\frac{1}{2} \vee \frac{1}{2} < x \leq \frac{1+\sqrt{7}}{2}$

75	$\frac{x^2 + 2}{x^2 - 3} > -\frac{x^2 - 3}{x^2 + 3}$	$x < -\sqrt{3} \vee x > \sqrt{3}$
76	$(\sqrt{2} - 1)x > \frac{2}{(1 + \sqrt{2})x}$	$-\sqrt{2} < x < 0 \vee x > \sqrt{2}$
77	$\frac{x^2 + 1}{x^3 - 2x^2} - \frac{x + 1}{x^2 - 2x} \geq \frac{2}{x - 2}$	$x \leq -1 \vee \frac{1}{2} \leq x < 2$
78	$\frac{x^2 - x - 1}{x^3 - 27} - \frac{3}{x - 3} < \frac{1 + x}{x^2 + 3x + 9}$	$x > 3$
79	$\frac{x - 3}{x^2 + 3x + 2} + \frac{x - 2}{x^2 + 4x + 3} \geq \frac{x^2 - 12}{x^3 + 6x^2 + 11x + 6}$	$-3 < x < -2 \vee x \geq 1$
80	$\frac{x + 1}{x^2 + x - 2} + \frac{x + 2}{x^2 - 3x + 2} > \frac{x^2 - 3}{x^4 - 2x^3 - 3x^2 + 8x - 4}$	$-2 < x < -1 \vee x > 2$
81	$\frac{x^2 - 3x - 4}{x^2 + x - 6} < \frac{2x - 1}{x - 2} - \frac{x + 2}{x + 3}$	$-3 < x < -\frac{5}{8} \vee x > 2$
82	$\frac{5}{x^4 - 2x^2 + 1} + \frac{3}{x^4 - x^2} \geq 0$	$x < -1 \vee -1 < x \leq -\frac{\sqrt{6}}{4} \vee \frac{\sqrt{6}}{4} \leq x < 1 \vee x > 1$
83	$\frac{(x^3 - 27)(x^2 - 5x + 6)(3x - x^2)}{(x^2 + 3)(x^3 - 6x^2 + 12x - 8)} < 0$	$x < 0 \vee x > 3$

84	$\frac{(x-5)^3(6x^3-5x^2)(4+x^6)(x^3-3x)^2(x^2-5x^3)}{(x^2-2x-8)(-3x+x^2)^2(-x+x^2+8)} > 0$	$x < -2 \vee \frac{1}{5} < x < \frac{5}{6} \vee 4 < x < 5$
85	$\frac{2(x-2) + 4(1-x) - x + 1}{2x + 4(2-x) - 3(4-x)} > 0$	$\frac{1}{3} < x < 4$
86	$\frac{(2x-3x^2)(x^3+8)(x^2-5x+6)}{(x^2-2x+1)(x^3+12x-8-6x^2)} < 0$	$x < -2 \vee 0 < x < \frac{2}{3} \vee x > 3$
diseguazioni in valore assoluto		
87	$ -2 + 5x < 3$	$-\frac{1}{5} < x < 1$
88	$ 3x - 4 > 1$	$x < 1 \vee x > \frac{5}{3}$
89	$ 5x - x^2 < 6$	$-1 < x < 2 \vee 3 < x < 6$
90	$ x^2 - 2x - 3 - 2 > 0$	$x < 1 - \sqrt{6} \vee 1 - \sqrt{2} < x < 1 + \sqrt{2} \vee x > 1 + \sqrt{6}$
91	$ x^2 - 25 \leq 0$	$x = \pm 5$

92	$ 3 - 5x > 3 - x^2$	$x < 0 \vee x > 1$
93	$ x^2 - 1 + x^2 > x$	$x \neq 1$
94	$3 - x^2 - -x + x^2 > 0$	$-1 < x < \frac{3}{2}$
95	$2 x - 3 + 3x - 4 > 0$	$x > -2$
96	$ 2x - 5x^2 < 2 + 3x^2$	$\frac{1 - \sqrt{5}}{2} < x < \frac{\sqrt{5} + 1}{2}$
97	$ x^2 - 4 + 3x < 4$	\emptyset
98	$\frac{2}{ 2x - 1 } < 3$	$x < \frac{1}{6} \vee x > \frac{5}{6}$
99	$\frac{3}{ 2x + 1 } > 1$	$-2 < x < -\frac{1}{2} \vee -\frac{1}{2} < x < 1$

100	$\left 2x - \frac{x-1}{3} \right < 2$	$-\frac{7}{5} < x < 1$
101	$\left \frac{x}{2} - \frac{1}{3} \right \leq 3$	$-\frac{16}{3} \leq x \leq \frac{20}{3}$
102	$\left \frac{x-2}{2x} - \frac{1}{4} \right > 2$	$-\frac{4}{7} < x < 0 \vee 0 < x < \frac{4}{9}$
103	$\left \frac{x-4}{x+2} \right > 2$	$-8 < x < -2 \vee -2 < x < 0$
104	$\left \frac{x+3}{x} \right - 1 \leq 0$	$x \leq -\frac{3}{2}$
105	$\left \frac{2x-1}{x+1} - \frac{x-1}{2+2x} \right < \frac{1}{2}$	$0 < x < 1$
106	$\left \frac{2x-1}{4x-4} - \frac{3}{1-x} \right > \frac{1}{2}$	$-\frac{9}{4} < x < 1 \vee x > 1$
107	$\frac{ x-2 }{ 2x } > 0$	$x \neq 0 \wedge x \neq 2$

108	$\left \frac{ x + 1}{3 - x } \right > \frac{1}{3}$	$x \neq -3 \wedge x \neq 0 \wedge x \neq 3$
109	$\frac{ 2x - 4}{ x } < 4$	$x \neq 0$
110	$\frac{ x - 2 - 1}{2 - x + x - 1 } < 2$	$-5 < x < 5$
111	$\frac{2 x - 1}{1 - -x } > 0$	$-1 < x < -\frac{1}{2} \vee \frac{1}{2} < x < 1$
112	$ x - 2 + x + 3 - 2 x + 1 - 2x > 2$	$x < -3 \vee -3 < x < \frac{\sqrt{33} - 5}{2} \vee x > 5$
113	$2 x - 1 - x - 2 - x + 3 + 2 x - 4 > 0$	$x < \frac{5}{2} \vee x > \frac{11}{2}$
114	$ 2x - x - 2 < 1$	$\frac{1}{3} < x < 1$
115	$ x - 3 - 2x > 4$	$x < -\frac{1}{3} \vee x > 1$

116	$\frac{2x + x - 1 }{2x - 2} < 1$	$x < 1$
117	$\left \frac{2 + x }{3 + x } \right > \frac{1}{4}$	R
118	$\left \frac{x - x - 1 }{x - 1} \right < 1$	$0 < x < \frac{2}{3} \vee x > 2$
119	$\frac{ x - 1 - x + 3}{ x + 2x - 4} > 0$	$x > \frac{4}{3}$

diseguazioni irrazionali

120	$\sqrt{x^2 - 7x + 10} < 5 + x$	$-\frac{15}{17} < x \leq 2 \vee x \geq 5$
121	$\sqrt{x^2 - 8x + 12} \leq x - 3$	$x \geq 6$
122	$x - 1 < \sqrt{2x^2 - x - 1}$	$x \leq -\frac{1}{2} \vee x > 1$
123	$\sqrt{x^2 + 2x + 5} < 3x - 1$	$x > \frac{\sqrt{3} + 1}{2}$

124	$\frac{\sqrt{1-x^2}-3x+1}{x-1} > 0$	$\frac{3}{5} < x < 1$
125	$\frac{2x^2-3x+1}{\sqrt{3x^2-1}} > 0$	$x < -\frac{\sqrt{3}}{3} \vee \frac{1}{2} < x < \frac{\sqrt{3}}{3} \vee x > 1$
126	$\frac{2+x}{3-\sqrt{x^2+1}} > 0$	$x < -2\sqrt{2} \vee -2 < x < 2\sqrt{2}$
127	$\sqrt{\frac{4-x^2}{3-x^2}} > 2$	$-\sqrt{3} < x < -\frac{2\sqrt{6}}{3} \vee \frac{2\sqrt{6}}{3} < x < \sqrt{3}$
128	$\sqrt{\frac{x^2-1}{x^2-4}} > \sqrt{\frac{3}{x+2}}$	$x > 2$
129	$\sqrt[3]{\frac{2x+7}{x+1}} > 3$	$-1 < x < -\frac{4}{5}$
130	$\sqrt[3]{\frac{x+1}{x^2+2}} < 2$	R


131	$\sqrt[3]{\frac{3+x}{2-x^2}} < -1$	$\frac{1-\sqrt{21}}{2} < x < -\sqrt{2} \vee \sqrt{2} < x < \frac{1+\sqrt{21}}{2}$
132	$\sqrt[3]{\frac{x^4+x^3}{x-1}} - 1 - x > 0$	$-1 < x < \frac{1-\sqrt{5}}{2} \vee 1 < x < \frac{1+\sqrt{5}}{2}$
133	$\sqrt[3]{\frac{3-2x}{x-3}} < \sqrt[3]{2x}$	$\frac{2-\sqrt{10}}{2} < x < \frac{2+\sqrt{10}}{2} \vee x > 3$
134	$\frac{x^2-6x+5}{\sqrt{x+2}+3x-1} < 0$	$-2 \leq x < \frac{7-\sqrt{85}}{18} \vee 1 < x < 5$
135	$\frac{5-2x+\sqrt{2x-1}}{\sqrt{x^2+2}-\sqrt{x+3}} > 0$	$\frac{1+\sqrt{5}}{2} < x < \frac{11+\sqrt{17}}{4}$
136	$\frac{\sqrt{9x^2+6x+1}-7}{x+1-\sqrt{x}} > 0$	$x > 2$
137	$\frac{x-2+\sqrt{2x^2+3}}{\sqrt{x^2-4}} < 0$	$-2-\sqrt{5} < x < -2$

esercizi più impegnativi di vario tipo

138	$\frac{1 - 4x + \sqrt{x^2 + 4}}{1 - x + \sqrt{x^2 + x + 2}} < 0$	$x > \frac{\sqrt{61} + 4}{15}$
139	$\frac{(x^2 + 5x)(2 + x - \sqrt{3x^2 + 6x})}{(-27 + x^3)(2x - x^2)(x^2 + 3)} \geq 0$	$-5 \leq x \leq -2 \vee 1 \leq x < 2 \vee x > 3$
140	$\frac{(1 - x + \sqrt{2x^2 - x})(x^2 - 9)(2 - x^2 + x)}{(x^3 + 64)(x^4 - 81)(x - 2)} > 0$	$-4 < x < -3 \vee -3 < x < -1$
141	$\sqrt{ x^2 - 1 } < 2 - x$	$x < \frac{5}{4}$
142	$\sqrt{2} < \sqrt{ 3 - 2x }$	$x < \frac{1}{2} \vee x > \frac{5}{2}$
143	$ 1 + 3x < \sqrt{1 - 2x}$	$-\frac{8}{9} < x < 0$
144	$\sqrt{3 + x} < 1 + x $	$-3 \leq x < -2 \vee x > 1$
145	$\sqrt{ x^2 - 1 } < 1 - x$	$x < 0$

146	$\left \frac{2 - \sqrt{x}}{1 - 2x } \right > 1$	$0 \leq x < \frac{1}{2} \quad \vee \quad \frac{1}{2} < x < 1$
147	$\sqrt{\frac{3 - 3x - 1 }{1 + x}} > 1$	$x < -1 \quad \vee \quad -\frac{1}{2} < x < \frac{3}{4}$
148	$1 + \frac{ x }{\sqrt{x}} > 0$	$x > 0$
149	$\sqrt{1 - 4x^2} > \sqrt{3 - x }$	\emptyset
150	$\frac{(x - 3)(\sqrt{x^2 - 2x} + 1)}{3 - 2x^2} \leq 0$	$x \leq -3 \quad \vee \quad -\frac{\sqrt{6}}{2} < x \leq 0 \quad \vee \quad x \geq 3$
151	$\frac{\sqrt[3]{1 - x^3} + x}{\left \frac{x - 3}{x + 2} \right - 2} > 0$	$-7 < x < -2 \quad \vee \quad -2 < x < -\frac{1}{3}$
152	$\frac{ x - 1 + 2}{\sqrt{x^2 - 1} + 3x} \leq 0$	$x \leq -1$
153	$\frac{\left \frac{x - 2}{1 - 3x} \right - 2}{\sqrt{1 - x^2} - 2 + x} > 0$	$-1 \leq x < 0 \quad \vee \quad \frac{4}{7} < x \leq 1$

154	$\frac{ x-1 - x^2-3 + 2x-3}{\sqrt{x}-3+x} < 0$	$\frac{-3+\sqrt{37}}{2} < x < \frac{7-\sqrt{13}}{2} \vee x > \frac{3+\sqrt{5}}{2}$
155	$\frac{\sqrt[3]{x^2-5x+5} + 1}{\sqrt{ x -2} + 1} \geq 0$	$x \leq -2 \vee x \geq 3 \vee x = 2$
156	$\frac{ x-2x^2 - 2 x+2 }{\sqrt[3]{3x}-2} < 0$	$x < \frac{3-\sqrt{41}}{4} \vee \frac{3+\sqrt{41}}{4} < x < \frac{8}{3}$
157	$\frac{\sqrt{x^2-4} - x + \frac{3}{2}}{ x-3 - x^2 + x } > 0$	$-3 < x < -\frac{25}{12} \vee 2 \leq x < \frac{25}{12}$
158	$\sqrt{2x^2-4x} - \frac{ x+1 }{2} \geq 0$	$x \leq \frac{9-2\sqrt{22}}{7} \vee x \geq \frac{9+2\sqrt{22}}{7}$
159	$\frac{(3x^2-2)(2x^2-1 +x)}{3\sqrt{x-1}-2} > 0$	$x > \frac{13}{9}$
160	$\frac{2\sqrt{ x-1 -x-4x}}{ x -1 } > 0$	$x < -1 \vee -1 < x < \frac{-1+\sqrt{5}}{4}$
161	$\left \frac{x- x }{\sqrt{x}+2} - 1 \right > 1$	\emptyset

162	$\sqrt[3]{\frac{ 3-2x -x}{1+3\sqrt{x}}} \leq 0$	$1 \leq x \leq 3$
163	$\frac{2x^2-1}{ x -1} > \sqrt{x}+1$	 $x > 1$