

Disequazioni logaritmiche fratte

1	$\frac{\log_2 x - 3}{\log_3 x - 2} > 0$	$0 < x < 8 \cup x > 9$
2	$\frac{\log_{\frac{1}{2}} x - 3}{\log_9 x + \frac{1}{2}} \geq 0$	$\frac{1}{27} \leq x < \frac{1}{3}$
3	$\frac{\log_{0,5} x - 1}{2 \log_5 x - 3} > 0$	$0,5 < x < 5\sqrt{5}$
4	$\frac{\log_{\frac{1}{2}}^2 x - \log_{\frac{1}{2}} x}{\log_{\frac{1}{2}} x - 4} < 0$	$\frac{1}{16} < x < \frac{1}{2} \cup x > 1$
5	$\frac{\log_{\frac{1}{3}} x + 3}{\log_{25} x - \frac{1}{2}} < 0$	$0 < x < 5 \cup x > 27$
6	$\frac{\log_{\sqrt{2}} x - 4}{\log(6x - 8 - x^2)} > 0$	$2 < x < 4 \cap x \neq 3$
7	$\frac{\ln(x-1) + \ln(x^2-4) - \ln(x^3+7)}{\log_{10}(x-3) - 1} < 0$	$x > 13$
8	$\frac{\log_2(10-x) - 2 \log_2(4-x)}{\log_2(4-x)} > 0$	$1 < x < 3$
9	$\frac{\ln 3x + \ln \frac{x}{3} - \ln 4}{\log_{\sqrt{2}} x + 2} > 0$	$0 < x < \frac{1}{2} \cup x > 2$
10	$\frac{(\log_3 x)^2 + \log_3 x - 12}{1 - \log_3^2 x} \leq 0$	$0 < x \leq \frac{1}{81} \cup \frac{1}{3} < x < 3 \cup x \geq \frac{1}{27}$
11	$\frac{\log_4^3 x - \log_4^2 x}{\log_4 x - 2} > 0$	$0 < x < 1 \cup 1 < x < 4 \cup x > 16$
12	$\frac{\ln x - \frac{1}{2}}{\ln^2 x - \ln x - 2} < 0$	$0 < x < \frac{1}{e} \cup \sqrt{e} < x < e^2$
13	$\frac{\log(x+5) - \log(x+1) - \log(3x+3) + \log 2}{2 \log(x+4) - \log(6-x) - \log(2x+5) + \log 2} \geq 0$	$-\frac{1}{4} < x \leq 1$
14	$\frac{\log^2 \sqrt{x} - 3 \log \sqrt{x}}{\log \sqrt{x} + 1} > 0$	$\frac{1}{100} < x < 1 \cup x > 1000$
15	$\frac{\log_9 x^2 + 1}{x^2} > 0$	$x < -\frac{1}{3} \cup x > \frac{1}{3}$
16	$\frac{\log_2 x^2 + \log_2^2 x}{\log_2 x - 3 \log_2^2 x} > 0$	$-\frac{1}{4} < x < 1 \cup 1 < x < \sqrt[3]{2}$
17	$\frac{\left(\log_{\frac{1}{2}} x\right)^2 - \log_{\frac{1}{2}} x - 2}{\left(\log_{\frac{1}{2}} x\right)^2 + \log_{\frac{1}{2}} x - 2} < 0$	$\frac{1}{4} < x < \frac{1}{2} \cup 2 < x < 4$

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18	$\frac{\log(x + \sqrt{3}) + \log(x - \sqrt{3})}{\log(2x - 3) + \log(x - 1)} > 0$	$\sqrt{3} < x < 2 \cup x > 2$
19	$\frac{1}{\log_{\frac{1}{2}} x} + \log_{\frac{1}{2}} x > 1$	$0 < x < 1$
20	$\frac{2 - \log_2 \frac{x}{3}}{\log_2 \frac{x}{3} - 1} > 0$	$\frac{4}{9} < x < \frac{2}{3}$
21	$\frac{\log_3 x + 1}{\ln(2 - x)} \leq 0$	$-\frac{1}{3} \leq x < 0 \cup 0 < x \leq \frac{1}{3} \cup 1 < x < 2$
22	$\frac{6}{\log_5(x - 4) + 1} < \log_5(x - 4)^3$	$\frac{101}{25} < x < \frac{21}{5} \cup x > 9$
23	$\frac{1 + \log_3^2 x}{\log_3 x + 1} > 1$	$1 < x < \frac{1}{3} \cup x > 3$
24	$\frac{\ln x - 2 \ln(15 - 4x) + \ln 2}{\ln(15 - 4x)} \leq 0$	$0 < x \leq \frac{25}{8} \cup \frac{7}{2} < x < \frac{15}{4}$
25	$\frac{\log_5^2 x - \log_5 x}{1 + \log_5 x} > 1$	$\frac{1}{5} < x < 5^{1-\sqrt{2}} \cup x > 5^{1+\sqrt{2}}$
26	$\frac{\frac{1}{3} + 2 \log_{\frac{1}{8}} x}{3} - \frac{3 \left(\frac{1}{3} + \log_{\frac{1}{8}} x \right)}{2} \geq -\frac{2}{3}$	$x \geq \frac{1}{2}$
27	$2 - \log \sqrt{x} \leq \frac{1 - \log \sqrt{x}}{2}$	$x \geq 10^6$
28	$\frac{3}{\log_2 x - 1} + \frac{2}{\log_2 x + 1} < 2$	$0 < x < \frac{1}{2} \cup \frac{\sqrt{2}}{2} < x < 2 \cup x > 8$
29	$\frac{\log_2(x + 1)}{\log_2 x} - \frac{1}{\log_2 x} < -1$	\emptyset
30	$\frac{\ln x}{\ln x + 1} + \frac{2}{\ln x} > 2$	$e^{-\sqrt{2}} < x < e^{-1} \cup 1 < x < e^{\sqrt{2}}$
31	$\frac{\log_3 x (\log_3 x - 4)}{\log_2 x (3 - \log_2 x)} > 0$	$8 < x < 81$
32	$\frac{\log_2 x - 2}{\log_2 x + 2} \geq \frac{2 \log_2 x - 3}{4 \log_2 x - 1}$	$0 < x < \frac{1}{4} \cup \sqrt[4]{2} < x \leq 2 \cup x \geq 16$
33	$\frac{\ln^2 x - 2 \ln x + 3}{\ln^2 x - 4 \ln x + 3} > -3$	$0 < x < e \cup e\sqrt{e} < x < e^2 \cup x > e^3$
34	$\frac{\log x + \sqrt{\log x - 2}}{\log^2 x - 1} \geq 0$	$x \geq 100$
35	$\frac{1 + \ln x + \ln^2 x}{\sqrt{3 - \ln^2 x}} > 0$	$e^{-\sqrt{3}} < x < e^{\sqrt{3}}$
36	$\frac{\ln x + \ln(\ln x) - 1}{1 - \ln x} + 1 \leq 0$	$x > 1 \cap x \neq e$

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37	$\frac{2 + \log_2 x}{\log_2^2 x + \sqrt{4 - \log_2 x}} > 0$	$\frac{1}{4} < x \leq 16$
38	$\frac{\log_{\frac{1}{4}} x - \sqrt{\log_{\frac{1}{4}}^2 x - 2 \log_{\frac{1}{4}} x - 3}}{\log_{\frac{1}{4}}^2 x - \log_{\frac{1}{4}} x} \leq 0$	$x \geq 4$
39	$\frac{2}{\ln x - 1} - \frac{1}{\ln x} \leq \frac{1}{\ln^2 x - \ln x}$	$0 < x < e$
40	$\frac{1}{2(\log x - 1)} + \frac{3}{\log^2 x - 1} \leq \frac{1}{4}$	$0 < x \leq \frac{1}{10^3} \cup \frac{1}{10} < x < 10 \cup x \geq 10^5$
41	$\log_3 x + 4 < -\frac{2}{\log_3 x + 1}$	$0 < x < \frac{1}{27} \cup \frac{1}{9} < x < \frac{1}{3}$
42	$\frac{(\log_2 x + 3)(\log_2 x - 2)}{ \log_2 x - 1 } < 0$	$\frac{1}{8} < x < 4 \cap x \neq 2$
43	$\frac{1 - 5\ln^2 x}{16\ln^2 x} < \frac{\ln^2 x + 2}{3}$	$0 < x < \frac{1}{\sqrt[4]{e}} \cup x > \sqrt[4]{e}$
44	$\frac{\log_2 \log_3(x+4)}{\sqrt{4 - \log_2 x} - 3} > 0$	$0 < x < \frac{1}{32}$
45	$\frac{\log_2 x + \log_{\frac{1}{2}} \sqrt{x}}{\log(\log x)} > 0$	$x > 10$
46	$\frac{\sqrt{3 - 2 \log_2 x} - \log_2 x}{\ln \frac{x+1}{x}} \leq 0$	$2 \leq x \leq 2\sqrt{2}$
47	$\frac{(\ln x + 1)^3 - 1}{(\ln x - 1)^3 + 1} > 1$	$x > 1$
48	$\frac{\log_2(1 - x) - 3}{\log_2(\sqrt{1-x} - 2)} > 0$	\emptyset
49	$\frac{[\log_5(16^x + 1) - 1]^{\frac{1}{3}}}{\log_{\frac{1}{4}}^2 3x - 2 \log_4 3x + 1} \leq 0$	$x = \frac{1}{2}$
50	$\log \frac{x-5}{x+7} > 0$	$x < -7$
51	$\log \frac{x^2 + 14x + 16}{x-1} > 1$	$x > 1$
52	$\log \frac{x^2 + 5x + 4}{x^2 + 5x + 6} < 0$	$x < -4; x > -1$
53	$\log_2 \frac{x-1}{x+1} > 1$	$-3 < x < -1$

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54	$\log \frac{\sqrt{x+4}}{\sqrt{x}-1} + \log 2 \leq \log(3\sqrt{x}-2) - \log(\sqrt{x}-2)$	$4 < x \leq 9; x \geq 36$
55	$\log \frac{x+3}{x-1} > 1$	$1 < x < \frac{13}{9}$
56	$\log_{\frac{x}{2}} 8 + \log_{\frac{x}{4}} 8 < \frac{\log_2 x^4}{\log_2 x^2 - 4}$	$0 < x < 2; x > 4$
57	$\log_2 \frac{\sqrt{x^2-1}}{x+4} \geq \log_4 \frac{(x+4)^2}{(x^2-1)}$	$-4 < x \leq -\frac{17}{8}$
58	$\log_2 \frac{x+1}{x-1} - \log_{\frac{1}{2}} \frac{x^2-3x+2}{x^2+1} < 0$	$-3 < x < -1; x > 2$
59	$\frac{\log(x-2)}{\sqrt{1+\log(x-2)}} < 2$	$2 + \frac{1}{e} < x < 2 + e^{2+2\sqrt{2}}$
60	$\log \frac{(x -1)}{x} < 0$	$-1 < x < -\frac{1}{2}; x > 1$
61	$\frac{ \log x }{ \log x - 1 ^2} \leq \frac{1}{2}$	$0 < x \leq e^{2-\sqrt{3}}; x \geq e^{2+\sqrt{3}}$
62	$\log \frac{\sqrt{x+4}}{\sqrt{x}-1} + \log 2 \leq \log(3\sqrt{x}-2) - \log(\sqrt{x}-2)$	$x > 5$
63	$\log_x \frac{x+3}{x-1} > 1$	$1 < x < 3$
64	$\log_x \frac{4x+5}{6-5x} < -1$	$\frac{1}{2} < x < 1$
65	$\frac{\log x + \log 2}{\log(15-4x)} \leq 2$	$0 < x \leq \frac{25}{8}; \frac{7}{2} < x < \frac{15}{4}$
66	$\log_x \frac{2x-1}{x+1} > \cos \frac{2}{3}\pi$	$\frac{1}{2} < x < 1$