

equazioni esponenziali		
1	$4 \frac{\left(\frac{1}{4}\right)^{\frac{x+1}{3}} - 4 \left(\frac{1}{2}\right)^{\frac{x+1}{3}} + 1}{3^x - 9} = 0$	2
2	$\frac{5^{2(x^2-1)} - 6 \cdot 5^{\frac{2x^2-3}{2}} + 1}{\left(\frac{1}{2}\right)^{\sqrt{x}} + \sqrt{2}} = 0$	$x = \frac{\sqrt{6}}{2} \cup x = \frac{\sqrt{2}}{2}$
3	$3^{\frac{x+3}{2}} - 26(\sqrt{3})^{\frac{x+1}{2}} - 9 = 0$	$x = 7$
4	$2 \frac{x^2-3x+10}{2} - 2 \frac{x^2-3x+14}{4} - 8 = 0$	$x = 1 \cup x = 2$
5	$9^{\frac{1}{x}} - 10 \left(\frac{1}{3}\right)^{\frac{x-1}{x}} + 1 = 0$	$x = \pm 1$
6	$\frac{3^{\frac{2x-1}{3x}} \cdot 9^{-x}}{\sqrt{3}} = \left(\frac{1}{3}\right)^{x-1}$	<i>impossibile</i>
7	$5 \cdot \left(\frac{1}{5}\right)^{-3x+1} = 25^{\frac{x}{2}} \cdot \left(\frac{1}{125}\right)^{\frac{x+1}{3}}$	$x = -\frac{1}{3}$
8	$\left(\frac{1}{3}\right)^{\frac{2x(x-1)-3}{3}} + 2 \cdot \left(\frac{1}{3}\right)^{\frac{x(x-1)}{3}} = 1$	$x = \frac{1 \pm \sqrt{13}}{2}$
9	$3^{2x} + 3^{2x-1} = 4 + 9^x$	$x = \frac{\ln 12}{\ln 9}$
10	$4^{1+x} - \frac{6}{4^{x-1}} = 20$	$x = \frac{\ln 6}{\ln 4}$
11	$\left(\frac{2}{3}\right)^{\sqrt{x}} \cdot 5 = \frac{1}{2}$	$x = \left(\frac{\ln 10}{\ln 3 - \ln 2}\right)^2$
12	$\frac{\sqrt{2}^{2-x} \cdot 4^{x-1}}{2^{1-2x}} = \frac{1}{2} \cdot 16^{-x}$	$x = \frac{2}{15}$
13	$\left(\frac{2}{3}\right)^{2(x^2-1)} + 2 \left(\frac{2}{3}\right)^{x^2-1} - 3 = 0$	$x = \pm 1$

disequazioni esponenziali		
14	$\frac{3^{2-x} - 3^{-x}}{9^x - 3^{2x+1}} < 3^{4+9x}$	$\forall x \in \mathbb{R}$
15	$\frac{3^{2x-1} \cdot 2^x}{5} > \left(\frac{1}{3}\right)^{-x}$	$x > \frac{\ln 15}{\ln 6}$
16	$3^x - 4^{x+1} > 0$	$x < -\frac{\ln 4}{\ln 4 - \ln 3}$
17	$\frac{4 \cdot 2^x}{\frac{1}{2} - 1} + 8^x < 0$	$x < \frac{3}{2}$

18	$3^{\frac{x+1}{x}} \cdot 6 > 2^{\frac{2x+1}{x}}$	$x < -\frac{\ln 3 - \ln 2}{\ln 9 - \ln 2} \cup x > 0$
19	$\left(\left(\frac{1}{2}\right)^{2x-1} + 4\right)(3^{2x+2} - 2 \cdot 3^{x+1} - 3) \leq 0$	$x \leq 0$
20	$5^{\frac{3x-2}{3}} \cdot \left(\frac{1}{2}\right)^x > 2^{1+x}$	$x > \frac{\ln 200}{\ln 125 - \ln 64}$
21	$\frac{3 \cdot 3^x}{5^{x+1}} > 2$	$x < -\frac{\ln 10 - \ln 3}{\ln 5 - \ln 3}$
22	$\left(\frac{1}{2}\right)^{\frac{ x+1 }{1-x}} - 4 > 0$	$1 < x < 3$
23	$2^{x-2} - 7^{2x+1} < 0$	$x > \frac{\ln 28}{\ln 2 - \log 49}$
24	$\frac{(3^{x^2-1} - 9)(7^{x+1} - 4^{2x})}{\left(\frac{1}{2}\right)^{\frac{x(x-1)}{2}} - 4^x} \geq 0$	$-3 < x \leq -\sqrt{3} \cup 0 < x \leq \sqrt{3} \cup x \geq \frac{\ln 7}{\ln 16 - \ln 7}$
25	$\left(\frac{1}{2}\right)^{\sqrt{2x^2+7x-4}} - 8^{2x+1} > 0$	$x \leq -4$