Equazioni di primo grado numeriche frazionarie

1	$\frac{3}{x-2}=0$	*impossibile*
2	$4-\frac{5}{x}=0$	$x=\frac{5}{4}$
3	$\frac{6}{x}-2=4$	$x=1$
4	$\frac{7x+14}{x-2}=0$	$x=-2$
5	$\frac{1}{x}+\frac{1}{2}=4$	$x=\frac{2}{7}$
6	$\frac{3}{x-10}+1=0$	$x=7$
7	$\frac{3x-16}{x}=\frac{5}{3}$	$x=12$
8	$\frac{4}{3x-1}=\frac{1}{2+x}$	$x=-9$
9	$\frac{1}{3}\left(9-\frac{42}{x}\right)=\frac{4}{x}-6$	$x=2$
10	$\frac{2y-3y^2}{y+1}=\frac{5}{y+1}-3y$	$y=1$
11	$\left(\frac{4}{x}+\frac{x}{4}\right):\left(\frac{4}{x}-\frac{x}{4}\right)=\frac{x^2-2x}{16-x^2}$	$x=-8$
12	$\frac{2}{3}\left(1-\frac{2}{a}\right)+\frac{3}{2}\left(1-\frac{3}{a}\right)=1$	$a=5$
13	$\frac{2}{x+1}=\frac{1}{x-3}$	$x=7$
14	$\frac{2}{x+1}=\frac{3}{x-1}$	$x=-5$
15	$\frac{y-2}{y+1}=\frac{y-4}{y+3}$	$y=\frac{1}{2}$
16	$\frac{x+1}{x-2}+\frac{x-1}{x+2}=2$	*impossibile*
17	$\frac{4(a-3)}{a+3}-4=\frac{3}{a-3}$	$a=\frac{7}{3}$
18	$\frac{1}{1-x}+\frac{1}{x-1}=1$	*impossibile*
19	$\frac{1}{x-3}=-\frac{2}{x+5}$	$x=\frac{1}{3}$
20	$\frac{x-1}{x+1}-\frac{x+1}{x-1}+\frac{8}{x^2-1}=0$	$x=2$
21	$\frac{4}{x-4}=\frac{4}{x+4}$	*impossibile*

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22	$\frac{1}{x^2-3x}+\frac{1}{x^2+x}=\frac{4}{x^2-2x-3}$	*impossibile*
23	$\frac{y+2}{y-4}=\frac{y+1}{y-3}$	$y=1$
24	$\frac{z+1}{z-1}-\frac{2z-2}{z+1}=\frac{z+1}{1-z}$	$z=0$
25	$\frac{1+3x}{x}+\frac{4}{x-2x^2}=\frac{6x}{2x-1}$	$x=-5$
26	$\frac{2y}{y-2}-\frac{1-y}{2y-y^2}-2=\frac{1}{y}$	$y=-\frac{3}{2}$
27	$\frac{x+1}{x-1}-\frac{3+6x}{x+1}=\frac{3x-5x^2+6}{(x+1)(x-1)}$	*impossibile*
28	$\frac{1}{2-3z}-\frac{6}{3z^2-2z}=\frac{5}{z}$	$z=\frac{1}{4}$
29	$\frac{1}{x^2-4}-\frac{1}{(x+2)(x-1)}=\frac{2}{(x-1)(x-2)}$	$x=-\frac{3}{2}$
30	$\frac{1+y}{y+3}+\frac{y+1}{y-3}=\frac{2(y^2+3)}{y^2-9}-\frac{1}{y+3}$	*impossibile*
31	$\frac{x+\frac{1}{2}}{x}-\frac{x-\frac{1}{2}}{x}=1$	$x=1$
32	$\frac{x^2+3}{x+4}=x-2$	$x=\frac{11}{2}$
33	$\frac{x}{2(x+1)}=\frac{x^2}{x+1}-x-1$	$x=-\frac{2}{5}$
34	$\frac{5x}{2x+3}=1+\frac{3x}{2x-3}$	$x=\frac{3}{8}$
35	$\frac{2x-4}{2x+2}=\frac{x}{x+1}-\frac{1}{x}$	$x=1$
36	$3\left[\frac{1}{2}(x-1)+\frac{4}{x}\right]=\frac{1+3x}{2}$	$x=6$
37	$\frac{2}{1-2a}+\frac{1}{2a-1}=\frac{1-5a}{1-4a^2}$	$a=0$
38	$\frac{2}{z+2}-\frac{6}{3-z}=\frac{32}{z+6-z^2}$	$z=-\frac{19}{4}$
39	$\frac{1}{x^2+4x+3}-\frac{1}{x^2-2x-3}=\frac{1}{x^2-9}$	$x=-7$
40	$\frac{1}{x^2-1}-\frac{1}{x-x^2}=\frac{2}{x^2+x}$	*impossibile*
41	$\frac{4}{z+1}-\frac{3z}{z-3}=\frac{9z}{9-3z}$	*impossibile*

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42	$\frac{1}{2x-4}-\frac{2}{x+2}=\frac{x+5}{3x^2-12}$	$x=\frac{20}{11}$
43	$\frac{10}{(x-5)^2}+\frac{x}{x-1}=1$	*impossibile*
44	$\frac{4+x}{x-3}-\frac{3+x}{x-2}=\frac{5}{x^2-x-6}$	*impossibile*
45	$\frac{x+5}{x+3}-\frac{3x}{x+2}=\frac{6-2x^2}{x^2+5x+6}$	$x=2$
46	$\frac{2-x}{3x+6}+\frac{1-3x}{2+x}=2$	$x=-\frac{7}{16}$
47	$\frac{1}{x^2-9}=\frac{3}{x+3}-\frac{2}{2x+6}$	$x=\frac{7}{2}$
48	$\frac{1}{3(x+4)}+\frac{4}{3x}=\frac{x-1}{8x+2x^2}$	$x=-5$
49	$\frac{2}{x^2-x}-\frac{1}{x^2+x}=\frac{4}{(x-1)(x+1)}$	*impossibile*
50	$\frac{2}{x^2-1}=\frac{3}{x^2-4}-\frac{1}{x^2+x-2}$	$x=-7$
51	$\frac{3x-12}{x^2-16}=0$	*se* $x=4$: *non accettabile*
52	$\left(\frac{3}{2x-2}-\frac{3}{2x+2}\right)\left(\frac{1}{2x}-\frac{1}{2}\right)+\frac{1}{2x+2}=\frac{1}{x}$	$x=-5$
53	$\frac{1}{2x-x^2}+\frac{1}{x^2-4}=\frac{2}{x^2+2x}$	$x=1$
54	$\frac{1}{2z+4}-\frac{1}{4-2z}=\frac{z+1}{(z+2)(z-2)}$	*impossibile*
55	$\frac{5}{y^3-1}+\frac{y}{y^2+y+1}=\frac{1}{y-1}$	$y=2$
56	$\frac{1}{x^2+4x+3}=\frac{3}{18-2x^2}+\frac{1}{x^2-2x-3}$	*impossibile*
57	$\frac{x-2}{x^3-x}+\frac{1}{x^2-1}=\frac{2}{x^2+x}$	*per* $x\neq 0, x\neq \pm 1$ *equazione indeterminata*
58	$\frac{4}{3x-4}-\frac{4}{3x+4}=\frac{6(2x+5)}{9x^2-16}-\frac{1}{3x-4}$	$x=\frac{2}{3}$
59	$\frac{2(x^2+2)}{x^2-4}-1=\frac{x+1}{x-2}$	*se* $x=\pm 2$: *non accettabile*

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60	$\frac{3}{x+3}=\left(\frac{x-3}{x+3}-\frac{x+3}{x-3}\right):\left(\frac{x-3}{x+3}+1\right)$	$x=-1$
61	$\frac{1}{x^2+2x-3}-\frac{1}{x^2-3x+2}=-\frac{1}{(x-2)(x+3)}$	$x=6$
62	$\frac{2x}{x^2+1}=\left(\frac{x+1}{x-1}-\frac{x-1}{x+1}\right):\left(\frac{x-1}{x+1}+\frac{x+1}{x-1}\right)$	$\forall x \neq \pm 1$
63	$\frac{2+x}{x+2}+\frac{x+1}{x-2}=\frac{2(x^2+2)}{(x-2)(x+2)}$	*impossibile*
64	$\frac{2}{x^2-x-2}+\frac{1}{3x^2+2x-1}=\frac{7x-11}{3x^3-4x^2-5x+2}$	*impossibile*
65	$\frac{4x-x^2}{x^4-16}+\frac{1}{4x-8}=\frac{1}{4x+8}$	$x=-1$
66	$\frac{\frac{1}{x}+\frac{1}{3}}{\frac{1}{x}-\frac{1}{3}}:\frac{x^2+3x}{3x-9}-\frac{x}{3}+\frac{2x-3}{6}=2$	$x=-\frac{6}{5}$
67	$\frac{\frac{1}{y-2}+\frac{1}{y+2}}{\frac{1}{y+2}-\frac{1}{y-2}}=2$	$y=-4$
68	$\frac{x+\frac{1}{2}}{x-\frac{1}{2}}=2-\frac{x+4}{x-4}$	$x=\frac{8}{9}$
69	$\frac{1-2z}{z^2+3z}+\frac{4z-6}{2z^2-6z}+\frac{12}{9-z^2}=0$	$z=-6$
70	$\frac{a+2}{a^2-2a}-\frac{8}{a^2-4}=\frac{2a}{a^2-4}-\frac{a-2}{a^2-2a}$	*impossibile*
71	$-\frac{4}{x}-\frac{4}{1-x}-\frac{5}{x+x^2}=\frac{5}{x^2-1}$	$x=\frac{3}{2}$
72	$\frac{2x}{x^2-3x}+\frac{12}{9-x^2}=\frac{2x}{x^2+3x}$	*per* $x \neq -3$ *equazione indeterminata*
73	$\frac{1}{5z+5}+\frac{1}{5z-5}+\frac{1}{5}=\frac{z^2+5}{5+5z^2-10z}$	$x=-\frac{1}{2}$
74	$\frac{3}{x^2-x}+\frac{3}{x^2+x}+\frac{3}{x}=\frac{x-3x^2}{x-x^3}$	$x=\frac{3}{7}$
75	$\frac{x-3}{x+1}=-5\frac{2x-1}{x+1}$	$x=\frac{8}{11}$
76	$\frac{3}{x-1}=\frac{2}{3}$	$x=\frac{11}{2}$

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77	$\frac{1}{2x-1}=\frac{1}{x}-\frac{1}{2x+2}$	$x=2$
78	$\frac{x}{2x+6}=\frac{1}{2}+\frac{x+1}{x+3}$	$x=-\frac{5}{2}$
79	$\frac{2x-6}{x^2-2x-15}=\frac{1}{x+3}+\frac{2}{x-5}$	$x=-7$
80	$\frac{x^2}{2}-9\frac{x-3}{4x-6}+\frac{2x^3}{3-2x}=\frac{6x^2-9x}{6-4x}$	*impossibile*
81	$\frac{x}{x-3}=\frac{x}{x+3}+\frac{2}{x^2-9}+1-\frac{x^2}{x^2-9}$	$x=-\frac{7}{6}$
82	$\frac{x}{x-5}=\frac{2}{x^2-25}+1$	$x=-\frac{23}{5}$
83	$\frac{x}{x+1}=\frac{2x+1}{2x+2}+\frac{3}{x^2-1}$	$x=-5$
84	$\frac{6x+4}{4x^2+4x+1}-\frac{4x}{4x^2-1}=\frac{1}{2x+2}-\frac{2}{4x^2-1}$	$x=-\frac{3}{4}$
85	$\frac{x^2}{x^2-5x-14}+\frac{3x}{x+2}+\frac{2x}{x-7}=\frac{5x+6}{x+2}+1$	$x=-\frac{56}{17}$
86	$\frac{x+7}{x+2}+x=\frac{x^2-1}{x+1}-\frac{1}{x+2}-\frac{3-2x^2}{x^2+x+2}$	*impossibile*
87	$\frac{x^2-1}{x^2-x}=\frac{x}{x-4}-\frac{3x^2}{x(x-1)(x-4)}$	*impossibile*
88	$\frac{1}{-x^2+2x-1}=-\frac{3}{x-1}-\frac{2}{3x-3}$	$x=\frac{14}{11}$
89	$\frac{4x-1}{4x^2-1}=-\frac{3x+5}{1-2x}+\frac{1-3x}{2x+1}$	$x=-\frac{5}{14}$
90	$\frac{x}{x+1}=\frac{1}{3x+3}+\frac{2}{3}$	$x=3$
91	$\frac{2x}{x-3}-\frac{x^2}{x-2}+\frac{3x-x^2}{2-x}=\frac{x-x^2}{x^2-5x+6}$	$x=0$
92	$\frac{2x+1}{x+1}+\frac{5}{1-x}=\frac{2}{x^2-1}$	$x=4$
93	$5+\frac{4-2x}{x+2}+\frac{5}{1-x}=\frac{3x+2}{x-1}$	$x=-14$
94	$\frac{5}{4x^2-4x+1}-\frac{1}{(2x+1)^2}-\frac{3}{(4x^2-1)^2}=\frac{20x^2+27}{16x^4-8x^2+1}-\frac{1}{4x^2-1}$	$x=\frac{9}{8}$