Equazioni fratte, riconducibili ad equazioni di primo grado

1. $\frac{1}{3-2x}+\frac{3}{2x^2-3x}+\frac{5}{x}=0$ $\qquad S=\left\{\frac{4}{3}\right\}$

2. $\frac{1+x}{3x-3}-\frac{1+2x}{x+1}=\frac{3x-5x^2+6}{3x^2-3}$ $\qquad S=\varnothing$

3. $\frac{3}{1-4x+4x^2}+\frac{2}{4x+2}+\frac{1}{1-2x}=0$ $\qquad S=\left\{-\frac{5}{2}\right\}$

4. $\frac{1+x}{2x+4}-\frac{1}{x^2+2x}+\frac{1+x}{2x}=1$ $\qquad$ indeterminata : $S=\{\forall x : x\neq -2 \wedge x\neq 0\}$

5. $\frac{2}{2x^2+2x-12}=\frac{1}{x^2-3x+2}-\frac{1}{x^2+2x-3}$ $\qquad S=\{6\}$

6. $\frac{3}{x^2-1}-\frac{3}{x^2-x-2}-\frac{1}{x^2-3x+2}=0$ $\qquad S=\{-4\}$

7. $\frac{x^3+4x^2+x-1}{x^3+4x^2-4x-16}=1$ $\qquad S=\{-3\}$

8. $\frac{x-4}{2x-10}-\frac{1}{x^2-8x+15}+\frac{x-4}{2x-6}=1$ $\qquad$ indeterminata : $S=\{\forall x : x\neq 3 \ \wedge \ x\neq 5\}$

9. $\left(\frac{x+5}{x+1}-1\right):x-\left(\frac{1}{x-1}-\frac{1}{x}\right)=\frac{2}{x^2-1}$ $\qquad S=\{5\}$

10. $\frac{1}{x}\left(\frac{1}{x-1}-2\right)+2\left(\frac{2}{x+1}-\frac{1}{x}\right)+\frac{4}{3x^2-3}=0$ $\qquad S=\{3\}$

11. $\frac{x}{x^2-4}-\frac{1}{x-2}+\frac{2}{x^2+4x+4}=0$ $\qquad S=\varnothing$

12. $\frac{4+x}{x}-\frac{1+x}{4+x}-\frac{3+x}{x^2+4x}=\frac{11+6x}{x^2+8x+16}$ $\qquad S=\{-2\}$

13. $\left(\frac{x}{12}-\frac{12}{x}\right):\left(1+\frac{12}{x}\right)=\frac{x-12}{12}$ $\qquad$ indeterminata : $S=\{\forall x : x\neq -12 \ \wedge \ x\neq 0\}$

14. $\frac{1}{x^2+x-6}=\frac{2}{x^2-3x+2}-\frac{1}{x^2+2x-3}$ $\qquad S=\varnothing$