Solving Equations with Fractions

To eliminate fractions from an equation,

1) Find the lowest common multiple (LCM) of the denominators.
2) Multiply both sides of the equation by the LCM.
3) Eliminate the denominators by reducing the fractions.

1. $\frac{4x}{9} + \frac{5x}{12} = \frac{31}{36}$

2. $\frac{8x}{9} - \frac{x}{2} = \frac{7}{6}$

3. $\frac{x-9}{4} + 3 = \frac{x+2}{6}$

4. $\frac{x-3}{5} + 2 = \frac{x+1}{10}$

5. $\frac{x+3}{3} + \frac{x-4}{2} = \frac{-1}{6}$

6. $\frac{x+2}{7} - \frac{x+3}{2} = \frac{3}{14}$

7. $\frac{2x-1}{4} - \frac{5x+2}{6} = \frac{-11}{12}$

8. $\frac{4x-1}{5} + \frac{3x+6}{3} = 9$

9. $\frac{x-5}{3} + \frac{x+4}{9} = \frac{-2x+2}{6}$

10. $\frac{5x-4}{5} - \frac{2x+3}{3} = \frac{x-11}{10}$

11. $\frac{2x-3}{5} - \frac{5x-2}{4} = \frac{x-1}{10}$

12. $\frac{5x+4}{3} - \frac{2x+7}{6} = \frac{14x+13}{18}$

13. $\frac{x-6}{4} - \frac{3x-8}{12} = -\frac{2x+1}{6}$

14. $\frac{x+1}{2} - \frac{2x+3}{7} = \frac{5x+1}{28}$

15. $\frac{5x-3}{5} - \frac{3x+2}{4} = \frac{x+7}{10}$

16. $\frac{7x-1}{12} + \frac{2x+1}{15} = \frac{3x-1}{4}$

17. $\frac{5x-5}{10} + \frac{3x-3}{4} = \frac{9x-3}{12}$

18. $\frac{8x-7}{14} - \frac{x+11}{3} = \frac{5x}{6}$

19. $\frac{11x-3}{12} - \frac{5x}{3} = -\frac{4x+3}{5}$

20. $\frac{4x-2}{8} - \frac{5x-3}{4} = \frac{2x-10}{6}$

21. $\frac{2x-5}{6} - \frac{3x+2}{8} = \frac{x+2}{3} + \frac{1}{8}$

22. $\frac{6x-1}{7} - \frac{3x+2}{2} = \frac{2x+5}{14}$

23. $\frac{6x+3}{4} + \frac{2x+1}{3} = \frac{7x+2}{6}$

24. $\frac{3x+5}{2} - \frac{2x+5}{3} = \frac{x+2}{4}$

25. $\frac{3x-1}{2} - \frac{7x+3}{10} = \frac{6x+11}{5}$

26. $\frac{4x-5}{8} - \frac{x+6}{3} = \frac{3x-7}{4}$

27. $\frac{x-3}{5} + \frac{4x-5}{10} = \frac{8x-6}{15}$

28. $\frac{1}{3}\left(x-\frac{1}{2}\right) - \frac{1}{4}\left(x-\frac{1}{3}\right) = \frac{1}{3}$

29. $\frac{1}{2}\left(2x-\frac{1}{2}\right) + \frac{3}{4}(x+5) = \frac{7}{8}$

30. $\frac{4}{5}\left(3x-\frac{3}{4}\right) - \frac{1}{4}\left(2x-\frac{3}{5}\right) = \frac{1}{2}$