Solve Linear Fractional Equations

Strategy – Get rid of the fractions by multiplying BOTH sides of the equation by the common denominator, then solve the resulting equation.

Example Solve for x; $\frac{x}{2} - \frac{x}{3} = x - 5$

The CD is 6, so multiply both sides of the eqn. by 6

$6\left[\frac{x}{2} - \frac{x}{3}\right] = 6(x - 5)$

$3x - 2x = 6x - 30$

$x = 6x - 30$

$+30 = 5x$

$6 = x$

Solve the following equations.

1. $\frac{x}{2} - \frac{x}{3} = 2$

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

3. $\frac{x}{2} + \frac{x}{3} = 11$

4. $\frac{y}{4} + \frac{1}{2} = -3$

5. $\frac{x}{4} - \frac{x}{5} = 4$

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

7. $\frac{x}{4} - 5 = 4 - \frac{x}{5}$

8. $\frac{x}{3} - \frac{x}{15} = 14 - \frac{x}{5}$

9. $\frac{4x}{9} - 7 = 0 - \frac{x}{3}$

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

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

12. $x - \frac{3x}{2} = 7\frac{1}{2}$

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13. $x = 1 + \frac{x}{2} + \frac{x}{4} + \frac{x}{8} + \frac{x}{16}$

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

15. $\frac{x+3}{2} = \frac{27}{9}$

16. $\frac{5x-3}{2} + 14 = 0$

17. $\frac{x-7}{2} = \frac{7-x}{5}$

18. $2x - 8 - \frac{24-2x}{7} = 0$

19. $\frac{2x-12}{3x} = 2$

20. $\frac{x}{5} - \frac{x-2}{3} + \frac{x}{2} = \frac{13}{3}$

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

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

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

24. $4x + \frac{6x}{7} = \frac{3x+2}{2} + 46$

25. $\frac{3(x-1)}{4} + \frac{5x-7}{4} = \frac{3}{2}$

26. $\frac{2n+3}{5} - \frac{n-3}{3} = 2$