

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

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

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

$$4.. \ \frac{5x-3}{2} + 14 = 0$$

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

$$6.. \ 2x - 8 - \frac{24-2x}{7} = 0$$

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

$$8. \ \frac{x}{5} - \frac{x-2}{3} + \frac{x}{2} = \frac{13}{3}$$

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

$$10.. \ \frac{x-2}{2} + \frac{3x+2}{2} = 6$$

$$11. \ \frac{2x+13}{3} + \frac{6-x}{4} = 1$$

$$12. \ 4x + \frac{6x}{7} = \frac{3x+2}{2} + 46$$

$$13.. \ \frac{3(x-1)}{4} + \frac{5x-7}{4} = \frac{3}{2}$$

$$14.. \ \frac{2n+3}{5} - \frac{n-3}{3} = 2$$