



Today I will...	I'll know I've got it when...	Essential Question...
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To solve a rational equation:

1. Find the domain of each fraction in the equation.
2. Use the LCD (Least Common Denominator) to clear the fractions from the equation. To clear the fractions, multiply ALL terms by the LCD.
3. Solve the resulting equation.
4. Check your solutions by plugging them into the original equation.

Example 1: Solve $\frac{x}{6} - \frac{x}{8} = \frac{1}{12}$.

Example 2: Solve $\frac{2}{3x} + \frac{1}{x} = 10$.

Example 3: Solve $x + \frac{6}{x} = -5$.

Example 4: Solve $1 + \frac{3x}{x+2} = \frac{-6}{x+2}$.

Example 5: Solve $\frac{3}{x-5} - \frac{1}{x+5} = \frac{2}{x^2-25}$.

Example 6: Solve $\frac{3}{x+4} = \frac{5}{x}$.

Practice Problems: Solve each rational equation.

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

2. $\frac{1}{8} + \frac{1}{10} = \frac{1}{x}$

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

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

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

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

7. $\frac{4}{x-3} + \frac{2x}{x^2-9} = \frac{1}{x+3}$

8. $\frac{5}{x-3} - \frac{30}{x^2-9} = 1$

9. $\frac{x+10}{7-x} = \frac{3}{x-7}$

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