

Math 51A

How to Solve Equations with Rational Expressions

1. Determine for which values the equation is undefined.
2. Find the Least Common Denominator (LCD).
3. Multiply both sides of the equation by LCD – be careful to multiply each term by the LCD.
4. If you still have a rational expression (a fraction), you've screwed up. **START OVER!**
5. Solve the resulting equation.
6. Required check (look at step 1).

$$\frac{1}{x-1} + \frac{1}{2} = \frac{2}{x^2-1}$$

$$\frac{m}{m^3 + m - 2} + \frac{m}{m^2 - 1} = \frac{m}{m^2 + 3m + 2}$$

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

$$\frac{2}{t+2} - \frac{7}{t-3} = \frac{5}{t^2-t-6}$$