8-6.notebook April 17, 2014

Section 8-6 Solving Rational Equations

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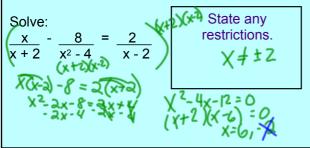
When solving an equation involving one rational expression equal to another, we multiply through by the lowest common denomiator. You have to state the restrictions for these problems.

Solve: $\frac{x}{x+3} = \frac{6}{x-1}$ $x \neq -3, 1$ $x \neq -3, 2$ $x \neq -3, 3$ $x \Rightarrow -3, 3$

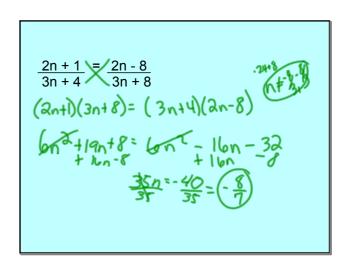
You must check the solutions to make sure they are true.

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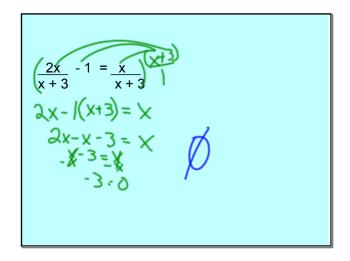
Sometimes solving rational equations introduces extraneous solutions (a solution to the resulting equation that is not a true solution to the original equation). This is why you must check your answers.



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Hwk: pg. 546-547 #8 - 24 (4th), 30 - 34 evens, 38, 42, 44 - 52 evens

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When solving an inequality, we will need to consider two cases: one when the denominator is positive and one where it is negative (flip the sign).

Solve:

$$\frac{4x}{x-3} \le 6$$

Case 1: x - 3 > 0 (positive) Case 2: x - 3 < 0 (negative)

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#33. 2x + 1 > 4 x - 2

Case 1: Case 2:

#35. $\frac{x+1}{x} \le \frac{1}{2}$ Case 1: Case 2:

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Hwk: pg. 518 30-36 evens, #56