

8-5 Day 2.....page #

Goal: Solve Rational Equations

May 14-12:10 PM

$$\sqrt[4]{81 \cdot 4x^8}$$

Handwritten work showing the simplification of the fourth root expression. Red arrows point from the radicand components to their simplified forms: $81 \rightarrow 3$, $x^8 \rightarrow x^2$, and $4 \rightarrow \sqrt[4]{4}$.

May 15-8:48 AM

$$\sqrt{\frac{x^5}{45}} = \frac{\sqrt{x^4 \cdot x}}{\sqrt{9 \cdot 5}}$$

$$\frac{x^2 \sqrt{x} \cdot \sqrt{5}}{3 \sqrt{5} \cdot \sqrt{5}} = \frac{x^2 \sqrt{5x}}{3 \cdot 5}$$

May 15-8:50 AM

Solve each equation.

Multiply
the LCM!!

$$\frac{2(x+2)}{x} = \frac{(x-1)2x}{2}$$

$$2(x+2) = x(x-1)$$

$$2x+4 = x^2-x$$

$$0 = x^2-3x-4$$

$$0 = (x-4)(x+1) \quad x=4 \quad x=-1$$

$$x-4=0 \quad x+1=0$$

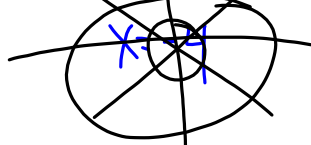
$$\frac{(x+1)(6x)}{x+4} = \frac{(7x+4)(x+4)}{x+4}$$

$$6x = 7x+4$$

$$-6x \quad -6x$$

$$0 = x+4$$

$$-4 \quad -4$$



$(6-4) = ?$
 $-4+4 = ?$
 No Solution

May 6-10:58 AM

LCM
5(x-3)

Solve each equation.

$$\frac{(x+2) \cdot 5(x-3)}{x-3} + \frac{x \cdot 5(x-3)}{5} = \frac{5 \cdot 5(x-3)}{x-3}$$

Did you check for extraneous solutions?

$$5(x+2) + x(x-3) = 5 \cdot 5$$

$$5x + 10 + x^2 - 3x = 25$$

$$x^2 + 2x - 15 = 0$$

$$(x+5)(x-3) = 0$$

$$x = -5 \quad \cancel{x=3}$$

$$x = \frac{6}{x} - 1$$

$$x^2 = 6 - x$$

$$x^2 + x - 6 = 0$$

$$(x+3)(x-2) = 0$$

$$x = -3 \quad x = 2$$

$$x = \frac{6}{x} - 1$$

$$-3 = \frac{6}{-3} - 1$$

$$-3 = -2 - 1$$

$$-3 = -3$$

$$2 = \frac{6}{2} - 1$$

$$2 = 3 - 1$$

$$2 = 2$$

$\frac{-5+2}{-5-3} + \frac{-5}{5} = \frac{5}{-5-3}$
 $\frac{-3}{-8} - 1 = \frac{5}{-8}$
 $\frac{3}{8} - 1 = \frac{-5}{8}$
 $\frac{3}{8} - \frac{8}{8} = \frac{-5}{8}$
 $\frac{-5}{8} = \frac{-5}{8}$

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Solve the equation.

$$\frac{2x-5}{x-8} + \frac{x}{2} = \frac{11}{x-8}$$

$$2(2x-5) + x(x-8) = 11 \cdot 2$$

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Assignment:

8-5 Day 2 worksheet
both sides

May 9-7:54 AM

Solve each inequality algebraically.

$$\frac{6}{x-8} \leq 3$$

$$\frac{x}{x-3} \geq 4$$

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Solve each inequality algebraically.

$$\frac{9}{x+3} < 6$$

$$\frac{4}{x-3} \geq 2$$

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Assignment: p. 605 #16-18, 33-35, 38-46

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