

Stick Quiz T8-2

$$\begin{array}{r} -12 \overline{) 1} \\ 4 \cdot 3 \end{array}$$

$$\begin{array}{r} 8 \overline{) 6} \\ 4 \cdot 2 \end{array}$$

1. Simplify $\frac{5}{5} \cdot \frac{3}{mp} + \frac{4}{5m} \cdot \frac{p}{p}$ 2. $\frac{3}{y^2 + y - 12} - \frac{2}{y^2 + 6y + 8}$

LCM: $5mp$

$$\frac{15}{5mp} + \frac{4p}{5mp}$$

$$\boxed{\frac{15 + 4p}{5mp}}$$

 $m, p \neq 0$

$$\frac{(y+2) \overbrace{3}}{(y+2)(y+4)(y-3)} - \frac{2 \overbrace{(y-3)}}{(y+4)(y+2)(y-3)}$$

$$\text{LCM} = (y+4)(y-3)(y+2)$$

$$\frac{3y + 6 - 2y + 6}{(y+2)(y+4)(y-3)}$$

$$\frac{y + 12}{(y+2)(y+4)(y-3)}$$

$$y \neq -2, -4, 3$$

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Find the LCM



$$4x^2 + 9x + 2 \quad \text{and} \quad 2x^2 - 8x - 24$$

May 8-10:23 AM

? ? ?
? Questions ?
? on ? ?
? Homework ?
? ? ?
? ? ?

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$$\frac{4}{3x} + \frac{8}{x^3} + \frac{2}{5xy}$$

C Denominator
LCM:
 $15x^3y$

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$$\frac{1}{12a} + \frac{6}{1} - \frac{3}{5a^2}$$

$$\frac{360a^2 + 5a - 36}{60a^2}$$

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LESSON **8-6** Solving Rational Equations and Inequalities

T8-3

I can... solve rational expressions.

Apr 8-2:19 PM

Solving Rational Equations

$$4 \cdot \frac{6}{x+3} = \frac{3}{4}$$

$$\frac{x}{2} = 2 \cdot 3$$

$$\cancel{(x+3)} \cdot \frac{4 \cdot 6}{\cancel{(x+3)}} = 3(x+3)$$

$$4 \cdot 6 = 3(x+3)$$

$$3(x+3) = 4 \cdot 6$$

$$3x + 9 = 24$$

$$3x = 15$$

$$x = 5$$

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1. Solve the rational expression.

$$\frac{1}{8x^2} = \frac{1}{4x^2} \cdot 2 - \frac{1}{x} \cdot \frac{8x}{8x}$$

$$\frac{1}{2^3 x^2} - \frac{1}{2^2 x^2} \quad \times$$

$$\text{LCM: } 8x^2$$

$$\frac{1}{8x^2} = \frac{2}{8x^2} - \frac{8x}{8x^2}$$

$$\cancel{8x^2} \frac{1}{\cancel{8x^2}} = \frac{2 - 8x}{\cancel{8x^2} \cancel{8x^2}}$$

$$\frac{1}{-2} = \frac{2 - 8x}{-2}$$

$$\frac{-1}{-8} = \frac{-8x}{-8}$$

$$\boxed{x = \frac{1}{8}}$$

$$x \neq 0$$

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2. Solve the rational expression.

$LCM = 4x^3$

$$\frac{x-4}{4x^3} = \frac{1 \cdot x^2}{4x \cdot x^2} \cdot \frac{(5x-4)}{4x^3}$$

~~$$\frac{x-4}{4x^3} = \frac{x^2 - (5x-4)}{4x^3}$$~~

$$\begin{array}{r} x-4 = x^2 - 5x + 4 \\ -x+4 \quad \quad -x+4 \\ \hline 0 = x^2 - 6x + 8 \end{array}$$

$$\begin{array}{r} 8 \overline{) -6} \\ -4 \cdot 2 \\ \hline \end{array}$$

$$0 = x^2 - 6x + 8$$

$$0 = (x-4)(x-2)$$

$$\begin{array}{l} x-4=0 \quad x-2=0 \\ \boxed{x=4} \quad \boxed{x=2} \end{array}$$

$x \neq 0$

May 7-8:25 AM

Solve the following rational expression.

$$\begin{array}{r} -8 \overline{) 2} \\ 4 \cdot 2 \\ \hline \end{array}$$

$$3. \frac{(x+4)x}{(x+4)(x-2)} = \frac{2(x-2)}{(x+4)} - \frac{2x}{x^2+2x-8}$$

$x-2, (x+4)(x-2)$

$LCM: (x+4)(x-2)$

~~$$\frac{x^2+4x}{(x+4)(x-2)} = \frac{2x-4}{(x+4)(x-2)} - \frac{2x}{(x+4)(x-2)} \cdot (x+4)(x-2)$$~~

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

$$x^2 + 4x + 4 = 0$$

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

$$x+2=0 \quad \boxed{x=-2}$$

$x \neq -4, 2$

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#1 #8

check

$$\begin{array}{l} m^2 - m \\ m(m-1) \end{array}$$

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You Try!!

Solve the following rational expressions.

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

5.
$$\frac{5}{24} + \frac{2}{3-x} = \frac{1}{4}$$

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Solve the following rational expression.

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

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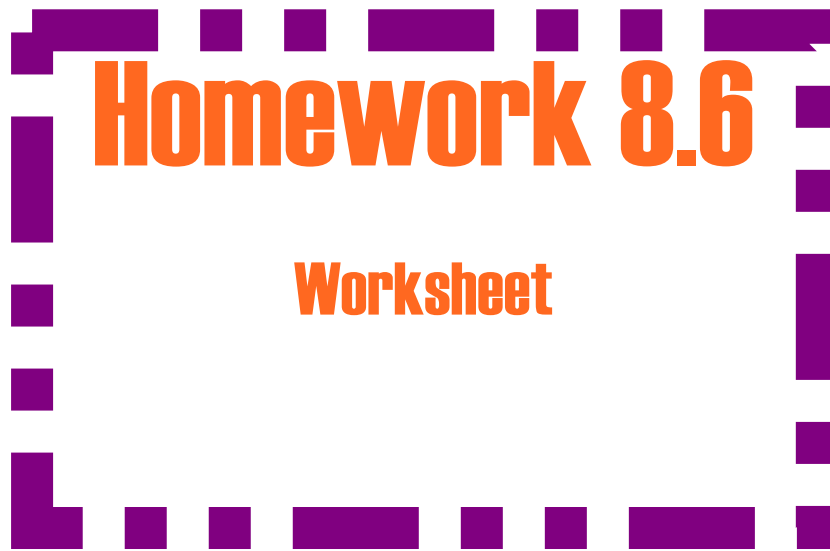
You Try!!

Solve the following rational Expressions.

$$8. \frac{4}{x + 3} = \frac{5}{x + 2} - \frac{3x}{x^2 + 5x + 6}$$

$$9. \frac{x + 36}{x^2 + x} = \frac{1}{x^2 + x} + \frac{x - 13}{x + 1}$$

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Homework 8.6

Worksheet

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