Chapter 6

Determine the LCD

Use the pen tool to check the box that represents the lowest common denominator for the group of rational expressions listed. Click on **Check** to check your work.

1. $\frac{16}{3(x+2)}, \frac{4}{3x}$ **Check**

- ☐ $3(x+2)$
- ☑ $3x(x+2)$
- ☐ $9(x+2)$
- ☐ $9x$

2. $\frac{3}{5x}, \frac{7}{x}, \frac{x}{x+5}$ **Check**

- ☐ $5x^2+25$
- ☐ $x(x+5)$
- ☑ $5x(x+5)$
- ☐ $x^2(x+5)$

3. $\frac{2}{x(x-4)}, \frac{12}{x^2-2x-8}$ **Check**

- ☐ $x(x-4)^2$
- ☐ $x^2(x-4)^2$
- ☐ $(x-4)(x+2)$
- ☑ $x(x-4)(x+2)$

4. $\frac{2}{x}, \frac{1}{x^2(x+3)}, \frac{x}{x+3}$ **Check**

- ☐ $x+3$
- ☑ $x^2(x+3)$
- ☐ x
- ☐ $x(x+3)^2$

$$\frac{x^2-5x-24}{x^2+2x-3} \div \frac{2x^2-2}{x^2+8x+15}$$

$$\frac{x^2-5x-24}{x^2+2x-3} \times \frac{x^2+8x+15}{2x^2-2}$$

$(x-8)(x+3)$ $\quad (x+3)(x+5)$

$(x-1)(x+3)$ $\quad 2(x^2-1)$

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

$$\frac{(x-8)(x+3)(x+5)}{2(x-1)^2(x+1)}$$

$x \neq 1, -3, -5, -1$

Apr 30-1:07 PM

Pre-Calculus 110
Unit 5: Rational Expressions and Equations

April 30, 2019 - Day #6

1. Quiz

2.Keep working on Addition and Subtraction

Jan 29-9:28 AM

Curriculum Outcomes

AN4: Determine equivalent forms of rational expressions (limited to numerators and denominators that are monomials, binomials or trinomials).

AN5: Perform operations on rational expressions (limited to numerators and denominators that are monomials, binomials or trinomials).

AN6: Solve problems that involve rational equations (limited to numerators and denominators that are monomials, binomials or trinomials).

Jan 29-9:29 AM

Simplify. What are the non-permissible values?

a) $\frac{4}{p^2-1} + \frac{3}{p+1}$

b) $\frac{x-1}{x^2+x-6} - \frac{x-2}{x^2+4x+3}$

a) $\frac{4}{(p-1)(p+1)} + \frac{3}{p+1}$

$\frac{4}{(p-1)(p+1)} + \frac{3(p-1)}{(p+1)(p-1)} = \frac{4+3p-3}{(p-1)(p+1)} = \frac{3p+1}{(p-1)(p+1)}$ $p \neq 1, -1$

b) $\dfrac{x-1}{x^2+x-6} - \dfrac{x-2}{x^2+4x+3}$

$(x+3)(x-2) \qquad (x+3)(x+1)$

$$\frac{(x-1)(x+1)}{(x+3)(x-2)(x+1)} - \frac{(x-2)(x-2)}{(x+3)(x-2)(x+1)}$$

$$\frac{x^2-1-(x^2-4x+4)}{(x+3)(x-2)(x+1)}$$

$$\frac{x^2-1-x^2+4x-4}{(x+3)(x-2)(x+1)} = \frac{4x-5}{(x+3)(x-2)(x+1)} \quad x \neq -3, 2, -1$$

c) $\dfrac{1+\frac{1}{x}}{x-\frac{1}{x}}, x \neq 0, x \neq \pm 1$

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

$\dfrac{x+1}{x} \times \dfrac{x}{x^2-1}$

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

$\dfrac{1}{1}+\dfrac{1}{x}$

$\dfrac{x}{x}+\dfrac{1}{x}$

$\dfrac{x+1}{x}$

$\dfrac{x}{1}-\dfrac{1}{x}$

$\dfrac{x^2}{x}-\dfrac{1}{x} = \dfrac{x^2-1}{x}$

c) $\dfrac{2-\frac{4}{y}}{y-\frac{4}{y}}$

Nov 25-7:35 PM

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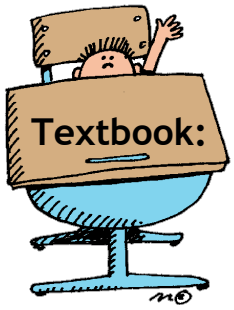

Minimum Preparation:

p. 336-340

1ace, 2, 3, 5ace, 6ace, 7c, 8, 10ac, 12, 13, 15c, 16, 18, 22

Jan 29-10:15 AM

Example 2

Add or Subtract Rational Expressions With Unlike Denominators

Simplify. Express your answers in simplest form.

a) $\frac{2x}{xy} + \frac{4}{x^2} - 3, x \neq 0, y \neq 0$

b) $\frac{y^2 - 20}{y^2 - 4} + \frac{y - 2}{y + 2}, y \neq \pm 2$

c) $\frac{1 + \frac{1}{x}}{x - \frac{1}{x}}, x \neq 0, x \neq \pm 1$

Apr 23-10:32 AM

Attachments

Standard Form Demor.GSP