

3A Assignment: Rational Expressions and Equations

Answer the following problems with as much detail, explanation, and work that is appropriate.

Simplify by canceling first.

1. $\frac{25}{12} \cdot \frac{18}{10} \cdot \frac{8}{35}$

2. $\frac{x^2+2x-3}{x+1} \cdot \frac{x^2+2x+1}{x+3} \cdot \frac{5}{x^2-1}$

Simplify the expression by finding a common denominator.

3. $\frac{x}{3} + \frac{5}{x} - \frac{2}{x-2}$

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

Solve these rational equation.

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

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

$$7. \frac{2}{3x} = \frac{1}{x(x-2)} + \frac{1}{3(x-2)}$$

$$8. \frac{x}{5} = \frac{1}{x+1} + \frac{1}{x^2+x}$$

$$9. \frac{x(x^2-2)}{(x^2+3)} - \frac{1}{2} = \frac{1}{x(x^2+3)}$$