

Rational Expressions

Name: _____

I. Multiply.

$$1. \frac{4x+16}{2x+6} \cdot \frac{x^2+2x-3}{x+4}$$

$$2. \frac{x+3}{x-1} \cdot \frac{x^2-2x+1}{x^2+5x+6}$$

II. Divide.

$$3. \frac{5x^6}{x^2y} \div \frac{10x^2}{y}$$

$$4. \frac{x^2-2x-8}{x^2-2x-15} \div \frac{2x^2-8x}{2x^2-10x}$$

Ex. 4: Adding Rational Expressions

Add.

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

$$B. \frac{x}{x+2} + \frac{-8}{x^2-4}$$

Ex. 5: Subtracting Rational Expressions

Subtract. .

$$\frac{2x^2-30}{x^2-9} - \frac{x+5}{x+3}$$

Ex. 6: Simplifying Complex Fractions

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

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

Ex. 7: Solve for x. $\frac{-2}{x^2-2} = \frac{2}{x-4}$

Ex. 8: Solve for x.

Solve the equation $x - \frac{18}{x} = 3$.

9. $\frac{-4}{5(x+2)} = \frac{3}{x+2}$

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

11. $\frac{6}{x-3} = \frac{8x^2}{x^2-9} - \frac{4x}{x+3}$

12. $\frac{3}{5x} - \frac{4}{3x} = \frac{1}{3}$