

I can extend rules for multiplying and dividing rational numbers to rational expressions.

• **Multiply Rational Expressions**

Recall how to multiply rational numbers (fractions)

1.  $\frac{4}{5} \cdot \frac{2}{3}$

2.  $\frac{10}{24} \cdot \frac{8}{35}$

3.  $\frac{x^3}{4y} \cdot \frac{y^2}{xy}$

4.  $\left(\frac{3x-6}{2x+6}\right) \cdot \left(\frac{5x+15}{4x+8}\right)$

5.  $\left(\frac{2x+6}{x^2+x-6}\right) \cdot \left(\frac{x^2-4}{2x}\right)$

**Steps for Multiplying Rational Expressions**

1.

2.

3.

4.

6.  $\left(\frac{3n+6}{4n-12}\right)^2 \cdot \left(\frac{n^2-2n-3}{n^2+4n+4}\right)$

I can extend rules for multiplying and dividing rational numbers to rational expressions.

• **Divide Rational Expressions**

Recall how to divide rational numbers (fractions)

$$7. \frac{3}{5} \div \frac{4}{7}$$

$$8. \frac{x^3}{4y} \div \frac{y^2}{x}$$

$$9. \frac{x^2y}{4} \div \frac{xy^2}{8}$$

$$10. \frac{3y^2}{z-1} \div \frac{12y^5}{(z-1)^2}$$

$$11. \frac{x-3}{x^2+x-2} \div \frac{x^2-x-6}{x-1}$$

$$12. \frac{x^2-2x-24}{x^2-4} \div \frac{x^2+3x-4}{x^2+x-2}$$

$$13. \frac{\left( \frac{x+2}{x^2-2x-3} \right)}{\left( \frac{x^2-x-6}{x^2+6x+5} \right)}$$

**Steps for Dividing Rational Expressions**

- 1.
- 2.
- 3.
- 4.
- 5.