

Algebra II

5-5

Multiplying and Dividing Rational Expressions

Simplify.

$$1) -\frac{10}{21} \div \frac{15}{28}$$

$$-\frac{\overset{2}{\cancel{10}}}{\underset{3}{\cancel{21}}} \cdot \frac{\overset{4}{\cancel{28}}}{\underset{3}{\cancel{15}}}$$

$$-\frac{8}{9}$$

$$7) \frac{x^2}{4} \left(\frac{xy}{6}\right)^{-1} \cdot \frac{2y^2}{x}$$

$$\frac{x^2}{4} \left(\frac{6}{xy}\right) \frac{2y^2}{x}$$

$$\frac{12x^2y^2}{4x^2y}$$

$$3y$$

$$15) \frac{x^2 - 4}{2x^2 - 5x + 2} \div \frac{2x^2 - 3x - 2}{4x^2 - 1}$$

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

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

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

$$\frac{x+2}{x-2}$$

$$\begin{aligned}
 17) \quad & \frac{\frac{p^4 - q^4}{(p+q)^2}}{p^2 + q^2} \quad \left. \begin{array}{l} \text{REKUR-} \\ \text{SIV-} \\ \text{TE} \end{array} \right\} \frac{p^4 - q^4}{(p+q)^2} \div \frac{p^2 + q^2}{1} \\
 & \frac{p^4 - q^4}{(p+q)^2} \cdot \frac{1}{(p^2 + q^2)} \\
 & \frac{\cancel{(p^2 + q^2)}(p^2 - q^2)}{(p+q)^2 \cancel{(p^2 + q^2)}} \\
 & \frac{\cancel{(p+q)}(p-q)}{(p+q)^2} = \frac{p-q}{p+q}
 \end{aligned}$$

P9 234

2-12 all

14-24 even

+

21