

35.

$$\frac{y^3 - 4y}{y^2 + 4y - 12}$$

$$\frac{y(y^2 - 4)}{y^2 + 4y - 12}$$

$$\frac{y(y+2)(y-2)}{y^2 + 4y - 12}$$

$$\frac{y(y+2)\cancel{(y-2)}}{\cancel{(y-2)}(y+6)}$$

$$\frac{y(y+2)}{y+6}$$

$$47. \frac{3m^2 - 12n^2}{m^2 + 4m^2 + 4n^2}$$

$$\frac{3(m^2 - 4n^2)}{m^2 + 4m^2 + 4n^2}$$

$$\frac{3(m+2n)(m-2n)}{m^2 + 4m^2 + 4n^2}$$

$$\frac{3\cancel{(m+2n)}(m-2n)}{\cancel{(m+2n)}(m+2n)}$$

$$\frac{3(m-2n)}{m+2n}$$

7.2 Multiplying + Dividing Rational Expressions

1. factor completely $\frac{2}{3} \cdot \frac{1}{4}$

2. Cancel

$$\text{Ex: } \frac{4x^3y}{13xy^4} \cdot \frac{-6x^2y^2}{50x^4y^2} = \frac{-4}{5y}$$

$$\text{Ex: } \frac{4x^2 - 4x}{x^2 + 2x - 3} \cdot \frac{x^2 + x - 6}{4x}$$

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

$x-2$

Dividing

multiply by the reciprocal

$$\frac{x^2 - y^2}{2x + 2y} \div \frac{2x^2 - 3xy + y^2}{6x + 2y}$$

$$\frac{x^2 - y^2}{2x + 2y} \cdot \frac{6x + 2y}{2x^2 - 3xy + y^2}$$

$$\frac{\cancel{(x+y)} \cancel{(x-y)}}{\cancel{2(x+y)}} \cdot \frac{\cancel{2}(3x+y)}{(2x-y)\cancel{(x-y)}}$$

$$\frac{3x+y}{2x-y}$$

$$\left(\frac{x^2 + 2x - 3}{x - 3} \right) \cdot \left(\frac{4x + 12}{x^2 - 9} \right)$$

$$\frac{x^2 + 2x - 3}{x - 3} \cdot \frac{x^2 - 9}{4x + 12}$$

$$\frac{(x+3)(x-1)}{\cancel{x-3}} \cdot \frac{\cancel{(x+3)}\cancel{(x-3)}}{4\cancel{(x+3)}}$$

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

Hw: p. 443

2-52 even