

## Multiply & Divide Rational Expressions

Perform the indicated operations, and reduce to lowest terms.

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

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

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$$\begin{aligned} & \frac{x-2}{x^2+x-2} \cdot \frac{x^2-3x+2}{x+2} \\ &= \frac{x-2}{(x-1)(x+2)} \cdot \frac{(x-1)(x-2)}{x+2} \\ &= \frac{(x-2)^2}{(x+2)^2} \end{aligned}$$

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

$$\begin{aligned} & \frac{\left(\frac{x-2}{x^2+x-2}\right)}{\left(\frac{x^2-3x+2}{x+2}\right)} \\ &= \frac{x-2}{x^2+x-2} \div \frac{x^2-3x+2}{x+2} \\ &= \frac{x-2}{x^2+x-2} \cdot \frac{x+2}{x+2} \\ &= \frac{x-2}{(x-1)(x+2)} \cdot \frac{x+2}{(x-2)(x-1)} \\ &= \frac{1}{(x-1)^2} \end{aligned}$$

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