

**Definition:**

Dividing Rational Expressions – multiply the first rational expression by the reciprocal of the second

Ex.  $\frac{2}{3} \div \frac{8}{9} = \frac{2}{3} \cdot \frac{9}{8} = \frac{18}{24} = \frac{3}{4}$

$$\begin{aligned} &6x^2 + 10x - 9x - 15 \\ &2x(3x+5) - 3(3x+5) \end{aligned}$$

Example 5.) Divide  $\frac{7x}{2x-10} \div \frac{x^2-6x}{x^2-11x+30}$

$$\frac{7x}{2(x-5)} \cdot \frac{(x-6)(x-5)}{x(x-6)}$$

$$\frac{\cancel{7x}}{\cancel{2x}} = \boxed{\frac{7}{2}}$$

Example 6.) Divide  $\frac{6x^2+x-15}{4x^2} \div (3x^2+5x)$

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

$$\boxed{\frac{2x-3}{4x^3}}$$