

## Add & Subtract Rationals 2A.2

ex.1  $\frac{3x-4}{x+3} + \frac{2x+5}{x+3} = \frac{5x+1}{x+3}$

ex.2  $\frac{2x-1}{x^2+2} - \frac{4x+4}{x^2+2} = \frac{-2x-5}{x^2+2}$

Like Denomin

## Least Common Multiple

ex.3  $2x^3y^4$  and  $3x^5y^3$

\* Smallest # they both go into  
\* higher degree

LCM:  $6x^5y^4$

ex.4  $x^2+3x-4$  and  $x^2-3x+2$

\* Factor both

\* Write each factor once

$(x+4)(x-1)$      $(x-2)(x-1)$

LCM:  $(x+4)(x-1)(x-2)$

ex.5  $\frac{x-1}{x^2+3x+2} + \frac{x}{x+1}$

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

ex. 6

$$\frac{2x^2 - 16}{x^2 - 4} - \frac{(x+4)(x-2)}{x+2}$$

\* Only factor bottom! \*

$$\frac{2x^2 - 16}{(x+2)(x-2)} - \frac{x^2 + 2x - 8}{(x+2)(x-2)} \rightarrow \frac{2x^2 - 16 - x^2 - 2x + 8}{(x+2)(x-2)}$$

$$\frac{x^2 - 2x - 8}{(x+2)(x-2)} \rightarrow \frac{(x-4)(x+2)}{(x+2)(x-2)}$$

$$\frac{x-4}{x-2}$$

## Complex Fractions

ex. 7

$$\frac{\frac{x+2}{x-1}}{\frac{x-3}{x+5}}$$

Rewrite :  $\frac{x+2}{x-1} \div \frac{x-3}{x+5}$

KFC

$$\frac{x+2}{x-1} \cdot \frac{x+5}{x-3}$$

Answer

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