

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Notes

Algebra Section 12.6

Pages 812-819

**Goal:** “You will add and subtract rational expressions”



**Add/subtract rational expressions with the same denominator:**

**Ex:**  $\frac{5}{3x} + \frac{7}{3x}$

**Ex:**  $\frac{3x}{x-1} - \frac{x+5}{x-1}$

**Ex:**  $\frac{2}{y} + \frac{y+1}{y}$

**Ex:**  $\frac{4x+1}{2x-1} - \frac{2x-3}{2x-1}$

**Ex:**  $\frac{2x}{x+2} + \frac{x+1}{x+2}$

**Ex:**  $\frac{4x+1}{5x} - \frac{x+2}{5x}$

**Find least common denominator:**

**\*\*HINT:** If you had  $\frac{2}{721} + \frac{3}{648}$  what would be the quickest way to find a common denominator?

**Ex:**  $\frac{1}{4r}$  and  $\frac{r+3}{10r^2}$

**Ex:**  $\frac{5}{(x-3)^2}$  and  $\frac{3x+4}{x^2-x-6}$

**Ex:**  $\frac{3}{c-2}$  and  $\frac{c+8}{2c+7}$

**Add expressions with different denominators:**

**Ex:**  $\frac{9}{8x^2} + \frac{5}{12x^3}$

**Ex:**  $\frac{10}{3x} - \frac{7x}{x+2}$

**Ex:**  $\frac{6}{18x} + \frac{4}{6x^2}$

**Ex:**  $\frac{5}{2x} - \frac{3x}{x-1}$

**Ex:**  $\frac{3}{2x} + \frac{7}{+5x^4}$

**Ex:**  $\frac{y}{y+1} + \frac{3}{y+2}$

$$\mathbf{Ex:} \quad \frac{x+4}{x^2+3x-10} - \frac{x-1}{x^2+2x-8}$$

$$\mathbf{Ex:} \quad \frac{2z-1}{z^2+2z-8} - \frac{z+1}{z^2-4}$$

$$\mathbf{Ex:} \quad \frac{x+3}{x^2-8x+15} - \frac{x+6}{x^2-x-20}$$