

Adding and Subtracting Rational Expressions

• FACTOR THE DENOMINATORS IF NECESSARY

- Find the least common denominator (LCD)
- Write an equivalent fraction with the LCD (multiply by 1)
- Add or Subtract the numerators ONLY, leave the common denominator
 - Simplify the results if possible

• Examples

1. $\frac{3}{2y} + \frac{5}{2y}$

2. $\frac{x-3y}{x+y} + \frac{x+5y}{x+y}$

3. $\frac{2}{a} + \frac{5}{-a}$

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

5. $\frac{4x}{x-2} - \frac{3x-3}{2-x}$

6. $\frac{5}{3x^2} + \frac{7}{12x}$

$$7. \frac{8}{ab^3} + \frac{5}{a^2b^5}$$

$$8. \frac{5}{a-6} + \frac{7}{a+4}$$

$$9. \frac{4}{3y} + \frac{5}{y-2}$$

$$10. 4 + \frac{z-6}{z+2}$$

$$11. \frac{x}{x^2+11x+30} - \frac{5}{x^2+9x+20}$$

$$12. \frac{y-3}{y-4} - \frac{y+2}{y+4} + \frac{y-7}{y^2-16}$$