

# Adding/Subtracting Rational Expressions

Like Denominators



**Add:**

$$\frac{1}{7} + \frac{5}{7}$$

$$-\frac{2}{3} + \frac{1}{9}$$

$$\frac{1+5}{7} = \frac{6}{7}$$



**Add:**

$$\frac{4}{x^2} + \frac{1}{x^2} = \frac{4+1}{x^2}$$

$$= \frac{5}{x^2}$$



Add:

$$\frac{1}{x} + \frac{1}{x} = \frac{2}{x}$$

① Add the numerator

② Keep the common Denom.

③ Can you simplify the answer?



Add:

$$\frac{1}{2n} + \frac{5}{2n} = \frac{\cancel{6}^3}{\cancel{2n}_1} = \boxed{\frac{3}{n}}$$



**Add:**

$$\frac{x}{y} + \frac{x}{y} = \frac{2x}{y}$$



**Add:**

$$\frac{2x}{x+3} + \frac{5}{x+3} = \frac{2x+5}{x+3}$$



Add:

$$\frac{x^2}{x-3} + \frac{9}{x-3}$$

$$\frac{x^2 - 9}{x-3} = \frac{(x+3)(\cancel{x-3})}{\cancel{x-3}} = x+3$$





Add:



$$\frac{7x}{x-4} + \frac{4x+12}{x-4} = \frac{11x+12}{x-4}$$

$$\frac{2x+3}{x} - \frac{4x+6}{x} = \frac{2x+3-4x-6}{x}$$

$$\frac{-2x-3}{x}$$