

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

LCD:

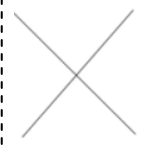
$$\frac{2x}{3x} - \frac{x+1}{3x} + \frac{2x}{3x} - \frac{x+1}{3x}$$

Example 3 Adding/Subtracting with different denominators

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

LCD:

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



Example 2 Adding/Subtracting with different denominators

$$\frac{\frac{x-4}{3} + \frac{x+5}{3}}{\frac{x-4}{3} + \frac{x+5}{3}}$$

LCD:

$$\frac{x-4}{3} + \frac{x+5}{3}$$

Add & Subtract Rational Expressions

- Step 1:** Find the LCD.
- Step 2:** Multiply each fraction, top and bottom, by any factor missing from the LCD.
- Step 3:** Add or subtract the numerators; don't forget to distribute the negative when subtracting.
- Step 4:** Simplify the numerator by combining like terms.
- Step 5:** Check to see if the numerator will factor and/or the result will simplify further.

Example 1 Adding/Subtracting with like denominators

Add or subtract the numerators, then simplify completely.

- A] $\frac{m-3n}{6m^3n} - \frac{m+3n}{6m^3n}$
- B] $\frac{5}{a^2+3a+2} + \frac{6a+1}{a^2+3a+2}$
- C] $\frac{5x+7}{2x^2+13x+20} - \frac{3x+2}{2x^2+13x+20}$