

## Adding/Subtracting Rational Expressions:

**Check for understanding:** Multiply each fraction to make a common denominator of  $15x^2$ .

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

$$\frac{1}{3}$$

$$\frac{4}{5x}$$

$$\frac{7x^2}{3x}$$

**Practice- C-Level**

Add or subtract. Factor and simplify, if possible.

1.  $\frac{2x-1}{6x^2} + \frac{x+4}{9x}$

2.  $\frac{x+1}{12x} + \frac{x+2}{8x}$

3.  $\frac{3x-2}{5x^2} - \frac{x-4}{10x}$

4.  $\frac{x+3}{x+1} + \frac{2x-7}{x-5}$

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

6.  $\frac{9-3x}{(x+3)(x-3)} + \frac{2x}{x+3}$

$$7. \frac{2}{x+4} - \frac{x-6}{x^2-16}$$

$$8. \frac{10x}{x^2+6x} - \frac{2}{3x+18}$$

Practice: B-Level

$$9. \frac{4x^2-3}{2x^2} - \frac{x+6}{x} - \frac{x}{8}$$

$$10. \frac{x^2-3x-4}{5x^3} + \frac{2x^2+4x-1}{10x^2} + \frac{1}{x}$$

$$11. \frac{-x-4}{x} - \frac{3x^2-5}{x^2} - \frac{x-3}{x^3}$$

$$12. \frac{x^2+5x+1}{7x^4} + 1$$

Challenge: Solve these equations.

$$1. \frac{3}{2x} + \frac{4}{x^2} + \frac{1}{3x} = \frac{12}{9x}$$

$$2. \frac{2}{3x} + \frac{3}{4} = \frac{2}{x}$$