6.3 Add and Subtract Rational Expressions

To add algebraic fractions we need _____.
Add the numerators and keep the common denominator.
Check to see if this answer will factor and reduce.

Add.

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

2. $\frac{2}{9} + \frac{4}{9}$

3. $\frac{4}{3x} + \frac{5}{3X}$

4. $\frac{2}{X+3} + \frac{7}{X+3}$

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

6. $\frac{3X+4}{5X} + \frac{7X-4}{5X}$

7. $\frac{X+1}{2X+1} + \frac{3x+1}{2x+1}$

8. $\frac{x+1}{2x^2-5x-12} + \frac{x+2}{2x^2-5x-12}$

To subtract algebraic fractions with common denominators we add the opposite _____. Then follow the addition rules.

Subtract.

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

2. $\frac{5x-2}{4x} - \frac{x-6}{4x}$

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

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

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

6. $\frac{2x^2+3}{x^2-6x+5} - \frac{x^2-5X+9}{x^2-6x+5}$