Lesson 1.4.2: Addition and Substraction of Rational Algebraic Expressions

How to Add or Subtract Similar Rational Expressions:

1. Copy the denominator.
2. Add or subtract the numerators.
3. Simplify the result.

In symbols, $\frac{a}{b}+\frac{c}{b}=\frac{a+c}{b}$.

How to Add or Subtract Dissimilar Rational Expressions:

1. Change the expressions into similar rational algebraic expressions using the least common denominator or LCD.
2. Proceed as in adding or subtracting similar fractions.

Practice Exercises 1.4.2

Perform the indicated operation.

1. $\frac{6}{2a-6}+\frac{4}{2a-6}$
2. $\frac{x^2+3x-2}{x^2-4}+\frac{x^2+2x+4}{x^2-4}$
3. $\frac{7}{4x-2}-\frac{5}{4x-2}$
4. $\frac{x^2+3x+2}{x^2-2x+1}-\frac{3x+3}{x^2-2x+1}$
5. $\frac{x-2}{x-1}+\frac{1}{x-1}$
6. $\frac{3}{x+1}+\frac{4}{x}$
7. $\frac{x+8}{x^2-4x+4}+\frac{3x-2}{x^2-4}$
8. $\frac{2x}{x^2-9}-\frac{3}{x-3}$
9. $\frac{3}{x^2-x-2}-\frac{2}{x^2-5x+6}$
10. $\frac{x+2}{x}-\frac{x+2}{2}$

Activity 1.4.2

Perform the indicated operation.

1. $\frac{6}{3a-9}-\frac{3}{3a-9}$
2. $\frac{x^2-3x-7}{x^2-9}+\frac{x^2-2x+4}{x^2-9}$
3. $\frac{7}{3x-6}-\frac{4}{3x-6}$
4. $\frac{x^2+2x+2}{x^2-4x+4}-\frac{2x+6}{x^2-4x+4}$
5. $\frac{x-2}{x-4}-\frac{2}{x-4}$
6. $\frac{a}{a-b}-\frac{b}{a+b}$
7. $\frac{3}{2x+1}+\frac{5}{3x-2}$
8. $\frac{3a+12}{2a-8}+\frac{a+4}{a-4}$
9. $\frac{y+1}{y}+\frac{y-1}{y+1}$
10. $\frac{2x}{x^2-4x+4}-\frac{1}{x-2}$

Typeset by Jonathan Rufo Bacolod using LaTeX

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