# Topic: Rational Expressions with Like Denominators (Chapter 12.6)

## Materials Needed: Computer, Textbook

Students will be able to access the assignment for Calamity day eight on my webpage under the files page or they may access the assignment from Mr. McCorkle's webpage. The students may also refer to their textbook (page 672-675)

Students may use the website khan Academy (www.khanacademy.org) and search Adding and Subtracting Rational Expressions. Students will be able to click on Adding and Subtracting Rational Expressions 0.5, 1.0, and 1.5 on the left side of the screen. Practice problems will be generated with helpful hints and they can check their answer for each problem they attempt. Examples are also provided in the book and students may refer to my examples on the following page.

## Assignment: Page 674 - 675

Students will print the examples provided in the attached Calamity Day 8 packet and begin working the designated problems from lesson 6 of Chapter 12. Since students learned to add and subtract rational numbers in lesson 2.2, they will be able to expand on that and add or subtract with binomials in the denominator. This topic will be part of the Algebra I End of Course Exam and students will also be working with more complicated Rational Expressions in their Algebra II course of study. The homework assignment will be collected and graded on effort and accuracy.

# Algebra I Lesson – Rational Expressions with Like Denominators

Ex. 1 $\frac{4b}{15} + \frac{16b}{15}$

$\frac{20b}{15}$ (Divide by 5)

$\boxed{\frac{4b}{3}}$

Ex. 2 $\frac{6c}{c+2} + \frac{12}{c+2}$

$\frac{6c+12}{c+2}$ (Factor the numerator)

$\frac{6(c+2)}{c+2}$ (cancel the expressions)

$\boxed{6}$

Ex. 3 $\frac{3s}{11-s} + \frac{-5s}{s-11}$ (Mult top & bottom by neg. 1)

$\frac{3s}{11-s} + \frac{5s}{11-s}$ (Now they have a common denominator)

$\boxed{\frac{8s}{11-s}}$

Ex. 4 $\frac{12z}{7} - \frac{5z}{7}$

$\frac{7z}{7}$ (Divide by 7)

$\boxed{z}$

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

$\boxed{\frac{3a+1}{a-4}}$

* (you can't factor and you can't simplify the expression)

Ex. 6 $\frac{a+5}{6} - \frac{a+3}{6}$ (Change the Sub to Add the opposite)

$\frac{a+5+(-a-3)}{6}$

$\frac{2}{6} = \boxed{\frac{1}{3}}$

Ex. 7 $\frac{5y}{y-3} - \frac{5y}{3-y}$ Mult the 2nd fraction by -1 to get a common denominator

$\frac{5y}{y-3} - \frac{(-5y)}{y-3}$

$\frac{5y}{y-3} + \frac{(5y)}{y-3}$

$\frac{10y}{y-3}$

Ex. 8 $\frac{15x}{5x+1} - \frac{-3}{5x+1}$

$\frac{15x + (3)}{5x+1}$ Factor the numerator

$\frac{3(5x+1)}{5x+1}$ Cancel the expressions

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After previewing the examples given for adding and subtracting rational expressions (you may also visit the Khan Academy website for additional help) your homework is to go to page 674 and 675 from the textbook and complete problems from 5 – 12, 14 – 24 even and 28 – 38 even. Students must show their work in order to receive full credit for the assignment. The work should match my examples or the examples from the book or even the examples from Khan Academy. The assignment must be completed and turned in to the teacher on time in order to receive full credit. If you have a question about what is expected of you for this assignment, you may consult with me before the due date.