Robert Colson’s

Lesson 4.4: **Adding and Subtracting Rational Expressions**

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| Objectives | * Understand that rational expressions form a system analogous to the system of rational numbers and use that understanding to add and subtract rational expressions. |
| Language Objective | * SWBAT use a 3-reads protocol to interpret an Algebra 2 word problem by listening to the teacher’s reading and summarizing the situation in a sentence, reading it aloud to state the math question, and silently rereading to list key facts and figures. |
| Essential Understanding | The properties of operations used to add and subtract rational numbers can be applied to adding and subtracting rational expressions. |

***By the end of this lesson, you should feel comfortable solving these two questions. Go ahead, try them (Show all work!!!)***

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***Warmup #1*Set 1: Same Denominators**

**Add the following rational numbers. All denominators within each problem are the same.**

**1. **

**2. 1/5 + (-4/5)**

**3. **

**4. 1/6 + 1/(2 \* 3)**

**5. **

**6. 3/9 + (-1)/(3 \* 3)**

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***Warm up #2***

**Find the Least Common Multiple (LCM) of the following pairs of numbers by factoring them and using each factor the greatest number of times it appears in either number.**

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**1. 12 and 18**

**2. 20 and 25**

**3. 8 and 12**

**4. 15 and 36**

**5. 24 and 30**

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***Warm up #3***

**Adding Rational Numbers with Unlike Denominators**

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**Practice Problems**

**1. 1/6 + 2/9**

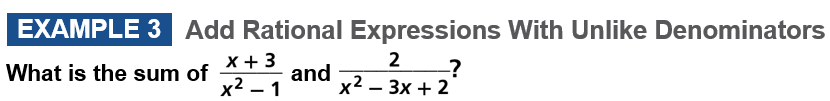
**2. A number and plus sign

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**3. 5/12 + 1/8**

**4. **

**5. 1/4 + 2/6**

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***Warm up #4***

**Subtracting Rational Numbers with Unlike Denominators  
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1. **5/6 - 1/4**

**2. 2/3 - 1/9**

**5. 3/8 - 1/12**

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| ENV23_FL_A2SE_T4L04_T0001_T04.png  ​Jorge drives his car to the mechanic, then he takes the commuter rail train back to his neighborhood. The average speed for the 10-mile trip is 15 miles per hour faster on the train. Find an expression for Jorge’s total travel time. If he drove 30 mph, how long did this take? | **First Read - Understanding the Context** |  |
| *What is the core of the problem?*   * I think this problem is about... |  |
| **Second Read - Interpreting the Question** |  |
| *What are we trying to find out?*   * I know the problem is asking...because... |  |
| **Third Read - Identifying Information** |  |
| *What are the important quantities, relationships, and other relevant information?*   * The quantities are... * I can count... * These quantities help me to answer... * The information from the situation that we need is... |  |
| Solution (show and explain your answer) | |
|  | |
| Interpretation of solution (interpret your solution in your own words) | |
|  | |

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