Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Class: \_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Learning Target 1:** I can add and subtract fractions.

**Objective:** I can add two or more fractions with unlike denominators.

Here are the steps to follow:

|  |  |
| --- | --- |
| dog looking ear down | * Find the **Least Common Multiple** of the denominators (which is called the **Least Common Denominator**). * Change each fraction (using equivalent fractions) to make their denominators the same as the least common denominator * Then add (or subtract) the fractions, as we wish! |

Example: What is **1/6** + **7/15**?

The Denominators are 6 and 15:

|  |  |  |
| --- | --- | --- |
| multiples of 6: |  | 6, 12, 18, 24, **30**, 36, ... |
| multiples 15: |  | 15,**30**, 45, 60, ... |

So the **Least Common Multiple** of 6 and 15 is **30**. Now let's try to make the denominators the same.

Note: what we do to the bottom of the fraction, we must also do to the top.

When we multiply 6 **×**5 we get 30, and when we multiply 15 **×**2 we also get 30:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  | | --- | --- | --- | |  | **× 5** |  | | right over arrow | | | | **1/6** | = | **5/30** | | right under arrow | | | |  | **× 5** |  | | and | |  |  |  | | --- | --- | --- | |  | **× 2** |  | | right over arrow | | | | **7/15** | = | **14/30** | | right under arrow | | | |  | **× 2** |  | |

 Now we can do the addition by adding the top numbers:

**5/30** + **14/30** = **19/30**

The fraction is already as simple as it can be, so that is the answer.

Adding Fractions with Unlike Denominators

1. + 4. + +
2. + 5. + +
3. + 6. + +

7. Marcus added 5/8 cup of water to ¼ cup of juice concentrate. How much juice did Marcus make?

8. Mr. Perez is building a fence. He wants to bolt together 2 boards. One is ¾ inch thick and the other is 1/8 inch thick. What will be the total thickness of the two boards?

9. Abigail spent ¼ hour on homework after school, another ½ hour after she got home, and a final 1/3 hour after dinner. Did she spend more or less than 1 hour on homework in all? Explain.

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