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. $\frac{3}{4}$ + $\frac{1}{6}$ 4. $\frac{1}{2}$ + $\frac{3}{4}$ + $\frac{1}{8}$
2. $\frac{1}{8}$ + $\frac{3}{7}$ 5. $\frac{1}{9}$ + $\frac{1}{6}$ + $\frac{4}{9}$
3. $\frac{2}{6}$ + $\frac{3}{8}$ 6. $\frac{5}{8}$ + $\frac{3}{4}$ + $\frac{7}{16}$

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.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_