How To Add Fractions With Different Denominators

You may already be familiar with adding fractions with the same denominator. To recap, let us perform a sample problem.

Say we have to add 3/6 and 2/6. All we must do is add the numerators of each fraction. In this case we will add 3 plus two. We will keep the same denominator between these fractions. This gives us 5/6. But how do we add fractions that have different denominators.

Let us solve an example of one of these. Suppose we have to add ¾ and 2/5. These fractions have different denominators, so we need to find the least common denominator. This can be explained visually.

If we have two pies, one cut into fourths and one cut into fifths, the slices of each pie are of different sizes. Rewriting each fraction with the least common denominator will preserve the amount of the pie that we are adding, but the sizes of each slice will change, so that they are the same between the two pies.

To do this, we identify the least common multiple shared by the denominator. Let us list the multiples of each of the denominators. We should continue to list them until we

find one in common, and it should be the smallest one available. In this case, that number is twenty.

Now we must consider what factor multiplies with four to give us twenty. That would be 5. Now we will multiply the numerator and denominator by 5. This preserves the value of the fraction. The fraction still has the same value as before. We will do the same thing to the other fraction, but we will multiply it by the number that will give us 20 in the denominator. In this case that is 4.

This now leaves us with 15/20 plus 8/20. When we add the numbers, this will leave us with 23/20. Our answer is an improper fraction. If we want to, we can convert this fraction into a mixed number by dividing the numerator by the denominator.

This will result in 1 and 3/20.