

Adding and Subtracting Fractions with Unlike Denominators

To add and subtract fractions with unlike denominators, you must first convert the fractions to an equivalent fraction with like denominators.

For example:

$$1 \frac{1}{3} + 2 \frac{2}{5} =$$

1. You must find the Least Common Multiple of the denominators 3 and 5.

3, 6, 9, 12, 15, 18, 21
5, 10, 15, 20, 25

15 in common is the smallest multiple in common.

2. Next you find the equivalent fraction.

3 times 5 is 15, so you use the times 5 in the numerator. 1 times 5 is 5, so the equivalent fraction is $\frac{5}{15}$.

5 times 3 is 15, so you use the times 3 in the numerator. 3 times 2 is 6, so the equivalent fraction is $\frac{6}{15}$.

So the new problem is...

$$1 \frac{5}{15} + 2 \frac{6}{15} =$$

Notice that the whole numbers remained the same.

Add 1 and 2 to get 3. Add 5 and 6 to get 11. The denominator stays the same.

So the answer is $3 \frac{11}{15}$

Add and subtract the fractions. Show all work.

$$6 \frac{2}{8} + 2 \frac{1}{6} =$$

$$8 \frac{1}{2} + 2 \frac{1}{3} =$$