Adding fractions with unlike denominators

When adding two or more fractions with unlike denominators, the first thing you need to do is, make their denominators same. To make the denominators same you should know how to find least common multiple (***lcm)*** of the denominators or it is also called the ***least common denominator (lcd)***.

Once ***lcd*** is known, change both the denominator same as lcd and ***add*** the ***numerators*** to get the ***new numerator.*** The ***denominator*** stays the ***same*** as ***lcd***.

Example 3: **Add the following fractions.**

$$\frac{2}{3} + \frac{1}{4}$$

Solution: Rewrite both the fractions $\frac{2}{3} + \frac{1}{4}$

Find the lcm (also called lcd) of denominators 3 and 4.

3 | 3, 6, 9, **12**, 15

4 | 4, 8, **12**

Lcd of 3 and 4 = 12

Now change both the fractions into equivalent fractions having denominators as 12 (same as lcd). For this, multiply numerator and denominator of first fraction by 4 and multiply numerator and denominator of second fraction by 3 as shown below:

$$= \frac{2 \times 4}{3 \times 4} + \frac{1 \times 3}{4 \times 3}$$

$$= \frac{8}{12} + \frac{3}{12}$$

$$= \frac{11}{12}$$

These fractions are new equivalent fractions to the original fractions with same denominators. Now add the numerators to get the new numerator . The denominator stays the same as lcd which is 12.