Addition of Fractions

For adding of like fractions, we follow the following steps.

Step 1: Add the numerators of the given fractions and keep the denominator as it is.

Step 2: Reduce the fraction of its lowest term.

Step 3: If the result is an improper fraction, convert it into a mixed fraction.

Let us understand with an example:

Example: Find the sum of $\frac{6}{11}$ and $\frac{9}{11}$.

Solution: $\frac{6}{11} + \frac{9}{11} = \frac{6+9}{11} = \frac{15}{11} = 1\frac{4}{11}$

To add unlike fractions, we first convert them into like fractions and then add or subtract as usual.

For adding unlike fractions, we follow these steps.

Step 1: Find the LCM of denominators of the given fractions.

Step 2: Convert unlike fractions into like fractions by making LCM as their denominator.

Step 3: Add the like fractions.

Let us understand with some examples:

Example: Add: $3\frac{1}{3}$ and $1\frac{3}{4}$

Solution: Step1: Convert the given mixed fractions to improper fractions.

$$3\frac{1}{3} = \frac{10}{3}$$

$$1\frac{3}{4} = \frac{7}{4}$$

Step 2: Make the denominators same by taking the LCM and multiplying the suitable fractions for both.

LCM of 3 and 4 is 12.

So, $\frac{10}{3} = \frac{10}{3} \times \frac{4}{4} = \frac{40}{12}$

$$\frac{7}{4} = \frac{7}{4} \times \frac{3}{3} = \frac{21}{12}$$

Step 3: Take the denominator as common and add numerators. Then, write the final answer.

$$\frac{40}{12} + \frac{21}{12} = \frac{40+21}{12} = \frac{61}{12}$$

Therefore, $3\frac{1}{3} + 1\frac{3}{4} = \frac{61}{12} = 5\frac{1}{12}$