Types of Fractions and their Conversion

Types of Fractions:

1. Like Fractions: The fractions whose denominators are same are called the Like fractions.

Examples of Like Fraction are: $\frac{1}{2}, \frac{3}{2}, \frac{4}{2}, \frac{5}{2}$ etc.

2. Unlike Fractions: The fractions whose denominators are different are called the Unlike Fractions.

Examples of Unlike Fractions are: $\frac{4}{7}, \frac{6}{9}, \frac{15}{2}, \frac{23}{17}$ etc.

3. Proper Fractions: The fractions whose Numerator is less than the denominator is called the Proper Fractions.

Examples of Proper Fractions are: $\frac{4}{7}, \frac{2}{5}, \frac{11}{19}$ etc.

4. Improper Fraction: The fractions whose Numerator is greater than the denominator or equal to the denominator is called the improper fraction.

Examples of Improper Fractions are: $\frac{34}{7}, \frac{42}{5}, \frac{22}{7}$ etc.

5. Unit Fraction: The fraction whose numerator is 1 is called the Unit Fraction.

Examples of Unit Fractions are: $\frac{1}{7}, \frac{1}{6}$ etc.

6. Mixed Fraction: A fractions which is a combination of a whole number and a proper fraction is called the mixed fraction.

Example of Mixed Fractions are: $2\frac{1}{5}, 3\frac{3}{5}$ etc.

Conversion

To convert a mixed number into an improper fraction, we multiply the whole number by the denominator of the proper fraction and then add the product to the numerator of the fraction to get the numerator of the improper fraction. Its denominator is the same as the denominator of the fractional part i.e.,

$$\frac{(\text{Whole number} \times \text{Denominator}) + \text{Numerator}}{\text{Denominator}}$$

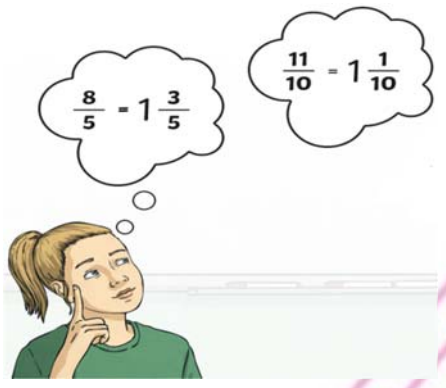
Let us understand with an example:

Example: Convert $3\frac{5}{6}$ into an improper fraction:

Solution: $3\frac{5}{6} = \frac{3\times6+5}{6} = \frac{18+5}{6} = \frac{23}{6}$

To convert an improper fraction into a mixed number, divide the numerator of the given improper fraction by its denominator. The quotient will represent the whole number and the remainder so obtained will be the numerator of the fractional part. The denominator of the fractional part will be the same as that of the improper fraction i.e.,

$$\text{Mixed Number} = \text{Quotient } \frac{\text{Remainder}}{\text{Divisor}}$$



Let us understand with an example:

Example: Convert each of the following improper fractions into mixed numbers. (i) $\frac{15}{7}$ (ii) $\frac{24}{9}$

Solution

$7\overline{)15}\,(2$ ← Whole number

-14

1 ← Numerator of the fractional part

Denominator of the fractional part

(i) $\frac{15}{7} = \mathbf{2\,\frac{1}{7}}$

$9\overline{)24}\,(2$ ← Whole number

-18

6 ← Numerator of the fractional part

Denominator of the fractional part

(ii) $\frac{24}{9} = \mathbf{2\,\frac{6}{9}}$