TYPES OF FRACTIONS:

All types of fraction may be categorized into three kinds, i.e., proper, improper and mixed fraction.

**Proper fractions:**

*A fraction in which the denominator is greater than the numerator is called a proper fraction. We can also say that a fraction with its numerator less than the denominator is known as a proper fraction.*  
  
1/2, 2/3, 4/5, 5/6, 7/10, 9/11, 11/21, 35/45, ……….., etc., are **proper fractions**.

**Improper Fractions:**

*A fraction in which the denominator is smaller than or equal to its numerator is called an improper fraction. We can also say that a fraction with its numerator greater than or equal to the denominator is known as an improper fraction.*  
  
5/3, 9/5, 11/7, 17/8, 21/14, 19/15, …….., etc., are **improper fractions**.

**Mixed Fractions:**

*When an improper fraction is written as a combination of a whole number and a proper number, it becomes a mixed fraction or mixed number.*  
  
As: 6/5 = 5 + 1/5 = 5/5 + 1/5 = 1 + 1/5 = 11/5  
  
11/2, 11/4, 23/4, 35/7, 51/9, ……….., etc., are **mixed fractions**.

**Changing improper fractions to mixed numbers by dividing the numerator with the denominator.**  
  
**1.** 9/4

= 21/4  
Therefore, 9/4 = 21/4

2. 12/5



12/5 =22/5

**Changing a mixed number to an improper fraction:**

Mother said I had eaten 31/2 chocolates.  
This is what I took : 1/2 + 1/2 + 1/2 + 1/2 + 1/2 + 1/2 + 1/2 = 7 halves  
                         = 7/2  
But I looked carefully. I had eaten 3 full + 1/2 chocolate.

**Mixed numbers = ( Denominator   ×   Whole numbers )+  Numerator**  
        51/2         =        (2            ×           5 )           +           1     =  11/2

|  |  |
| --- | --- |
| **Mixed numbers**  51/2 | **Improper fraction**  11/2 |

Add the numerator 10 + 1 = 11

This becomes the new numerator.

The old denominator remains.

**Changing a whole number into an improper fraction:**

|  |  |
| --- | --- |
| **Whole number**  7 | **Improper fraction**  7/1 |

Since the denominator shows total parts and anything whole is out of 1 part, the improper fraction is formed by using 1 as the denominator.