CBSE Class 6 Maths Notes Chapter 7: In CBSE Class 6 Maths Notes Chapter 7 Fractions are covered, introducing students to the concept of parts of a whole. It goes over fundamental ideas including equivalent fractions, mixed numbers, and proper and improper fractions. Pupils gain knowledge about how to compare and depict fractions on a number line.

Converting improper fractions to mixed numbers and vice versa is also covered in this chapter. Real-world applications and an explanation of adding and subtracting fractions with the same and different denominators are provided. Students learn how to simplify fractions and successfully handle problems involving fractions through activities and examples.

CBSE Class 6 Maths Notes Chapter 7 Overview

Students are introduced to the idea of fractions in Chapter 7 of CBSE Class 6 Maths. Fractions are parts of a whole. The several forms of fractions are explained, such as mixed fractions (a whole number mixed with a proper fraction), improper fractions (where the numerator is higher than the denominator), and proper fractions (when the numerator is lower than the denominator). The chapter also discusses equivalent fractions, which are situations in which two fractions reflect the same value and can be compared to determine which is smaller or larger.

Along with learning how to convert improper fractions into mixed fractions and vice versa, students also learn how to arrange fractions on a number line.

Through straightforward exercises and examples, the chapter also covers fundamental fraction operations such as addition and subtraction of both same- and different-denominator fractions. This helps students use fractions in practical scenarios.

CBSE Class 6 Maths Notes Chapter 7 Fractions

Below is CBSE Class 6 Maths Notes Chapter 7 Fractions -

One definition of a fraction is a portion of a whole number. A ratio between two integers divided by a solidus can be used to express it. A fraction's lower number is referred to as the denominator, and its upper part is referred to as the numerator. As an illustration, let's look at a fraction

where,

3/12

- 3 is the numerator
- 12 is the denominator
- It is read as three-twelfths

Types of Fractions

Let's examine the many fractional forms. Fractions come in five different forms. These can be classified as similar fractions, unlike fractions, mixed fractions, proper fractions, and improper fractions.

Proper fractions – It is a type of fraction where the denominator is always greater than the numerator. Some examples are 4/5, 3/7

Improper fractions – It is a type of fraction where the denominator is always less than the numerator. Some examples are 5/4, 7/3

Mixed fractions – It is a type of fraction which consists of a whole number and a proper fraction. Some examples are 16 3/7

Like fractions – The type of fractions which have same denominators are called, like fractions. Some examples are 1/5

Unlike fractions – The type of fractions which have different denominators are called, unlike fractions. Some examples are 6/27

Introduction to Fractions

Fractions are a way to represent parts of a whole. They are composed of two main parts:

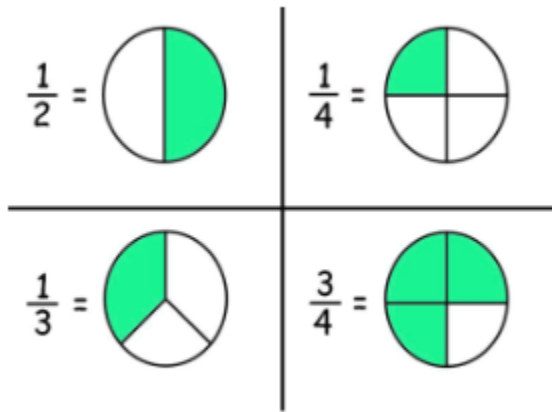**Numerator**: The top part of a fraction. It tells how many parts we have.

Denominator: The bottom part of a fraction. It tells how many equal parts the whole is divided into.

- Example: 1/2, 3/7

one-half as $\frac{1}{2}$

Representing Fractions

To show how the parts and the whole are related, fractions can be represented in a variety of ways.

Avatars of Fractions

Proper Fractions

- If numerator < denominator in a fraction, then it is a proper fraction.
- Example: 2/3 and 4/9

Improper and Mixed Fraction

Improper Fraction - When the top number, or numerator, equals or exceeds the bottom number, or denominator, then the fraction is inappropriate. It signifies that the value is more than or equal to one.

Mixed Fraction - A full number and a correct fraction make up a mixed fraction. It is both a whole and a portion of another whole combined.

- Mixed fractions are written as $\frac{Numerator}{Denominator} = Quotient \frac{Remainder}{Divisor}$
- Example: $\frac{11}{3}$ is an improper fraction and it can be written as $3\frac{2}{3}$.

Interconversion between Improper and Mixed Fractions

Improper to mixed fraction

- $\frac{20}{3} = \frac{(18+2)}{3} = \frac{18}{3} + \frac{2}{3} = 6 + \frac{2}{3} = 6\frac{2}{3}$
  - Another method of converting improper fraction to mixed fraction:

$$\frac{Numerator}{Denominator} = Quotient \, \frac{Remainder}{Divisor}$$

$$3 \, \overline{)11} \quad \begin{matrix} 3 \\ \end{matrix}$$
$$- \quad 9$$
$$\overline{\quad 2 \quad}$$

$\frac{11}{3} = 3\frac{2}{3}$

Mixed to improper fraction

- $7\frac{2}{3} = \frac{(7\times3)+2}{3} = \frac{23}{3}$

Meet the Twin Fractions

Equivalent Fractions

There are numerous comparable fractions for every proper or improper fraction.
In order to determine the equivalent fraction for the fraction, multiply the numerator and denominator by the same number.

Example: 1/2 and 2/4 are equivalent fractions.

Let's Add Fractions

Addition of Fractions

- 1/3 + 7/3 = (1+7)/3 = 8/3
- 1/3 + 2/4 = (4+6)/12 = 10/12 = 5/6

LCM

The smallest number that is divided by both numbers is known as the least common multiple (LCM) of two numbers.

- Example: LCM of 3 and 4 is 12.

Let's Subtract Fractions

Subtraction of Fractions

- $-\frac{1}{3} + \frac{7}{3} = \frac{(-1+7)}{3} = \frac{6}{3} = 2$

- $\frac{3}{4} - \frac{5}{6}$

  $\because$ LCM of 4 and 6 is 12

  $\Rightarrow \frac{3}{4} - \frac{5}{6} = \frac{(3\times3)}{(4\times3)} - \frac{(5\times2)}{(6\times2)}$

  $= \frac{9}{12} - \frac{10}{12}$

  $= \frac{(9-10)}{12} = -\frac{1}{12}$

Multiplication of Fractions

Proper fraction * Proper fraction

$\frac{1}{2} \times \frac{2}{3}$

$\because$ LCM of 2 and 3 is 6

$\Rightarrow \frac{1}{2} \times \frac{2}{3} = \frac{(1\times3)}{(2\times3)} \times \frac{(2\times2)}{(3\times2)}$

$= \frac{3}{6} \times \frac{4}{6}$

$= \frac{12}{36} = \frac{1}{3}$

Improper fraction * Improper fraction

$\frac{3}{2} \times \frac{4}{3}$

$\because$ LCM of 2 and 3 is 6

$\Rightarrow \frac{3}{2} \times \frac{4}{3} = \frac{(3\times3)}{(2\times3)} \times \frac{(4\times2)}{(3\times2)}$

$= \frac{9}{6} \times \frac{8}{6}$

$= \frac{72}{36} = \frac{2}{1} = 2$

Proper fraction * Improper fraction

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

$\therefore$ LCM of 2 and 3 is 6

$$\Rightarrow \frac{1}{2} \times \frac{4}{3} = \frac{(1\times3)}{(2\times3)} \times \frac{(4\times2)}{(3\times2)}$$

$$= \frac{3}{6} \times \frac{8}{6} = \frac{24}{36}$$

$$= \frac{2}{3}$$

Let's Divide Fractions

Reciprocals of Fractions

- Turning the fraction upside down gives the Reciprocal of a fraction.
- Fraction × (Reciprocal of the fraction) = 1

$$\frac{2}{3} \rightarrow \frac{3}{2}$$

Division of Fractions

- 1/2 ÷ 1/3
  1/2 × Reciprocal of (1/3)
  =1/2 × 3 = (1×3)/2
  =3/2
- 4/3 ÷ 3/2
  =4/3 × Reciprocal of (3/2)
  =4/3×2/3=8/9

Comparison of Fractions

- **Comparing like fractions with same denominators**

2/3 and 8/3
2 < 8
∴ 2/3 < 8/3

- **Comparing unlike fractions with same numerators**

1/3 and 1/4
Portion of the whole showing 1/3 > Portion of the whole showing 1/4
∴ 1/3>1/4

- **Comparing unlike fractions with different numerators**

5/6 and 13/15
LCM of 6 and 15: 30
(5×5)/(6×5) = 25/30
(13×2)/(15×2)=26/30
⇒ 25/30<26/30
∴ 5/6<13/15

Fractions on the Number Line

The representation of fractions 14, 24, and 34 on a number line is shown in the accompanying figure.
On the number line, divide the section that runs from 0 to 1 into 4 sections.
Then, every component represents a quarter of the total.
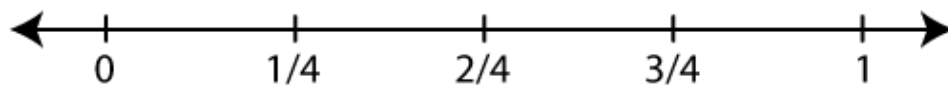
Benefits of CBSE Class 6 Maths Notes Chapter 7

The **benefits** of CBSE Class 6 Maths Notes for Chapter 7 "Fractions" are:

Clear Understanding: The notes provide a simple explanation of fractions, helping students grasp basic concepts such as proper and improper fractions, mixed fractions, and equivalent fractions.

Efficient Revision: These notes serve as a quick revision tool for students, summarizing key points and formulas, making exam preparation easier.

Step-by-Step Approach: The notes break down complex operations like addition and subtraction of fractions, allowing students to learn in a structured manner.

Practical Application: By including real-life examples, the notes help students understand how fractions are used in daily situations.

Concept Clarity: Simplified explanations make it easier for students to understand how to compare fractions, convert them, and perform basic operations.