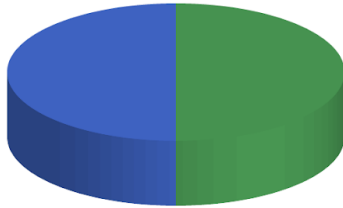


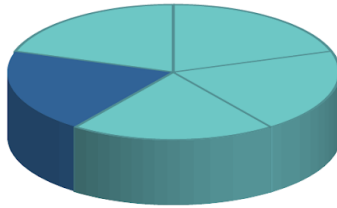
# Fractions & Decimals Class 7 Notes PDF

## What are Fractions?

A fraction can be understood as a part of a whole number. A fraction comprises two sections, the denominator and the numerator. Fractions are a practical form of numbers, used for a variety of operations.



$$\frac{1}{2}$$



$$\frac{1}{5}$$



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



## Types of Fractions

Based on the comparison between single fraction and multiple fractions, they are of five types-

**Proper fractions:** While solving simple fraction problems, there are fractions whose numerator is less than the denominator. In this case, the fraction is called a proper fraction. Additionally, the value of a proper fraction after simplifying is always less than 1. For example-  $\frac{3}{5}$ ,  $\frac{2}{3}$ ,  $\frac{9}{11}$  and so on.

**Improper fractions:** Unlike proper fractions, the fraction whose numerator is greater than the denominator is an improper fraction. However, the natural number can be expressed in the form of fractions whose denominator is always 1. After simplifying the improper fraction, the result is greater or equal to 1 but never less than 1. For example-  $\frac{5}{2}$ ,  $\frac{9}{5}$ ,  $\frac{10}{6}$  and so on.

**Mixed fractions:** A mixed fraction is a combination of natural numbers along with fractions. They can be converted into proper fractions. For example-  $2\frac{1}{3}$ ,  $3\frac{1}{3}$  and so on.

**Like fractions:** They are the fraction whose denominator is the same. Hence, solving them is easy as the denominator of all the fraction is the same. For example  $\frac{1}{2}$ ,  $\frac{3}{2}$ ,  $\frac{5}{2}$ ,  $\frac{2}{2}$ .

Unlike Fraction: The fraction which has inconsistent denominators or various denominators are called, unlike fractions. For instance-  $\frac{1}{2}$ ,  $\frac{1}{3}$ ,  $\frac{1}{4}$ ,  $\frac{1}{5}$ , are not normal for divisions.

Note: Simplification for unlike fractions is a little difficult since we have to factorize the denominator first and then the numerator. Let's assume, we need to add  $\frac{1}{2}$  and  $\frac{1}{3}$ . For this, we will follow these steps:

First, we will discover the LCM of 2 and 3 (the denominators), which is equivalent to 6

Then, we will multiply  $\frac{1}{2}$  by 3 and  $\frac{1}{3}$  by 2, both in the numerator and the denominator

The fractions become  $\frac{3}{6}$  and  $\frac{2}{6}$ . Performing simple addition, we get-

$$\frac{3}{6} + \frac{2}{6} = \frac{5}{6}$$

## Relationship between Fractions and Decimals

It is vital to understand the relationship between fractions and decimals. These two represent numbers in two ways. Fractions are represented in the form of  $\frac{p}{q}$ , where  $q \neq 0$ , while a decimal is represented by the whole number part which is connected through the fractional part through the point of the decimal.

## Difference between Fractions and Decimals

Fractions and decimals are interconnected yet are different from each other. One of the major differences between the two is that fractions are simple expressions of ratios of whole numbers. They are not divided by decimals. On the other hand, decimals represent infinite numbers such as the value of pi.

## Place Value Chart

Indian Place Value System								
CRORES		LAKHS		THOUSANDS		ONES		
TC	C	TL	L	T-TH	TH	H	T	O
		2	3	1	9	6	1	7

International Place Value Chart								
MILLIONS			THOUSANDS			ONES		
HM	TM	M	HTh	TTh	Th	H	T	O
		2	3	1	9	6	1	7

Credits: CueMaths

## Fractions and Decimals Questions and Answers

### Fractions Questions & Answers

Q1: Rachel rode her bicycle for one-fifth of a mile on Monday and two-fifths of a mile on Tuesday. What number of miles did she ride in total?

Ans:

For this question, we will include two portions with denominators

$$1/5 + 2/5 = 3/5$$

*Rachel rode her bicycle for three-fifths (3/5th) of a mile in total.*

Q2: Stefanie swam 4/5th of a lap toward the beginning of the day and 7/15ths of a lap at night. How much farther did Stefanie swim in the first part of the day than at night?

Ans: For this type of questions (unlike fractions), we will perform factorisation to make the denominator same-

$$4/5 * 3/3 = 12/15$$

$$12/15 - 7/15 = 5/15$$

$$5/15 = 1/3$$

*Stefanie swam 33% of a lap farther during the beginning of the day.*

Q3: It took Nick five-thirds of an hour to finish his math schoolwork on Monday, three-fourths of an hour on Tuesday, and five-sixths of an hour on Wednesday. How long did he take to finish his schoolwork out and out?

Ans:

To tackle this question, we will include three parts with not at all like denominators. Note that the first is a mixed fraction. We will find the LCM, which comes out to be 12.

Now, converting all fractions to a common denominator:

$$5/3 * 4/4 = 20/12$$

$$3/4 * 3/3 = 9/12$$

$$5/6 * 2/2 = 10/12$$

Now add the three equations,

$$20/12 + 9/12 + 10/12 = 39/12$$

This can be simplified as  $3 \frac{1}{4}$  hours

*It took Nick three and one-fourth hours to finish his schoolwork.*

## What are Decimals?

In arithmetic Math, a decimal number can be characterized as a number whose part and the fragmentary part is isolated by a decimal point. The speck in a decimal number is known as a Decimal point. The digits following the decimal point show a worth lesser than one, i.e the numbers following the decimal point are lesser than 1.

Subsequently, as we move from left to right, the spot estimation of digits gets isolated by 10, which means the decimal spot esteem decides the tenths, hundredths and

thousandths. The number line is reversed in simple terms, meaning that the number closest to the decimal point has the highest value.

### Decimals Question and Answers

To help you understand the implementation of decimals, here are a few solved examples for you:

Q1: The product of the two numbers is 42.63. On the off chance that one number is 2.1, determine the other number.

Ans:

Product of two numbers = 42.63

One number = 2.1

Other number =  $42.63 \div 2.1$

*Therefore, the other number is = 20.3*

Q2: John purchased 9.25m of material for \$425.50. Discover the cost per meter.

Ans:

Cloth bought by John = 9.25 m

Cost of 9.25 m = \$425.50

Cost per metre =  $425.50 \div 9.25$

*Therefore, The cost of the cloth per meter = \$ 46*

### Fractions & Decimals Class 7 Worksheet

Here are some practice questions for you to solve and practice the fraction and decimal concepts thoroughly:

1. One kg of Basmati rice costs \$ 43.75. Discover the expense of 17 kg of rice.
2. If 58 out of 100 understudies in a school are young men, compose a decimal for the piece of the school that comprises young men.

3. A PC forms data in nanoseconds. A nanosecond is one-billionth of a second. Compose this number as a decimal.
4. To make a smaller than usually frozen yoghurt truck, you need tires with a measurement between 1.465 cm and 1.472 cm. Will a tire that is 1.4691 cm in breadth work? Clarify why or why not.
5. Melissa bought \$39.46 in food supplies at a store. The clerk gave her \$1.46 in change from a \$50 greenback. Melissa gave the clerk a furious look. What did the clerk foul-up?
6. At a pizza gathering, Diego and his companions ate three and one-fourth cheddar pizzas and two and three-fourths pepperoni pizzas. What amount of pizza did they eat taking all things together?
7. The Coccozzelli family drove their vehicle for five and five-sixths days to arrive at their getaway home and afterwards, drove for six and one-sixth days to get back. How much longer did it take them to commute home?
8. A distribution centre has 12 and nine-tenths meters of tape in one region of the structure, and eight and three-fifths meters of tape in another part. What amount of tape does the distribution centre have altogether?
9. A craftsman had a bit of wood that was 15 feet long. If he needs just ten and five-twelfths feet of a wood, at that point, what amount of wood would it be advisable for him to cut?