Chapter 7

FRACTIONS

Raju has studied fractions in his previous classes, but he is worried why are fractions actually necessary? He never required to divide any number while counting things, then why should a number need to be divided? Will he need to divide a rupee coin into four equal parts to get Rs.1.25.

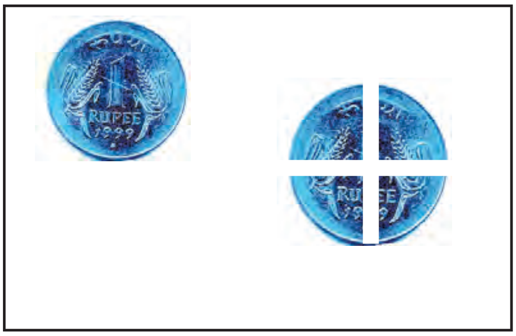


Fig. 1

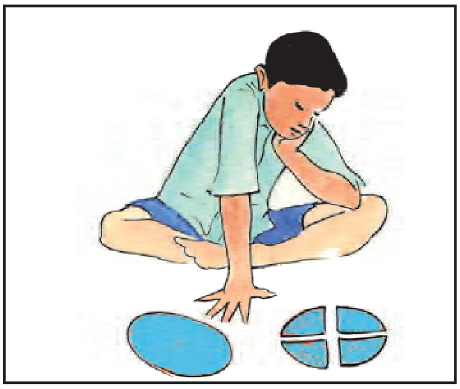


Fig. 2

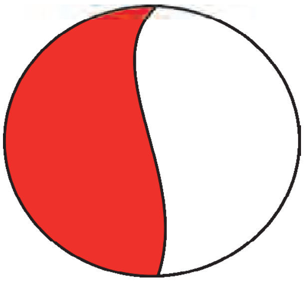
Just then Dolly called out, "Raju, Rashmi, Farida, come, it's lunch time. Let us take our tiffins." On opening the tiffin boxes, 10 puries were in front of them. Now the problem was, she needed to divide the 10 puris equally among four of them.

To distribute equally, initially Dolly gave two puris to each. Two 'puris' still remained, which she needed to distribute equally among all four of them. So, she halved each of the two puris and gave one half to each of the four members. Thus every one got two and half puris to eat. Raju felt that this half puri should be divided into two equal parts, he tore the half puri into two equal pieces again, and showing one part of it and asked, "how much do we call this part of a puri?"

Farida also divided her share of half puri into two equal parts and then putting the two parts of her half puri and the other two parts of Raju's half puri together, said, "Look, this becomes one whole puri now. Since this puri has been divided into four equal parts, so each part is one fourth part of the whole puri, which means one divided by four". Raju immediately asked, " Well, will 2 pieces then become equal to $^2/_4$?" Rashmi said, "yes and three piece then will equal $^3/_4$ and all the four pieces will make $^4/_4$ which is equal to 1, that means a whole puri. If we have five such pieces of puri then it will mean 1 and $^1/_4$ that is, $1\,^1/_4$.

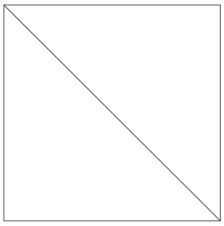
Now Raju began to wonder that when 3 out of 4 equal pieces of a puri are taken, it shows $^3/_4$, then when $^3/_5$ of any object will be required, we shall need to make five equal parts of the thing and take 3 out of them.

Raju has began to understand something about fractions now. Would you like to verify if you have understand it? Below are given some figures. Some numbers are written beneath the figures. Look at them and shade the figures according to the numbers that are provided with them.



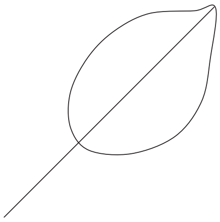
$\frac{1}{2}$ Part

Fig 3



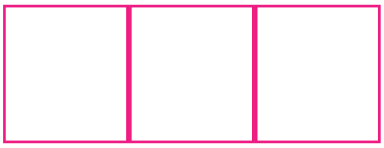
$\frac{1}{2}$ Part

Fig 4



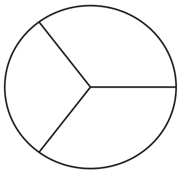
$\frac{1}{2}$ Part

Fig 5



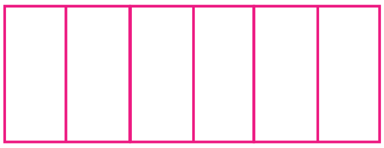
$\frac{1}{3}$ Part

Fig 6



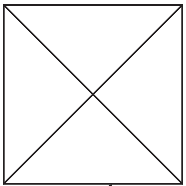
$\frac{1}{3}$ Part

Fig 7



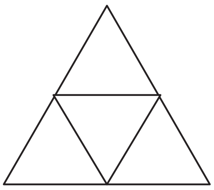
$\frac{2}{6}$ Part

Fig 8



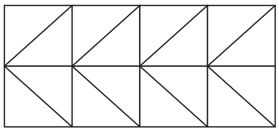
$\frac{1}{4}$ Part

Fig 9



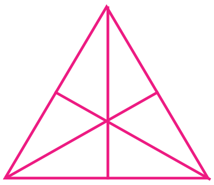
$\frac{3}{4}$ Part

Fig 10



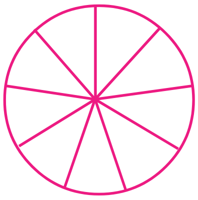
$\frac{12}{16}$ Part

Fig 11



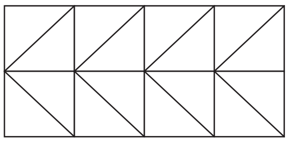
$\frac{1}{2}$ Part

Fig 12



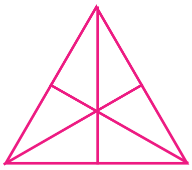
$\frac{7}{9}$ Part

Fig 13



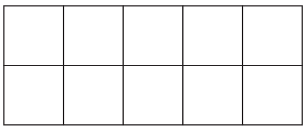
$\frac{3}{4}$ Part

Fig 14



$\frac{3}{6}$ Part

Fig 15



$\frac{1}{5}$ Part

Fig 16

$\frac{2}{10}$ Part

Fig 17

From the above shaded fractions which fraction did occupy the same area, identify them and complete the table

Now fill in the table these fractions which have made you shade equal parts of the given figures. Identify them and complete the table given.

Figure No.	Fractional value of 1st fraction	Fractional value of 2nd fraction	Conclusion
Fig. 6 and 8	$\frac{1}{3}$	$\frac{2}{6}$	$\frac{1}{3} = \frac{2}{6}$

In all the above examples, you can see that, if the numerator and denominator of a fraction are multiplied by the same number, or any digit is used to divide the numerator as well as denominator of a fraction, the value of the fraction does not change. This maens any fraction can be represented in more than one way. Some examples are as follows :

$$\frac{1}{2} = \frac{2}{4} = \frac{3}{6} = \frac{4}{8} = \frac{5}{10}$$

$$\frac{2}{3} = \frac{4}{6} = \frac{6}{9} = \frac{8}{12} = \frac{10}{15}$$

When fractions are represented in different ways like this, we call them *equivalent fractions*.

ACTIVITY 1

Complete the table given below. One example is given for you.

Fractions	Equivalent fractions obtained				
	Multiplying by $\frac{2}{2}$	Multiplying by $\frac{3}{3}$	Multiplying by $\frac{4}{4}$	Multiplying by $\frac{5}{5}$	Multiplying by $\frac{6}{6}$
$\frac{2}{7}$	$\frac{2}{7} \times \frac{2}{2} = \frac{4}{14}$	$\frac{2}{7} \times \frac{3}{3} = \frac{6}{21}$	$\frac{2}{7} \times \frac{4}{4} = \frac{8}{28}$	$\frac{2}{7} \times \frac{5}{5} = \frac{10}{35}$	$\frac{2}{7} \times \frac{6}{6} = \frac{12}{42}$
$\frac{3}{8}$					
$\frac{4}{5}$					
$\frac{5}{9}$					
$\frac{4}{6}$					

ACTIVITY 2

Below are given some fractions. Write the appropriate numerator or denominator in the boxes that would make them *equivalent fractions*.

(i) $\frac{3}{5} = \frac{\square}{30}$ (ii) $\frac{4}{7} = \frac{12}{\square}$ (iii) $\frac{7}{9} = \frac{35}{\square}$

(iv) $\frac{34}{51} = \frac{2}{\square}$ (v) $\frac{26}{65} = \frac{\square}{5}$ (vi) $\frac{37}{74} = \frac{\square}{2}$

(vii) $\frac{10}{36} = \frac{5}{\square}$ (viii) $\frac{27}{81} = \frac{\square}{3}$ (ix) $\frac{30}{36} = \frac{\square}{6}$

(x) $\frac{3}{4} = \frac{21}{\square}$ (xi) $\frac{4}{9} = \frac{\square}{54}$ (xii) $\frac{11}{13} = \frac{55}{\square}$

What method did you use in finding out equivalent fractions in the above questions?

In Activity 2 (i), the denominator is 5. The fraction has to be changed in such a way that the denominator becomes 30. 5 multiplied by 6 makes 30. Therefore to make an equivalent fraction we can multiply the numerator also by 6.

$$\frac{3}{5} \times \frac{6}{6} = \frac{18}{30}$$

ACTIVITY 3

Given below are pairs of fractions. Change the pairs into equivalent pairs with common denominator and write down the equivalent fractions in the given table.

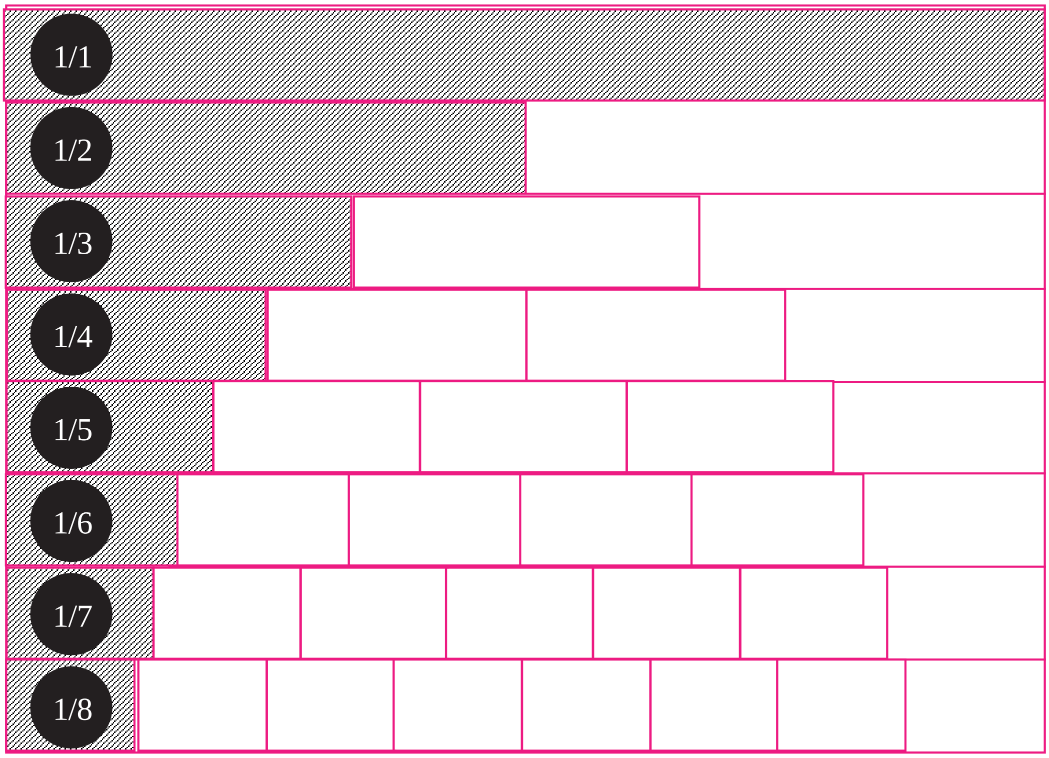
S. No.	**Fraction**	**Denominator**	**Common denominator**	**Fractions with equivalent denominator**
1.	$\frac{1}{2}$ and $\frac{1}{3}$	2, 3	6	$\frac{3}{6}$ and $\frac{2}{6}$
2.	$\frac{3}{5}$ and $\frac{4}{7}$			
3.	$\frac{1}{3}$ and $\frac{3}{4}$			
4.	$\frac{4}{4}$ and $\frac{1}{6}$			
5.	$\frac{3}{5}$ and $\frac{5}{7}$			

6.	$\frac{2}{6}$ and $\frac{1}{9}$			
7.	$\frac{7}{7}$ and $\frac{3}{5}$			
8.	$\frac{5}{3}$ and $\frac{7}{9}$			
9.	$\frac{5}{8}$ and $\frac{1}{6}$			
10.	$\frac{5}{6}$ and $\frac{4}{9}$			
11	$\frac{4}{15}$ and $\frac{3}{20}$			
12	$\frac{5}{12}$ and $\frac{7}{18}$			

In activity 3, you have converted all the fractions into fractions with same denominators. These are known as fractions with equal denominator or *equi-denominatoral fractions*. But in example 8, 9, 10 and 11, you must have observed that if the common denominator is obtained by taking the L.C.M. of the denominators of the two given fractions, then we get the simplest form of the numerator and denominator of the fractions.

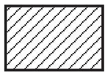
Example 1:

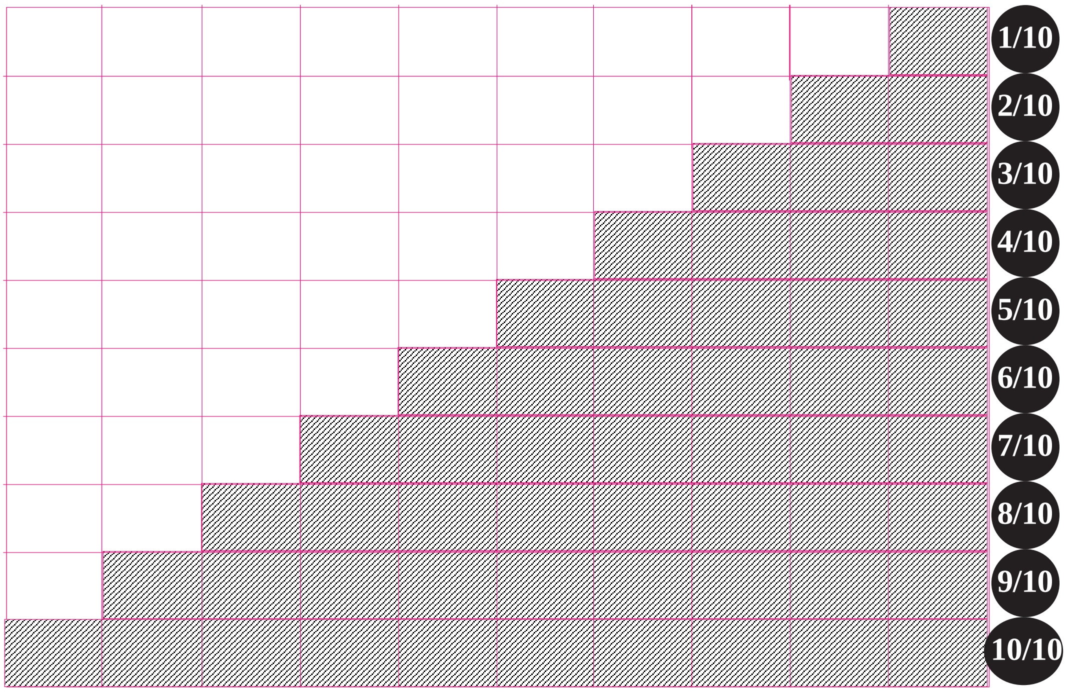
Order or sequence in fractions



Therefore we see that $\frac{1}{2} > \frac{1}{3} > \frac{1}{4} > \frac{1}{5} > \frac{1}{6} > \frac{1}{7} > \frac{1}{8}$. This means when the numerators are equal, then the greater denominator gives a smaller value to the fraction.

Example 2:

$\frac{1}{10}$ is represented by 



The above picture clearly shows that

$\frac{1}{10} < \frac{2}{10} < \frac{3}{10} < \frac{4}{10} < \frac{5}{10} < \frac{6}{10} < \frac{7}{10} < \frac{8}{10} < \frac{9}{10} < \frac{10}{10}$.

This means when the denominators are equal, larger numerator will give greater value to the fraction.

Therefore, when the denominators of two given fractions are not equal, they are changed into equivalent fractions with the same denominators to find out which of them is greater.

Example : Which is a greater fraction between $\frac{5}{12}$ and $\frac{7}{18}$.

Solution : The L.C.M. of 12 and 18 is 36.

So, equivalent fractions would be $\frac{15}{36}$ and $\frac{14}{36}$.

Therefore, $\frac{15}{36} > \frac{14}{36}$ or $\frac{5}{12} > \frac{7}{18}$.

Practice 1

Write the given fractions in their increasing order.

(1) $\frac{2}{3}, \frac{3}{4}, \frac{4}{5}$ (2) $\frac{7}{6}, \frac{6}{7}, \frac{5}{9}$

(3) $\frac{7}{9}, \frac{11}{15}, \frac{13}{18}$ (4) $\frac{3}{7}, \frac{8}{9}, \frac{5}{12}$

(5) $\frac{11}{12}, \frac{11}{13}, \frac{11}{14}$

So, now you have learnt how to write fractions in their ascending or descending orders by changing them into fractions with the same denominators.

Similarly, we can add or subtract fractions by changing them into fractions with equal denominators as in following example.

Example 3: Solve : $\frac{3}{5}+\frac{7}{9}+\frac{2}{3}$

To find a solution, we will first have to make fractions with common denominators so that we can add equal fractions. To get equivalent fractions with equal denominators we find out the L.C.M. of the three denominators.

3	5, 9, 3
	5, 3, 1

$3 \times 5 \times 3 \times 1$

The L.C.M. would be 45.

Now, we shall get equivalent fractions with the same denominators like

$$\frac{27}{45}, \frac{35}{45}, \frac{30}{45}$$

Therefore, $\frac{3}{5}+\frac{7}{9}+\frac{2}{3} = \frac{27}{45}+\frac{35}{45}+\frac{30}{45}$

Since the denominator are same in all the three fractions, only the numerator can be added, that is :

$$= \frac{27+35+30}{45} = \frac{92}{45}.$$

Example 4: Solve: $\frac{1}{3}+\frac{3}{5}-\frac{8}{12}$

(1) The L.C.M. of 3, 5 and 12 is

3	3, 5, 12
	1, 5, 4

L.C.M. = $3 \times 1 \times 5 \times 4 = 60$

Hence $\frac{1}{3}+\frac{3}{5}-\frac{8}{12} = \frac{20}{60}+\frac{36}{60}-\frac{40}{60} = \frac{20+36-40}{60} = \frac{16}{60} = \frac{4}{15}$.

[A fraction is said to be in the simplest (or lowest) form if its numerator and denominator have no common factor except 1.] You also know that the numerator and denominator of a fraction are divided by the same number, there is no change in the value of the fraction. Therefore, dividing the numerator and denominator of $\frac{16}{60}$ by 4. We have got, $\frac{16}{60} = \frac{4}{15}$.

Practice 2

Solve :

S. No.	Question	L.C.M. of the denominator	Conversion of fractions with equal denominator using L.C.M.	Addition and subraction of fraction with equal denominator	Solution	Simple fraction
1.	$\frac{3}{5}+\frac{7}{9}+\frac{1}{15}$	45	$\frac{27}{45}+\frac{35}{45}+\frac{3}{45}$	27+35+3=65	$\frac{65}{45}$	$\frac{13}{9}$
2.	$\frac{2}{3}+\frac{3}{5}-\frac{1}{6}$	30	$\frac{20}{30}+\frac{18}{30}-\frac{5}{30}$	20+18+5=33	$\frac{33}{30}$	$\frac{11}{10}$
3.	$\frac{1}{6}-\frac{4}{7}+\frac{8}{4}$					
4.	$\frac{2}{5}-\frac{11}{13}+\frac{15}{4}$					
5.	$\frac{6}{7}+\frac{11}{14}-\frac{9}{21}$					
6.	$\frac{3}{26}-\frac{5}{39}+\frac{1}{13}$					

While solving the questions given above you have found that when the value of the numerator is greater than the denominator, this fraction is known as an **Improper Fractions**.

Example : In $\frac{13}{9}$ the numerator 13 is greater than the denominator 9 i.e. 13>9.

Therefore, $\frac{13}{9}$ is as improper fraction.

Similarly, $\frac{11}{10}$ is an improper fraction. $\frac{13}{9}$ can also be written as $1+\frac{4}{9}$ or $\frac{13}{9}$.

This representation is known as a Mixed fraction. When the numerator of the fraction is smaller than its denominator, it is known as a **proper fraction**.

Like $\frac{3}{9}, \frac{5}{7}, \frac{101}{106}$ etc.

ACTIVITY 4

Of the given fractions, identity the proper and improper fractions and write the improper fractions as mixed fractions.

S. No.	Fractions	Proper or improper	If improper then write in the form of mixed fraction
1.	$\frac{127}{29}$	Improper	$4\frac{11}{29}$
2.	$\frac{29}{127}$	Proper	
3.	$\frac{29}{133}$		
4.	$\frac{81}{10}$		
5.	$\frac{126}{127}$		
6.	$\frac{36}{39}$		
7.	$\frac{103}{13}$		
8.	$\frac{335}{33}$		

Multiplication and Division of Fractions

When two fractions are multiplied, then the numerator of one is multiplied with the numerator of the other, and the denominator of one is multiplied by the denominator of the other. For example, If we have to find out $\frac{1}{2}$ of $\frac{1}{2}$, we shall get it by $\frac{1}{2} \times \frac{1}{2}$.

Similarly, half of $\frac{3}{4}$ would be $\frac{3}{4} \times \frac{1}{2}$.

We also know that the half of $\frac{1}{2}$ is $\frac{1}{4}$ and the double of $\frac{1}{2}$ is 1. This means if denominator is multiplied by denominator and the numerator by numerator, then we get the answer :

$$\frac{3}{8} \times \frac{2}{5} = \frac{3}{8} \times \frac{2}{5} = \frac{6}{40} = \frac{3}{20}.$$

Let us understand the operation of division by the following examples :

$6 \div 3$ means; how many times 3 comes in 6. Now think how many times does $\frac{1}{4}$ occur in $\frac{1}{2}$. Obviously, both the problems have the same answer 2. Similarly, $\frac{1}{2}$ occurs three times in $\frac{3}{2}$.

$$3 \div 5 = \frac{3}{1} \div \frac{5}{1} = \frac{3}{1} \times \frac{1}{5} = \frac{3}{5}$$

or $$8 \div 9 = \frac{8}{1} \div \frac{9}{1} = \frac{8}{1} \times \frac{1}{9} = \frac{8}{9}$$

or $$\frac{3}{2} \div \frac{5}{7} = \frac{3}{2} \times \frac{7}{5} = \frac{21}{10}$$

or $$\frac{8}{7} \div \frac{11}{13} = \frac{8}{7} \times \frac{13}{11} = \frac{104}{77}.$$

Thus, when one fraction is divided by another fraction. Then the fraction which is the divisor is written as an inverse, that is the denominator becomes the numerator and the numerator becomes the denominator and the sign of division is put on sign of multiplication.

Practice 3

Write the given fractions in their simplest forms :

(1) $\frac{1}{3} \div \frac{5}{7}$ (2) $\frac{121}{70} \div \frac{11}{35}$

(3) $\frac{27}{8} \div \frac{81}{16}$ (4) $\frac{33}{28} \div \frac{11}{4}$

Make more such problems and solve with your friends.

Place Value of Numbers in Fractional Forms

Till now you have played with numbers in many ways. You have learnt addition, subtraction, multiplication and division of numbers. You have also learnt to put numbers in places-units, tens, hundreds and thousands. Let us now discuss something more about place values.

How many 3 digits numbers can you make by changing the sequence of 3, 6 and 8.

(i) 368 (ii) 386 (iii) ______

(iv) _____ (v) ____ (vi) ______

Note that each time you are using the same digits 3, 6 and 8 but why are the values of the numbers different each time? Discuss with your friends and write down the reasons for these differences?

____

____

____.

Mary said to Hamida -

The place value of 8 in 368 is 8

The place value of 8 in 386 is 80

The place value of 8 in 836 is 800.

Thus, the value of the same number is different for different places. If we write eight thousand eight hundred and eighty eight (8888), then the value of 8 in one place is 8000, at the next place it is 800, in another place it is 80 and at the other place it is 8.

Let us add two numbers :-

Thousands	Hundreds	Tens	Units
	3	6	8
	8	9	5
	11	15	13

Can we add up the numbers like this?

On addition of the unit places we get 13, the tens places on addition gives 15 and the addition of hundredth place give 11. If we place the sums in the place value chart, we find 11 hundreds, 15 tens and 13 units. Therefore, this can be displayed in the following manner also:

11 hundreds + 15 tens + 13 units, but the largest digit that can be at any place is 9. because when it is 10; the number retained at that place would be 0 and 1 will be shifted to the next place to be added at that place. In the above example, addition of 8 and 5 gives 13 units. In the number 13, 3 is in units place and 1 is in the tens place, so 3 is kept in the unit's place and 1 being in ten's place is added up with 6 and 9 in the ten's place.

Thus, adding all tens place numbers would give 6 + 9 + 1 = 16 tens. In 16 tens, 10 tens is equal to one hundred, therefore, only 6 will be written in the ten's place, while the 1 or 10 hundreds will be added up in the hundredth place. This will give 3 + 8 + 1 = 12 hundreds. Thinking ahead in the same sequence in 12 hundreds, 10 hundreds equal 1 thousand. So, we separate the digits, to write only 2 in the hundred's place. Thereby, the value of remaining 10 hundreds being 1 thousand, 1 will be placed in the thousandth place.

Thus, the sum of the addition would be :

Thousands	Hundreds	Tens	Units	
1	2	6	3	= 1263

Find out the sum of the given numbers as in the above example:

(1)

Thousands	Hundreds	Tens	Units
	7	8	5
	6	1	8

(2)

Thousands	Hundreds	Tens	Units
	5	6	8
	4	3	9

(3)

Thousands	Hundreds	Tens	Units
	8	6	4
	3	9	5
	9	2	7

(4)

Thousands	Hundreds	Tens	Units
	4	3	8
	8	6	7
	2	8	9

So, it is clear that 10 units = 1 tens
10 tens = 1 hundred
10 hundreds = 1 thousand
10 thousands = 1 ten thousand
10 ten thousands = 1 lakh.

Similarly, if we move in the opposite direction.

1 Lakh ÷ 10 → 10 Thousand ÷ 10 → 1 Thousand ÷ 10 → 1 Hundred ÷ 10

1 Ten ÷ 10 → 1 Unit ÷ 10 If we proceed on ...

Moving in the opposite direction :

100 Thousand 1 Lakh ← 10 Thousand 10 Thousand ← 10 hundred 1 Thousand ← 10 Ten 1 Hundred ← 10 Unit 1 Ten ← 1 Unit

On moving from right to left, the values increase in multiples of 10. In the opposite direction, the values get divided by 10. Now think if unit is divided by 10, what will happen? You would remember

$$1 \div 10 = \frac{1}{10} = 0.1$$

So, if this sequence is maintained:

1 Lakh $\xrightarrow{\div 10}$ 10 Thousand $\xrightarrow{\div 10}$ 1 Thousand $\xrightarrow{\div 10}$ 1 Hundred $\xrightarrow{\div 10}$ 1 Ten $\xrightarrow{\div 10}$

→ 1 Unit $\xrightarrow{\div 10}$ $\frac{1}{10}$ 10th part 0.1 $\xrightarrow{\div 10}$ $\frac{1}{100}$ 100th part 0.01 $\xrightarrow{\div 10}$ $\frac{1}{1000}$ 1000th part 0.001 $\xrightarrow{\div 10}$ $\frac{1}{10000}$ 10000th part 0.0001

Therefore, we can say that -

Just as while moving from right to left, the place value gets multiplied by 10; similarly, while moving from left to right, the place value gets multiplied by $\frac{1}{10}$ or becomes the tenth part of that value.

Let us observe the following examples.
Find out the place values in 0.325.

First place after the decimal or 0.1 = $\frac{1}{10}$	Second place after the decimal or 0.1 = $\frac{1}{100}$	Third place after the decimal or 0.1 = $\frac{1}{1000}$
3	2	5
Or 3 × .1 = .03	2 × .01 = .02	5 × .001 = .005

or .3 + .02 + .005 = .325

Similarly, .628 = .6 + .02 + .008

$$= \frac{6}{10} + \frac{2}{100} + \frac{8}{1000}$$

ACTIVITY 5

Complete the given table with the digits in the appropriate place values.

Number	100000	10000	1000	100	10	1	.1 =	.01 = $\frac{1}{100}$	.001 = $\frac{1}{1000}$	.0001 = $\frac{1}{10000}$
	One lakh	Ten thousand	Thousand	Hundred	Ten	Unit	First place after decimal	Second place after decimal	Third place after decimal	Fourth place after decimal
830000.3257										
63.0095										
30.8007										
968.038										
3235.0509										

We have studied about length in class 5th In which we have learned

1. 10 mm = 1 cm

   1 mm = $\frac{1}{10}$ cm = 0.1cm

2. 100 cm = 1 meter

   1 cm = $\frac{1}{100}$ meter = 0.01 meter

3. 1000 meter = 1 Km

$$1 \text{ meter} = \frac{1}{1000} \text{ Km} = 0.001 \text{ Km}$$

Example 5. Ramesh covers the distance of 150.5 Km between two cities by train, 65.7 km by Bus and remaining distance of 900 meter by walk. Tell the total distance covered by Ramesh?

Solution :

Distance covered by Ramesh

By Train = 150.5 km

By Bus = 65.7 Km

By Walk = 900 Meter

We know that

$$1 \text{ meter} = \frac{1}{1000} \text{ Km}$$

$$900 \text{ meter} = \frac{1}{1000} \times 900 = 0.9 \text{ Km}$$

So,

150.5 Km
65.7 km
+ 0.9 km
217.1 km

So, Ramesh covered the total distance of 217.1 Km.

You know that

Example 6. If costs of Pens are 72 Rs, So what is the cost of 1 Pen?

Solution : Rs. 1 = Paise 100

$$\text{Paise } 1 = \text{Rs. } \frac{1}{100} = \text{Rs.}0.01$$

Cost of 6 Pens = Rs. 72

So cost of 1 pen = Rs. 72/6

= Rs. 12

So cost of 1 pen will be Rs. 12

Example 7 -

The temperature of a city at afternoon in a day 36ºC and temperature at night was 28.5ºC. So, catch late the temperature fall.

temperature at noon = 36.0ºC
temperature at night = 28.5ºC
change in temperature = 36.0ºC - 28.5ºC
= 7.5ºC

Practice 4

1. The cost of one meter cloth is Rs. 24.75, So find out the cost of 2.8 meter cloths.
2. Anju buys a book costing Rs .143.60 from a shopkeeper and he gives Rs. 500 notes to him tell. How much money the shopkeeper has returned to Anju.
3. Akshat travels a distance of 26 Km by car, distance of 105 Km 500m by bus and remaining distance of 1 Km 250m by walk up to village. Find out the total distance he travelled?
4. The temperatures of two cities are 20.50ºC and 24ºC respectively. Determine the temperature difference of these two cities.

EXERCISE 7

1. Write True/False against the given statements and correct the statements that are false :

(i) $\frac{13}{16}$ and $\frac{78}{119}$ are equivalent fractions. ____

(ii) $\frac{33}{17}$ is a proper fraction. ____

(iii) $\frac{15}{33}$ and $\frac{60}{88}$ are equivalent fractions. ____

(iv) $\frac{23}{103}$ is an improper fraction. ____

(v) $\frac{13}{3}$ can also be written as $4\frac{1}{3}$. ____

(vi) $\frac{3}{2} < \frac{2}{3}$. ______

(vii) $-1 < .01$ ______

(viii) .2 × .3 = .6 ______

(ix) $\frac{135}{10000} = .0135$ ______

(x) .056 × 1000 = 56 ______

2. (a) Write the given fractions in decreasing order.

(i) $\frac{5}{6}, \frac{7}{8}, \frac{8}{9}$ (ii) $\frac{1}{2}, \frac{3}{4}, \frac{1}{6}, \frac{7}{6}, \frac{8}{12}$

(b) Write the given numbers in decreasing order.

(i) .0008, .08, .008, .8, 8 (ii) .01, .0099, .00992, .0012

3. Write the given fractions in increasing order.

(i) $\frac{5}{6}, \frac{9}{24}, \frac{3}{2}, \frac{1}{3}, \frac{5}{8}$ (ii) $\frac{1}{2}, \frac{1}{4}, \frac{1}{6}, \frac{1}{8}, \frac{2}{15}$

4. Find out the values of the following -

(i) $\frac{1}{3}+\frac{5}{8}+\frac{3}{5}+\frac{7}{4}+\frac{13}{6}$ (ii) 9 + .9 + .09 + .009 + .0009

(iii) $\frac{3}{5}\times\frac{7}{5}\times\frac{4}{3}\div\frac{28}{15}$ (iv) $\frac{13}{27}\times\frac{3}{26}\div\frac{1}{18}$

(v) $\frac{17}{6}+\frac{19}{4}+\frac{5}{2}+\frac{4}{3}$ (vi) $\frac{6}{7}+\frac{13}{14}-\frac{9}{21}$

5. Complete the following blanks -

(i) $\frac{4}{5}=\frac{.....}{30}$ (ii) $\frac{7}{5}=\frac{.....}{55}$ (iii) $\frac{6}{7}=\frac{.....}{42}$ (iv) $\frac{4}{9}=\frac{.....}{18}$

6. Choose the proper and improper fractions from the following :

$\frac{17}{4}, \frac{4}{5}, \frac{8}{9}, \frac{16}{13}, \frac{15}{16}, \frac{6}{5}, \frac{3}{7}, \frac{8}{5}$.

7. Find out the place value of the following :

(i) 843.23 (ii) 14.876 (iii) 8764.0314

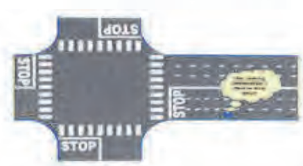
What Have We Learnt ?

1. Any fraction can be converted into several equivalent fractions. For this, the numerator and denominator of the fraction should be multiplied or divided by the same number.
2. Comparision of fractions :
   (i) If the numerator of fractions are same, the fraction whose denominator is the smallest, would be the greatest fraction.
   (ii) If the denominator of fractions are equal, then the fraction whose numerator is the greatest would be greatest fraction.
   (iii) Fractions are compared by making the denominators of all fractions equal with the help of their L.C.M.
3. The fractions in which the numerator is bigger than the denominator are called improper fractions.
4. The fractions in which the numerator is smaller than the denominator are called proper fractions.
5. When two fractions are multiplied, numerator multiplied to numerator and the denominator is multiplied to a denominator.
6. In the division of a fraction, the divisor becomes inverse and sign of multiplication is used instead of the sign of division.

सड़क चिन्ह एवं सड़क संकेत

जेब्रा क्रासिंग (ZEBRA CROSSIGN) – चौंक-चौराहों पर पैदल यात्रियों के सुरक्षित रोड क्रासिंग हेतु बनी सफेद रंग की पट्टी होती है जिससे होकर पैदल यात्री सड़क के एक छोर से दूसरे छोर जाने के लिए उपयोग करता है। चौंक में जब सिग्नल रेड लाईट हो एवं सभी गाड़िया स्टॉप लाईन पर रूका हुआ हो तभी जेब्रा क्रासिंग का उपयोग करना चाहिए।

स्टॉप लाईन (STOP LINE) – स्टॉप लाईन जेब्रा क्रासिंग के पहले सफेट रंग की पट्टी/लाईन बनी होती है। चौंक पर जब रेड लाईट सिग्नल हो तब वाहन चालक को उसी स्टॉप लाईन के पहले रूकना होता है ताकि पैदल यात्री जेब्रा क्रासिंग से सुरक्षित सड़क पार कर सके।



ऐज मार्किंग (EAGG MARKING)- सड़क के किनारे पीले या सफेद रंग की पट्टी बनी होती है जिसका उद्देश्य सड़क किनारे वाहन पार्क नही करना और न ही रूकना होता है। यदि यही रेखा खंडित है तो वाहन रोक सकते है, किन्तु पार्किंग नही कर सकते।