# Knowing our Numbers

Chapter 1

## 1.1 Introduction

Counting things is easy for us now. We can count objects in large numbers, for example, the number of students in the school, and represent them through numerals. We can also communicate large numbers using suitable number names.

It is not as if we always knew how to convey large quantities in conversation or through symbols. Many thousands years ago, people knew only small numbers. Gradually, they learnt how to handle larger numbers. They also learnt how to express large numbers in symbols. All this came through collective efforts of human beings. Their path was not easy, they struggled all along the way. In fact, the development of whole of Mathematics can be understood this way. As human beings progressed, there was greater need for development of Mathematics and as a result Mathematics grew further and faster.

We use numbers and know many things about them. Numbers help us count concrete objects. They help us to say which collection of objects is bigger and arrange them in order e.g., first, second, etc. Numbers are used in many different contexts and in many ways. Think about various situations where we use numbers. List five distinct situations in which numbers are used.

We enjoyed working with numbers in our previous classes. We have added, subtracted, multiplied and divided them. We also looked for patterns in number sequences and done many other interesting things with numbers. In this chapter, we shall move forward on such interesting things with a bit of review and revision as well.

## 1.2 Comparing Numbers

As we have done quite a lot of this earlier, let us see if we remember which is the greatest among these :

(i) 92, 392, 4456, 89742 — I am the greatest!

(ii) 1902, 1920, 9201, 9021, 9210 — I am the greatest!

So, we know the answers.
Discuss with your friends, how you find the number that is the greatest.

### Try These

Can you instantly find the greatest and the smallest numbers in each row?

1. 382, 4972, 18, 59785, 750. Ans. 59785 is the greatest and 18 is the smallest.
2. 1473, 89423, 100, 5000, 310. Ans. _____
3. 1834, 75284, 111, 2333, 450 . Ans. _____
4. 2853, 7691, 9999, 12002, 124. Ans. _____

Was that easy? Why was it easy?

We just looked at the number of digits and found the answer. The greatest number has the most thousands and the smallest is only in hundreds or in tens.

Make five more problems of this kind and give to your friends to solve.

Now, how do we compare 4875 and 3542?

This is also not very difficult.These two numbers have the same number of digits. They are both in thousands. But the digit at the thousands place in 4875 is greater than that in 3542. Therefore, 4875 is greater than 3542.

### Try These

Find the greatest and the smallest numbers.

(a) 4536, 4892, 4370, 4452.

(b) 15623, 15073, 15189, 15800.

(c) 25286, 25245, 25270, 25210.

(d) 6895, 23787, 24569, 24659.

Next tell which is greater, 4875 or 4542? Here too the numbers have the same number of digits. Further, the digits at the thousands place are same in both. What do we do then? We move to the next digit, that is to the digit at the hundreds place. The digit at the hundreds place is greater in 4875 than in 4542. Therefore, 4875 is greater than 4542.

If the digits at hundreds place are also same in the two numbers, then what do we do?

Compare 4875 and 4889 ; Also compare 4875 and 4879.

### 1.2.1 How many numbers can you make?

Suppose, we have four digits 7, 8, 3, 5. Using these digits we want to make different 4-digit numbers in such a way that no digit is repeated in them. Thus, 7835 is allowed, but 7735 is not. Make as many 4-digit numbers as you can.

Which is the greatest number you can get? Which is the smallest number?

The greatest number is 8753 and the smallest is 3578.

Think about the arrangement of the digits in both. Can you say how the largest number is formed? Write down your procedure.

#### Try These

1. Use the given digits without repetition and make the greatest and smallest 4-digit numbers.

   (a) 2, 8, 7, 4 (b) 9, 7, 4, 1 (c) 4, 7, 5, 0
   (d) 1, 7, 6, 2 (e) 5, 4, 0, 3

   (**Hint :** 0754 is a 3-digit number.)

2. Now make the greatest and the smallest 4-digit numbers by using any one digit twice.

   (a) 3, 8, 7 (b) 9, 0, 5 (c) 0, 4, 9 (d) 8, 5, 1

   (**Hint :** Think in each case which digit will you use twice.)

3. Make the greatest and the smallest 4-digit numbers using any four different digits with conditions as given.

   (a) Digit 7 is always at ones place

   Greatest | 9 | 8 | 6 | 7 |

   Smallest | 1 | 0 | 2 | 7 |

   (Note, the number cannot begin with the digit 0. Why?)

   (b) Digit 4 is always at tens place

   Greatest | | | 4 | |

   Smallest | | | 4 | |

   (c) Digit 9 is always at hundreds place

   Greatest | | 9 | | |

   Smallest | | 9 | | |

   (d) Digit 1 is always at thousands place

   Greatest | 1 | | | |

   Smallest | 1 | | | |

4. Take two digits, say 2 and 3. Make 4-digit numbers using both the digits equal number of times.

   Which is the greatest number?

   Which is the smallest number?

   How many different numbers can you make in all?

## Stand in proper order

1. Who is the tallest?
2. Who is the shortest?
   (a) Can you arrange them in the increasing order of their heights?
   (b) Can you arrange them in the decreasing order of their heights?

Ramhari (160 cm) Dolly (154 cm) Mohan (158 cm) Shashi (159 cm)

₹ 2635 ₹ 1897 ₹ 2854 ₹ 1788 ₹ 3975

**Which to buy?**

Sohan and Rita went to buy an almirah. There were many almirahs available with their price tags.

**Try These**

Think of five more situations where you compare three or more quantities.

(a) Can you arrange their prices in increasing order?
(b) Can you arrange their prices in decreasing order?

**Ascending order** Ascending order means arrangement from the smallest to the greatest.

**Descending order** Descending order means arrangement from the greatest to the smallest.

## Try These

1. Arrange the following numbers in ascending order :
   (a) 847, 9754, 8320, 571 (b) 9801, 25751, 36501, 38802
2. Arrange the following numbers in descending order :
   (a) 5000, 7500, 85400, 7861 (b) 1971, 45321, 88715, 92547

   Make ten such examples of ascending/descending order and solve them.

### 1.2.2 Shifting digits

Have you thought what fun it would be if the digits in a number could shift (move) from one place to the other?

Think about what would happen to 182. It could become as large as 821 and as small as 128. Try this with 391 as well.

Now think about this. Take any 3-digit number and exchange the digit at the hundreds place with the digit at the ones place.

(a) Is the new number greater than the former one?

(b) Is the new number smaller than the former number?

Write the numbers formed in both ascending and descending order.

**Before** 7 9 5

**Exchanging the 1st and the 3rd tiles.**

**After** 5 9 7

If you exchange the 1st and the 3rd tiles (i.e. digits), in which case does the number become greater? In which case does it become smaller?

Try this with a 4-digit number.

### 1.2.3 Introducing 10,000

We know that beyond 99 there is no 2-digit number. 99 is the greatest 2-digit number. Similarly, the greatest 3-digit number is 999 and the greatest 4-digit number is 9999. What shall we get if we add 1 to 9999?

Look at the pattern : $9 + 1 = 10 = 10 \times 1$

$99 + 1 = 100 = 10 \times 10$

$999 + 1 = 1000 = 10 \times 100$

We observe that

Greatest single digit number + 1 = smallest 2-digit number

Greatest 2-digit number + 1 = smallest 3-digit number

Greatest 3-digit number + 1 = smallest 4-digit number

We should then expect that on adding 1 to the greatest 4-digit number, we would get the smallest 5-digit number, that is 9999 + 1 = 10000.

The new number which comes next to 9999 is 10000. It is called ten thousand. Further, 10000 = 10 × 1000.

### 1.2.4 Revisiting place value

You have done this quite earlier, and you will certainly remember the expansion of a 2-digit number like 78 as

78 = 70 + 8 = 7 × 10 + 8

Similarly, you will remember the expansion of a 3-digit number like 278 as

278 = 200 + 70 + 8 = 2 × 100 + 7 × 10 + 8

We say, here, 8 is at ones place, 7 is at tens place and 2 at hundreds place.

Later on we extended this idea to 4-digit numbers.

For example, the expansion of 5278 is

5278 = 5000 + 200 + 70 + 8

= 5 × 1000 + 2 × 100 + 7 × 10 + 8

Here, 8 is at ones place, 7 is at tens place, 2 is at hundreds place and 5 is at thousands place.

With the number 10000 known to us, we may extend the idea further. We may write 5-digit numbers like

45278 = 4 × 10000 + 5 × 1000 + 2 × 100 + 7 × 10 + 8

We say that here 8 is at ones place, 7 at tens place, 2 at hundreds place, 5 at thousands place and 4 at ten thousands place. The number is read as forty five thousand, two hundred seventy eight. Can you now write the smallest and the greatest 5-digit numbers?

### Try These

Read and expand the numbers wherever there are blanks.

| Number | Number Name | Expansion |
|---|---|---|
| 20000 | twenty thousand | 2 × 10000 |
| 26000 | twenty six thousand | 2 × 10000 + 6 × 1000 |
| 38400 | thirty eight thousand | 3 × 10000 + 8 × 1000 |
| | four hundred | + 4 × 100 |
| 65740 | sixty five thousand | 6 × 10000 + 5 × 1000 |
| | seven hundred forty | + 7 × 100 + 4 × 10 |

| | | |
|---|---|---|
| 89324 | eighty nine thousand three hundred twenty four | $8 \times 10000 + 9 \times 1000 + 3 \times 100 + 2 \times 10 + 4 \times 1$ |
| 50000 | _____ | _____ |
| 41000 | _____ | _____ |
| 47300 | _____ | _____ |
| 57630 | _____ | _____ |
| 29485 | _____ | _____ |
| 29085 | _____ | _____ |
| 20085 | _____ | _____ |
| 20005 | _____ | _____ |

Write five more 5-digit numbers, read them and expand them.

### 1.2.5 Introducing 1,00,000

Which is the greatest 5-digit number?

Adding 1 to the greatest 5-digit number, should give the smallest 6-digit number : 99,999 + 1 = 1,00,000

This number is named one lakh. One lakh comes next to 99,999.

$10 \times 10,000 = 1,00,000$

We may now write 6-digit numbers in the expanded form as

$2,46,853 = 2 \times 1,00,000 + 4 \times 10,000 + 6 \times 1,000 + 8 \times 100 + 5 \times 10 + 3 \times 1$

This number has 3 at ones place, 5 at tens place, 8 at hundreds place, 6 at thousands place, 4 at ten thousands place and 2 at lakh place. Its number name is two lakh forty six thousand eight hundred fifty three.

#### Try These

Read and expand the numbers wherever there are blanks.

| Number | Number Name | Expansion |
|---|---|---|
| 3,00,000 | three lakh | $3 \times 1,00,000$ |
| 3,50,000 | three lakh fifty thousand | $3 \times 1,00,000 + 5 \times 10,000$ |
| 3,53,500 | three lakh fifty three thousand five hundred | $3 \times 1,00,000 + 5 \times 10,000 + 3 \times 1000 + 5 \times 100$ |
| 4,57,928 | _____ | _____ |
| 4,07,928 | _____ | _____ |
| 4,00,829 | _____ | _____ |
| 4,00,029 | _____ | _____ |

### 1.2.6 Larger numbers

If we add one more to the greatest 6-digit number we get the smallest 7-digit number. It is called **ten lakh.**

Write down the greatest 6-digit number and the smallest 7-digit number. Write the greatest 7-digit number and the smallest 8-digit number. The smallest 8-digit number is called **one crore.**

Complete the pattern :

9 + 1 = 10
99 + 1 = 100
999 + 1 = _____
9,999 + 1 = _____
99,999 + 1 = _____
9,99,999 + 1 = _____
99,99,999 + 1 = 1,00,00,000

| Remember | |
|---|---|
| 1 hundred | = 10 tens |
| 1 thousand | = 10 hundreds |
| | = 100 tens |
| 1 lakh | = 100 thousands |
| | = 1000 hundreds |
| 1 crore | = 100 lakhs |
| | = 10,000 thousands |

**Try These**

1. What is 10 – 1 =?
2. What is 100 – 1 =?
3. What is 10,000 – 1 =?
4. What is 1,00,000 – 1 =?
5. What is 1,00,00,000 – 1 =?

(**Hint :** Use the said pattern.)

We come across large numbers in many different situations. For example, while the number of children in your class would be a 2-digit number, the number of children in your school would be a 3 or 4-digit number.

The number of people in the nearby town would be much larger.

Is it a 5 or 6 or 7-digit number?

Do you know the number of people in your state?

How many digits would that number have?

What would be the number of grains in a sack full of wheat? A 5-digit number, a 6-digit number or more?

**Try These**

1. Give five examples where the number of things counted would be more than 6-digit number.
2. Starting from the greatest 6-digit number, write the previous five numbers in descending order.
3. Starting from the smallest 8-digit number, write the next five numbers in ascending order and read them.

### 1.2.7 An aid in reading and writing large numbers

Try reading the following numbers :

(a) 279453 (b) 5035472

(c) 152700375 (d) 40350894

Was it difficult?

Did you find it difficult to keep track?

Sometimes it helps to use indicators to read and write large numbers.

Shagufta uses indicators which help her to read and write large numbers. Her indicators are also useful in writing the expansion of numbers. For example, she identifies the digits in ones place, tens place and hundreds place in 257 by writing them under the tables O, T and H as

| H | T | O | Expansion |
|---|---|---|---|
| 2 | 5 | 7 | $2 \times 100 + 5 \times 10 + 7 \times 1$ |

Similarly, for 2902,

| Th | H | T | O | Expansion |
|---|---|---|---|---|
| 2 | 9 | 0 | 2 | $2 \times 1000 + 9 \times 100 + 0 \times 10 + 2 \times 1$ |

One can extend this idea to numbers upto lakh as seen in the following table. (Let us call them placement boxes). Fill the entries in the blanks left.

| Number | TLakh | Lakh | TTh | Th | H | T | O | Number Name | Expansion |
|---|---|---|---|---|---|---|---|---|---|
| 7,34,543 | — | 7 | 3 | 4 | 5 | 4 | 3 | Seven lakh thirty four thousand five hundred forty three | ---------- |
| 32,75,829 | 3 | 2 | 7 | 5 | 8 | 2 | 9 | ---------- | $3 \times 10,00,000$ $+ 2 \times 1,00,000$ $+ 7 \times 10,000$ $+ 5 \times 1000$ $+ 8 \times 100$ $+ 2 \times 10 + 9$ |

Similarly, we may include numbers upto crore as shown below :

| Number | TCr | Cr | TLakh | Lakh | TTh | Th | H | T | O | Number Name |
|---|---|---|---|---|---|---|---|---|---|---|
| 2,57,34,543 | — | 2 | 5 | 7 | 3 | 4 | 5 | 4 | 3 | ..... |
| 65,32,75,829 | 6 | 5 | 3 | 2 | 7 | 5 | 8 | 2 | 9 | Sixty five crore thirty two lakh seventy five thousand eight hundred twenty nine |

You can make other formats of tables for writing the numbers in expanded form.

## Use of commas

You must have noticed that in writing large numbers in the sections above, we have often used commas. Commas help us in reading and writing large numbers. In our **Indian System of Numeration** we use ones, tens, hundreds, thousands and then lakhs and crores. Commas are used to mark thousands, lakhs and crores. The first comma comes after hundreds place (three digits from the right) and marks thousands. The second comma comes two digits later (five digits from the right). It comes after ten thousands place and marks lakh. The third comma comes after another two digits (seven digits from the right). It comes after ten lakh place and marks crore.

While writing number names, we do not use commas.

For example, 5, 08, 01, 592

3, 32, 40, 781

7, 27, 05, 062

Try reading the numbers given above. Write five more numbers in this form and read them.

### International System of Numeration

*In the International System of Numeration, as it is being used we have ones, tens, hundreds, thousands and then millions. One million is a thousand thousands. Commas are used to mark thousands and millions. It comes after every three digits from the right. The first comma marks thousands and the next comma marks millions. For example, the number 50,801,592 is read in the International System as fifty million eight hundred one thousand five hundred ninety two. In the Indian System, it is five crore eight lakh one thousand five hundred ninety two.*

*How many lakhs make a million?*

*How many millions make a crore?*

*Take three large numbers. Express them in both Indian and International Numeration systems.*

*Interesting fact :*

*To express numbers larger than a million, a billion is used in the International System of Numeration: 1 billion = 1000 million.*

Do you know?
India's population increased by about
27 million during 1921-1931;
37 million during 1931-1941;
44 million during 1941-1951;
78 million during 1951-1961!

How much was the increase in population during 1991-2001? Try to find out.

Do you know what is India's population today? Try to find this too.

## Try These

1. Read these numbers. Write them using placement boxes and then write their expanded forms.

   (i) 475320 (ii) 9847215 (iii) 97645310 (iv) 30458094

   (a) Which is the smallest number?

   (b) Which is the greatest number?

   (c) Arrange these numbers in ascending and descending orders.

2. Read these numbers.

   (i) 527864 (ii) 95432 (iii) 18950049 (iv) 70002509

   (a) Write these numbers using placement boxes and then using commas in Indian as well as International System of Numeration..

   (b) Arrange these in ascending and descending order.

3. Take three more groups of large numbers and do the exercise given above.

**Can you help me write the numeral?**

To write the numeral for a number you can follow the boxes again.

(a) Forty two lakh seventy thousand eight.

(b) Two crore ninety lakh fifty five thousand eight hundred.

(c) Seven crore sixty thousand fifty five.

## Try These

1. You have the following digits 4, 5, 6, 0, 7 and 8. Using them, make five numbers each with 6 digits.

   (a) Put commas for easy reading.

   (b) Arrange them in ascending and descending order.

2. Take the digits 4, 5, 6, 7, 8 and 9. Make any three numbers each with 8 digits. Put commas for easy reading.

3. From the digits 3, 0 and 4, make five numbers each with 6 digits. Use commas.

## EXERCISE 1.1

1. Fill in the blanks:
   (a) 1 lakh = _____ ten thousand.
   (b) 1 million = _____ hundred thousand.
   (c) 1 crore = _____ ten lakh.
   (d) 1 crore = _____ million.
   (e) 1 million = _____ lakh.
2. Place commas correctly and write the numerals:
   (a) Seventy three lakh seventy five thousand three hundred seven.
   (b) Nine crore five lakh forty one.
   (c) Seven crore fifty two lakh twenty one thousand three hundred two.
   (d) Fifty eight million four hundred twenty three thousand two hundred two.
   (e) Twenty three lakh thirty thousand ten.
3. Insert commas suitably and write the names according to Indian System of Numeration :
   (a) 87595762 (b) 8546283 (c) 99900046 (d) 98432701
4. Insert commas suitably and write the names according to International System of Numeration :
   (a) 78921092 (b) 7452283 (c) 99985102 (d) 48049831

## 1.3 Large Numbers in Practice

In earlier classes, we have learnt that we use centimetre (cm) as a unit of length. For measuring the length of a pencil, the width of a book or notebooks etc., we use centimetres. Our ruler has marks on each centimetre.

For measuring the thickness of a pencil, however, we find centimetre too big.

We use millimetre (mm) to show the thickness of a pencil.

**Try These**

1. How many centimetres make a kilometre?
2. Name five large cities in India. Find their population. Also, find the distance in kilometres between each pair of these cities.

(a) 10 millimetres = 1 centimetre

To measure the length of the classroom or the school building, we shall find centimetre too small. We use metre for the purpose.

(b) 1 metre = 100 centimetres
= 1000 millimetres

Even metre is too small, when we have to state distances between cities, say, Delhi and Mumbai, or Chennai and Kolkata. For this we need kilometres (km).

(c) 1 kilometre = 1000 metres

How many millimetres make 1 kilometre?

Since 1 m = 1000 mm

1 km = 1000 m = 1000 × 1000 mm = 10,00,000 mm

We go to the market to buy rice or wheat; we buy it in kilograms (kg). But items like ginger or chillies which we do not need in large quantities, we buy in grams (g). We know 1 kilogram = 1000 grams.

Have you noticed the weight of the medicine tablets given to the sick? It is very small. It is in milligrams (mg).

1 gram = 1000 milligrams.

What is the capacity of a bucket for holding water? It is usually 20 litres (ℓ). Capacity is given in litres. But sometimes we need a smaller unit, the millilitres. A bottle of hair oil, a cleaning liquid or a soft drink have labels which give the quantity of liquid inside in millilitres (ml).

1 litre = 1000 millilitres.

Note that in all these units we have some words common like kilo, milli and centi. You should remember that among these **kilo** is the greatest and **milli** is the smallest; kilo shows 1000 times greater, milli shows 1000 times smaller, i.e. 1 kilogram = 1000 grams, 1 gram = 1000 milligrams.

**Try These**

1. How many milligrams make one kilogram?
2. A box contains 2,00,000 medicine tablets each weighing 20 mg. What is the total weight of all the tablets in the box in grams and in kilograms?

Similarly, centi shows 100 times smaller, i.e. 1 metre = 100 centimetres.

**Try These**

1. A bus started its journey and reached different places with a speed of 60 km/hour. The journey is shown on page 14.

   (i) Find the total distance covered by the bus from A to D.

   (ii) Find the total distance covered by the bus from D to G.

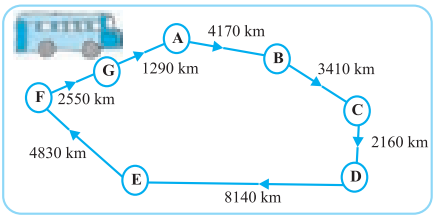
   (iii) Find the total distance covered by the bus, if it starts from A and returns back to A.

   (iv) Can you find the difference of distances from C to D and D to E?

(v) Find out the time taken by the bus to reach

(a) A to B (b) C to D

(c) E to G (d) Total journey




2. **Raman's shop**

| Things | Price |
|---|---|
| Apples | ₹ 40 per kg |
| Oranges | ₹ 30 per kg |
| Combs | ₹ 3 for one |
| Tooth brushes | ₹ 10 for one |
| Pencils | ₹ 1 for one |
| Note books | ₹ 6 for one |
| Soap cakes | ₹ 8 for one |

**The sales during the last year**

| | |
|---|---|
| Apples | 2457 kg |
| Oranges | 3004 kg |
| Combs | 22760 |
| Tooth brushes | 25367 |
| Pencils | 38530 |
| Note books | 40002 |
| Soap cakes | 20005 |

(a) Can you find the total weight of apples and oranges Raman sold last year?

Weight of apples = _____ kg

Weight of oranges = _____ kg

Therefore, total weight = _____ kg + _____ kg = _____ kg

Answer – The total weight of oranges and apples = _____ kg.

(b) Can you find the total money Raman got by selling apples?

(c) Can you find the total money Raman got by selling apples and oranges together?

(d) Make a table showing how much money Raman received from selling each item. Arrange the entries of amount of money received in descending order. Find the item which brought him the highest amount. How much is this amount?

We have done a lot of problems that have addition, subtraction, multiplication and division. We will try solving some more here. Before starting, look at these examples and follow the methods used.

**Example 1 :** Population of Sundarnagar was 2,35,471 in the year 1991. In the year 2001 it was found to be increased by 72,958. What was the population of the city in 2001?

**Solution :** Population of the city in 2001
= Population of the city in 1991 + Increase in population
= 2,35,471 + 72,958

Now,
$$\begin{array}{r} 235471 \\ +\ 72958 \\ \hline 308429 \\ \hline \end{array}$$

Salma added them by writing 235471 as 200000 + 35000 + 471 and 72958 as 72000 + 958. She got the addition as 200000 + 107000 + 1429 = 308429. Mary added it as 200000 + 35000 + 400 + 71 + 72000 + 900 + 58 = 308429

Answer : Population of the city in 2001 was 3,08,429.

All three methods are correct.

**Example 2 :** In one state, the number of bicycles sold in the year 2002-2003 was 7,43,000. In the year 2003-2004, the number of bicycles sold was 8,00,100. In which year were more bicycles sold? and how many more?

**Solution :** Clearly, 8,00,100 is more than 7,43,000. So, in that state, more bicycles were sold in the year 2003-2004 than in 2002-2003.

Now,
$$\begin{array}{r} 800100 \\ -\ 743000 \\ \hline 057100 \\ \hline \end{array}$$

Check the answer by adding
$$\begin{array}{r} 743000 \\ +\ 57100 \\ \hline 800100 \\ \hline \end{array}$$
(the answer is right)

Can you think of alternative ways of solving this problem?

Answer : 57,100 more bicycles were sold in the year 2003-2004.

**Example 3 :** The town newspaper is published every day. One copy has 12 pages. Everyday 11,980 copies are printed. How many total pages are printed everyday?

**Solution :** Each copy has 12 pages. Hence, 11,980 copies will have $12 \times 11{,}980$ pages. What would this number be? More than 1,00,000 or lesser. Try to estimate.

Now,
$$\begin{array}{r} 11980 \\ \times\ 12 \\ \hline 23960 \\ +\ 119800 \\ \hline 143760 \\ \hline \end{array}$$

Answer:Everyday 1,43,760 pages are printed.

**Example 4 :** The number of sheets of paper available for making notebooks is 75,000. Each sheet makes 8 pages of a notebook. Each notebook contains 200 pages. How many notebooks can be made from the paper available?

**Solution :** Each sheet makes 8 pages.

Hence, 75,000 sheets make $8 \times 75{,}000$ pages,

Now,
$$\begin{array}{r} 75000 \\ \times\ 8 \\ \hline 600000 \\ \hline \end{array}$$

Thus, 6,00,000 pages are available for making notebooks.
Now, 200 pages make 1 notebook.
Hence, 6,00,000 pages make $6{,}00{,}000 \div 200$ notebooks.

Now,
$$\begin{array}{r} 3000 \\ 200\overline{)\ 600000} \\ -\ 600 \\ \hline 0000 \\ \hline \end{array}$$

The answer is 3,000 notebooks.

## EXERCISE 1.2

1. A book exhibition was held for four days in a school. The number of tickets sold at the counter on the first, second, third and final day was respectively 1094, 1812, 2050 and 2751. Find the total number of tickets sold on all the four days.
2. Shekhar is a famous cricket player. He has so far scored 6980 runs in test matches. He wishes to complete 10,000 runs. How many more runs does he need?
3. In an election, the successful candidate registered 5,77,500 votes and his nearest rival secured 3,48,700 votes. By what margin did the successful candidate win the election?

4. Kirti bookstore sold books worth ₹ 2,85,891 in the first week of June and books worth ₹ 4,00,768 in the second week of the month. How much was the sale for the two weeks together? In which week was the sale greater and by how much?
5. Find the difference between the greatest and the least 5-digit number that can be written using the digits 6, 2, 7, 4, 3 each only once.
6. A machine, on an average, manufactures 2,825 screws a day. How many screws did it produce in the month of January 2006?
7. A merchant had ₹ 78,592 with her. She placed an order for purchasing 40 radio sets at ₹ 1200 each. How much money will remain with her after the purchase?
8. A student multiplied 7236 by 65 instead of multiplying by 56. By how much was his answer greater than the correct answer? (**Hint:** Do you need to do both the multiplications?)
9. To stitch a shirt, 2 m 15 cm cloth is needed. Out of 40 m cloth, how many shirts can be stitched and how much cloth will remain?

   (Hint: convert data in cm.)
10. Medicine is packed in boxes, each weighing 4 kg 500g. How many such boxes can be loaded in a van which cannot carry beyond 800 kg?
11. The distance between the school and a student's house is 1 km 875 m. Everyday she walks both ways. Find the total distance covered by her in six days.
12. A vessel has 4 litres and 500 ml of curd. In how many glasses, each of 25 ml capacity, can it be filled?

## What have we discussed?

1. Given two numbers, one with more digits is the greater number. If the number of digits in two given numbers is the same, that number is larger, which has a greater leftmost digit. If this digit also happens to be the same, we look at the next digit and so on.
2. In forming numbers from given digits, we should be careful to see if the conditions under which the numbers are to be formed are satisfied. Thus, to form the greatest four digit number from 7, 8, 3, 5 without repeating a single digit, we need to use all four digits, the greatest number can have only 8 as the leftmost digit.
3. The smallest four digit number is 1000 (one thousand). It follows the largest three digit number 999. Similarly, the smallest five digit number is 10,000. It is ten thousand and follows the largest four digit number 9999.

   Further, the smallest six digit number is 100,000. It is one lakh and follows the largest five digit number 99,999. This carries on for higher digit numbers in a similar manner.
4. Use of commas helps in reading and writing large numbers. In the Indian system of numeration we have commas after 3 digits starting from the right and thereafter every 2 digits. The commas after 3, 5 and 7 digits separate thousand, lakh and crore

respectively. In the International system of numeration commas are placed after every 3 digits starting from the right. The commas after 3 and 6 digits separate thousand and million respectively.

5. Large numbers are needed in many places in daily life. For example, for giving number of students in a school, number of people in a village or town, money paid or received in large transactions (paying and selling), in measuring large distances say betwen various cities in a country or in the world and so on.

6. Remember kilo shows 1000 times larger, Centi shows 100 times smaller and milli shows 1000 times smaller, thus, 1 kilometre = 1000 metres, 1 metre = 100 centimetres or 1000 millimetres etc.