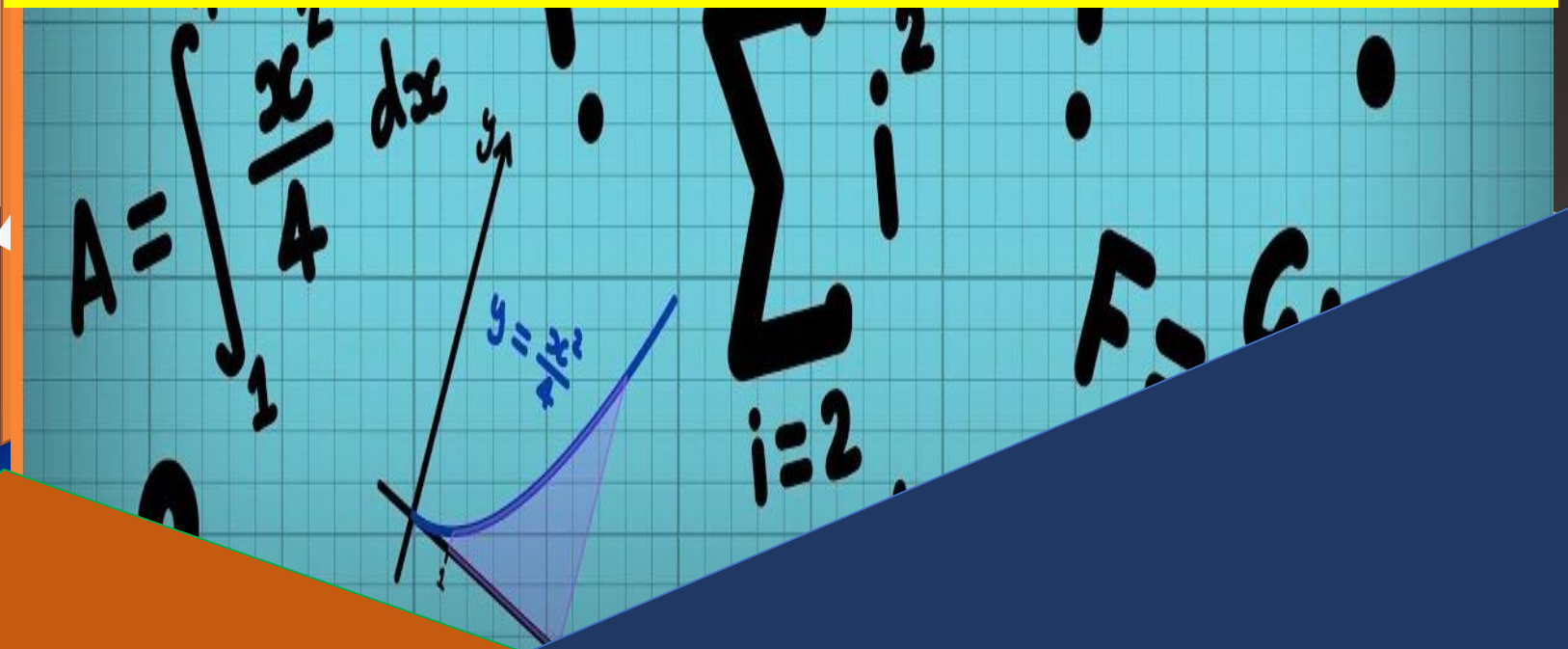


MATHEMATICS



CLASS - 6

KNOWING OUR NUMBERS



e Shiksha Pie
A c h a r y a

ASPIRING YOUNG MINDS

E SHIKSHA PIE PROGRAMS

CLASSES VI, VII, VIII, IX & X

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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.

EXAMPLE – 1

Write each of the following in numeral form

- (a) Seventy thousand fifty-three
- (b) Five lakh seven thousand four hundred six
- (c) Six lakh two thousand nine

Solution:

- (a) 70,053 (b) 5,07,406 (c) 6,02,009

EXAMPLE – 2

Write the following numbers in words in the Indian system of numeration.

- (a) 4,05,045 (b) 35,42,012 (c) 7,06,04,014

Solution:

- (a) Four lakh five thousand forty five.
- (b) Thirty five lakh forty two thousand twelve.
- (c) Seven crore six lakh four thousand fourteen.

SOME PROPERTIES AND RULES

- 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.
- 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.
- 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.
- 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.
- 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 between 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.
7. There are a number of situations in which we do not need the exact quantity but need only a reasonable guess or an estimate. For example, while stating how many spectators watched a particular international hockey match, we state the approximate number, say 51,000, we do not need to state the exact number.
8. Estimation involves approximating a quantity to an accuracy required. Thus, 4117 may be approximated to 4100 or to 4000, i.e. to the nearest hundred or to the nearest thousand depending on our need.
9. In number of situations, we have to estimate the outcome of number operations. This is done by rounding off the numbers involved and getting a quick, rough answer.
10. Estimating the outcome of number operations is useful in checking answers.
11. Use of brackets allows us to avoid confusion in the problems where we need to carry out more than one number operation.
12. We use the Hindu-Arabic system of numerals. Another system of writing numerals is the Roman system.

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
- (ii) 1902, 1920, 9201, 9021, 9210

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

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?

NOTE:

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.

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.

EXAMPLE – 3

Find the greatest and smallest numbers.

Solution:

The green and yellow marked digits are qualifying digits for greatest and smallest numbers respectively. **When number of digits are equal**, then digits at ten thousands, thousands etc are compared until we get a highest and lowest digit. **When number of digits is unequal**, the number having more digits than all others is greatest and the number having lowest number of digits than all others is smallest.

EXAMPLE – 4

Put the appropriate symbol ($<$ $>$) in each of the following boxes :

(a) 2507324 ____ 2517324

(b) 3572014 ____ 10253104

(c) 47983505 ____ 47894012

Solution:

(a) 2507324 $<$ 2517324

(b) 3572014 $<$ 10253104

(c) 47983505 $>$ 47894012

EXAMPLE – 5

Write the smallest and the greatest number:

(a) 2390, 2393, 2309, 2323.

(b) 1234, 4321, 2314, 3412.

Solution:

(a) Greatest = 2393, Smallest = 2309

(b) Greatest = 4321, Smallest = 1234.

EXAMPLE – 6

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

(a) 2, 5, 0, 7

(b) 1, 6, 9, 3

Solution:

(a) Greatest = 7520, Smallest = 2057

(b) Greatest = 9631, Smallest = 1369.

EXAMPLE – 7

Write the smallest and the largest six digit numbers. How many numbers are between these two.

Solution:

The smallest digit is 0. But we cannot use 0 at the place having the highest place value in six digit numbers. So, we will use the second smallest digit i.e., 1. All other places are filled by 9.

Hence, the required number = 100000

Smallest six digit number will be 100000.

The largest digit is 9.

We can use 9 at any place. In fact, we can use 9 in all places in six digit numbers.

Hence, the required number = 999999

Largest 6-digit number will be 999999

Required difference = $999999 - 100000 = 899999$

So, the total numbers between 999999 and 100000 will be 899998.

EXAMPLE – 8

What is smallest 3-digit number with unique digits?

Solution:

The smallest three-digit number with unique digits is 102.

EXAMPLE – 9

What is the largest 5- digits number with unique digits?

Solution:

The largest five – digit number with unique digits 98,765.

EXAMPLE – 10

Write is smallest 3-digit number which does not change if the digits are written in reverse order.

Solution:

The smallest three – digit number that does not change if the digits are written in reverse order is 101.

EXAMPLE – 11

Find the difference between the number 279 and that obtained on reversing its digits.

Solution:

The number obtained on reversing 279 = 972

Difference = $972 - 279 = 693$

Thus, the difference between 279 and that obtained on reversing its digits is 693.

DPP – 1

1. 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

2. Compare 4875 and 4889 ;

Also compare 4875 and 4879.

3. 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

4. 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

5. 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?

6. Use all the digits only once to make the smallest and largest 6 digit number :

3, 7, 2, 0, 6, 4

ASCENDING ORDER

Ascending order means arrangement from the smallest to the greatest.

DESCENDING ORDER

Descending order means arrangement from the greatest to the smallest.

EXAMPLE – 12

Arrange the following numbers in ascending order:

- (a) 6,35,47,201; 10,23,45,694; 65,39,542;
83,54,208; 1,23,45,678.
(b) 18,08,088; 1,81,888; 1,90,909; 18,08,090;
1,60,60,666 .

Solution:

- (a) 65,39,542; 83,54,208; 1,23,45,678;
6,35,47,201; 10,23,45,694.
(b) 1,81,888; 1,90,909; 18,08,088; 18,08,090;
1,60,60,666.

EXAMPLE – 13

Arrange the following numbers in descending order :

6,35,47,201; 10,23,45,694; 65,39,542; 83,54,208;
1,23,45,678.

Solution:

10,23,45,694; 6,35,47,201; 1,23,45,678; 83,54,208;
65,39,542.

DPP – 2

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

REVISITING PLACE VALUE

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

$$78 = 70 + 8$$

$$= 7 \times 10 + 8$$

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

$$278 = 200 + 70 + 8$$

$$= 2 \times 100 + 7 \times 10 + 8$$

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

$$5278 = 5000 + 200 + 70 + 8$$

$$= 5 \times 1000 + 2 \times 100 + 7 \times 10 + 8$$

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

$$45278 = 4 \times 10000 + 5 \times 1000 + 2 \times 100$$

$$+ 7 \times 10 + 8$$

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?

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

$$2,46,853 = 2 \times 1,00,000 + 4 \times 10,000$$

$$+ 6 \times 1,000 + 8 \times 100 + 5 \times 10 + 3 \times 1$$

EXAMPLE – 14

Write the expression for each of the following statements using brackets:

- (a) Eight multiplied by the difference of four from nine.
(b) Divide the difference of twenty eight and seven by 3.

Solution:

(a) $8 \times (9 - 4)$ (b) $28 - 73$

DPP – 3

1. Write the expansion of the following:

50000 _____
41000 _____
47300 _____
57630 _____
29485 _____
29085 _____
20085 _____
20005 _____

2. Give five examples where the number of things counted would be more than 6-digit number.

3. Starting from the greatest 6-digit number, write the previous five numbers in descending order.

4. Starting from the smallest 8-digit number, write

the next five numbers in ascending order and read them.

Identifies the digits in ones place, tens place and hundreds place

H	T	O
2	5	7

Expansion: $2 \times 100 + 5 \times 10 + 7 \times 1$

Similarly, for 2902,

Th	H	T	O
2	9	0	2

Expansion: $2 \times 1000 + 9 \times 100 + 0 \times 10 + 2 \times 1$

Use of commas: For example,

5, 08, 01, 592

3, 32, 40, 781

7, 27, 05, 062

EXAMPLE – 15

Determine the product of the place values of two fives in 450758.

Solution:

Place value of first 5 = $5 \times 10 = 50$

Place value of second 5 = $5 \times 10,000 = 50,000$

Required product = $50 \times 50,000 = 25,00,000$

EXAMPLE – 16

Determine the difference of the place values of 7's in 257839705.

Solution:

Place value of first 7 = $7 \times 10 = 700$

Place value of second 7 = $7 \times 10,000 = 70,00,000$

Required difference = $70,00,000 - 700 = 69,99,300$

ROMAN NUMBERS

This system is still used in many places.

The Roman numerals :

I, II, III, IV, V, VI, VII, VIII, IX, X

denote 1,2,3,4,5,6,7,8,9 and 10 respectively. This is followed by XI for 11, XII

for 12,... till XX for 20. Some more Roman numerals are :

I	V	X	L	C	D	M
1	5	10	50	100	500	1000

THE RULES FOR THE SYSTEM

(a) If a symbol is repeated, its value is added as many times as it occurs:

i.e. II is equal 2, XX is 20 and XXX is 30.

(b) A symbol is not repeated more than three times.

But the symbols V, L and D are never repeated.

(c) If a symbol of smaller value is written to the right of a symbol of greater value, its value gets added to the value of greater symbol.

VI = $5 + 1 = 6$, XII = $10 + 2 = 12$

and LXV = $50 + 10 + 5 = 65$

(d) If a symbol of smaller value is written to the left of a symbol of greater value, its value is subtracted from the value of the greater symbol.

IV = $5 - 1 = 4$, IX = $10 - 1 = 9$

XL = $50 - 10 = 40$, XC = $100 - 10 = 90$

(e) The symbols V, L and D are never written to the left of a symbol of greater value, i.e. V, L and D are never subtracted.

The symbol I can be subtracted from V and X only.

The symbol X can be subtracted from L, M and C only.

EXAMPLE – 17

Write in Roman Numerals (a) 69 (b) 98.

Solution:

(a) $69 = 60 + 9 = (50 + 10) + 9$
 $= LX + IX = LXIX$

(b) $98 = 90 + 8 = (100 - 10) + 8$
 $= XC + VIII = XCVIII$

EXAMPLE – 18

Write the following in roman numerals:

(a) 173 (b) 248

Solution:

(a) CLXXIII (b) CCXLVIII

EXAMPLE – 19

Write the following in Hindu – Arabic numerical:

(a) XXVI (b) XXIX
 (c) LXXII (d) XCI

Solution:

(a) 26 (b) 29 (c) 72 (d) 91

DPP – 4

1. Place commas at the correct places and also write the numbers in words :

a) 86391 ; b) 903512 ; c) 2854709

2. 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.

EXAMPLE – 20

Write each of the following in expanded form:

(a) 12345 (b) 10205

Solution:

(a) $10000 + 2000 + 300 + 40 + 5$

(b) $10000 + 200 + 5$

EXAMPLE – 21

Write the corresponding numeral for each of the following :

(a) $8 \times 1000000 + 3 \times 1000 + 6 \times 1$

(b) $5 \times 10000000 + 7 \times 1000000 + 8 \times 1000 + 9 \times 10 + 4$

Solution:

(a) $8000000 + 3000 + 6 = 80,03,006$

(b) $50000000 + 7000000 + 8000 + 90 + 4 = 5,70,08,094$

DPP - 5

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.

DPP – 6

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.

EXAMPLE – 22

Round off each of the following numbers to nearest tens :

(a) 98 (b) 984 (c) 808

(d) 998 (e) 12,096

Solution:

(a) 100 (b) 980 (c) 810

(d) 1,000 (e) 12,100

EXAMPLE – 23

Round off each of the numbers to nearest thousands :

(a) 2401 (b) 9600 (c) 4278

Solution:

(a) 2000 (b) 10000 (c) 4000

EXAMPLE – 24

Round off each of the following numbers to nearest tens, hundreds and thousands.

(a) 1049 (b) 45,634

Solution:

Nearest tens

(a) 1050 (b) 45,630

Hundreds

(a) 1000 (b) 45,600

Thousands

(a) 1000 (b) 46000

EXAMPLE – 25

Round off the following measures to the nearest hundreds :

(a) Rs 9,080 (b) 1265 km

(c) 417 m (d) 550 cm

Solution:

(a) Rs.9100 (b) 1300 km

(c) 400 m (d) 600 cm

EXAMPLE – 26

Find the smallest and the greatest numbers which are rounded off to the nearest hundreds as 900.

Solution:

Smallest number: 850

Greatest number: 949

EXAMPLE – 27

Estimate the following by rounding off each number to its greatest place:

(a) $439 + 334 + 4317$ (b) $8325 - 491$

(c) $108734 - 47599$

Solution:

(a) $400 + 300 + 4000 = 4700$

(b) $8000 - 500 = 7500$

(c) $100000 - 500000 = 50000$

EXAMPLE – 28

Find the estimated quotient for each of the following by rounding off each number to its greatest place :

(a) $878 \div 28$ (b) $745 \div 24$

Solution:

(a) $900 \div 30 = 30$ (b) $700 \div 20 = 35$

EXAMPLE – 29

Simplify each of the following:

(a) $124 - (12 - 2) \times 9$ (b) $(13 + 7) \times (9 - 4) - 18$

Solution:

(a) 34 (b) 82

EXAMPLE – 30

Simplify each of the following:

(a) 16×108 (b) 12×105 (c) 102×103

Solution:

(a) 1728 (b) 1260 (c) 10506

EXAMPLE – 31

Estimate: $5,290 + 17,986$.

Solution:

You find $17,986 > 5,290$.

Round off to thousands.

17,986 is rounds off to 18000

+5,290 is rounds off to 5000

Now, sum = $18000 + 5000 = 23000$.

EXAMPLE – 32

Estimate: $5,673 - 436$.

Solution:

To begin with we round off to thousands

5,673 rounds off to 5000

- 436 rounds off to 0

So, Difference = $5000 - 0 = 5000$.

EXAMPLE – 33

Estimate for 19×78 ?

Solution:

If we approximate 19 to the nearest tens, we get 20 and then approximate 78 to nearest tens, we get 80
So, $20 \times 80 = 1600$. Ans

WORD PROBLEMS**EXAMPLE – 34**

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

= $2,35,471 + 72,958 = 308429$.

EXAMPLE – 35

The Distance between the school and the house of a student is 1 Km 875 m. Every day she walks both ways between her school and home. Find the total distance covered by her in a week?

Solution:

Therefore, Distance between the school and the house of a student = 1,875 m = $1,000 + 875$

= 1,875 m (1 km = 1,000 m)

As given in the question, Distance covered by a student in a day = $2 \times 1,875 = 3,750$ m

Total distance covered by her in a week

= $7 \times 3,750 = 26,250$ m = 26.25 km.

EXAMPLE – 36

The distance between the school and the house of a student is 1km 875m. Everyday she walks both ways. Find the total distance covered by her in 12 days.

Solution: 1km = 1000m

Distance between school and house = 1km 875m = $1000\text{m} + 875\text{m} = 1875\text{m}$

Distance covered each day = 1875×2
= 3750m

Distance covered in 6 days

= $3750 \times 12 = 22500\text{m} = 45$ km.

EXAMPLE – 37

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
 $= 60000$.

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 = 3000. Ans.

EXAMPLE – 38

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 days were respectively 1094, 1812, 2050 and 2751. Find the total number of tickets sold on all the four days.

Solution:

Total number of tickets sold on all four days is the sum of the tickets sold on the first, second, third and final days.

Therefore, total number of tickets sold on all four days is given by:

$$= 1094 + 1812 + 2050 + 2751$$

$$= 7707. \text{ Ans.}$$

EXAMPLE – 39

A famous cricket player has so far scored 6978 runs in test matches. He wishes to complete 10,000 runs. How many more runs does he need?

Solution:

Runs scored by cricket player in test matches = 6,978

Therefore, Remaining runs required to complete 10,000 runs

$$= 10,000 - 6,978 = 3,022$$

Thus, the player needs to score 3,022 more runs to complete 10,000 runs.

EXAMPLE – 40

In an election, the successful candidate registered 5, 77,570 votes and his nearest rival secured 3, 48,685 votes. By what margin did the successful candidate win the

election?

Solution:

Margin of victory in the election for the successful candidate = Number of votes registered by the winner – Number of votes secured by nearest rival candidate

Votes registered by the winner = 5, 77,570

Votes secured by the rival = 3, 48,685

Therefore, Margin of victory for the successful candidate = $5,77,570 - 3,48,685 = 2,28,885$.

EXAMPLE – 41

A vessel has 4 litre and 650 ml of curd. In how many glasses, each of 25 ml capacity, can it be distributed?

Solution:

The number of glasses in which curd can be distributed = Total amount of curd/Capacity of each glass.

Total amount of curd in the vessel = 4,650 ml =
 $4,000 + 650 = 4,650$ ml (1 L = 1,000 ml)

Capacity of each glass = 25 ml

Therefore, Number of glasses in which curd can be distributed = $4,650/25 = 186$

EXAMPLE – 42

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

Solution:

Since a 4 digit number is to be made, 0 cannot be put at the highest place as it will make the number a 3 digit number. So, if there is a 0 in 4 digits, put the third largest number at the highest place to make the smallest 4 digit number.

EXAMPLE – 43

The distance between the school and the house of a student is 1km 875m. Everyday she walks both ways. Find the total distance covered by her in six days.

Solution:

1km = 1000m

Distance between school and house

$$= 1\text{km } 875\text{m} = 1000\text{m} + 875\text{m} = 1875\text{m}$$

Distance covered each day = $1875 \times 2 = 3750\text{m}$

Distance covered in 6 days = $3750 \times 6 = 22500\text{m}$
 $= 22.5 \text{ km or } 22\text{km } 500\text{m}.$

PROBLEMS ON KNOWING OUR NUMBERS**1. Fill in the blanks:**

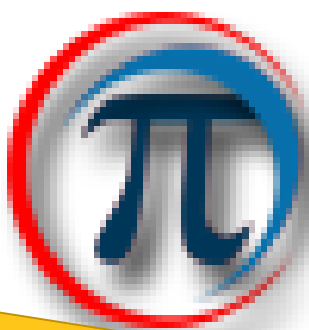
- (a) 1 lakh = _____ ten thousand.
 (b) 1 million = _____ hundred thousand.
 (c) 1 crore = _____ ten lakh.
 (d) 1 crore = _____ million.
 (e) 1 million = _____ lakh.
2. Place commas correctly and write the numerals:
 (a) Seventy three lakh seventy five thousand three hundred seven.
 (b) Nine crore five 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
5. Use all the digits only once to make the smallest and largest 6 digit number : 3, 7, 2, 0, 6, 4.
 Also find the difference.
6. Find the sum of the smallest 4 digit number and the largest 6 digit number.
7. Estimate each of the following using general rule: (a) $730 + 998$ (b) $796 - 314$
 (c) $12,904 + 2,888$
8. Estimate the following products using general rule: (a) 578×161 (b) 5281×3491
9. 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?
10. 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.
11. A vessel has 4 litres and 500 ml of curd. In how many glasses, each of 25 ml capacity, can it be filled?
12. A machine, on an average, manufactures 2,825

screws a day. How many screws did it produce in the month of January 2006?
 13. A merchant had Rs 78,592 with her. She placed an order for purchasing 40 radio sets at Rs 1200 each. How much money will remain with her after the purchase?

OBJECTIVE PROBLEMS:

1. The product of the place values of two 2's in 428721 is
 (A) 4 (B) 40000
 (C) 400000 (D) 40000000
2. $3 \times 10000 + 7 \times 1000 + 9 \times 100 + 0 \times 10 + 4$ is the same as
 (A) 3794 (B) 37940
 (C) 37904 (D) 379409
5. When rounded off to nearest thousands, the number 85642 is
 (A) 85600 (B) 85700
 (C) 85000 (D) 86000
6. The largest 4-digit number, using any one digit twice, from digits 5, 9, 2 and 6 is
 (A) 9652 (B) 9562
 (C) 9659 (D) 9965
7. In Indian System of Numeration, the number 58695376 is written as
 (A) 58,69, 53, 76 (B) 58,695,376
 (C) 5,86,95,376 (D) 586,95,376
8. One million is equal to
 (A) 1 lakh (B) 10 lakh
 (C) 1 crore (D) 10 crore
9. The greatest number which on rounding off to nearest thousands gives 5000, is
 (A) 5001 (B) 5559
 (C) 5999 (D) 5499
10. Keeping the place of 6 in the number 6350947 same, the smallest number obtained by rearranging other digits is
 (A) 6975430 (B) 6043579
 (C) 6034579 (D) 6034759
11. Which of the following numbers in Roman numerals is incorrect?
 (A) LXXX (B) LXX
 (C) LX (D) LLX

12. The largest 5-digit number having three different digits is
 (A) 98978 (B) 99897
 (C) 99987 (D) 98799
13. The smallest 4-digit number having three different digits is
 (A) 1102 (B) 1012 (C) 1020 (D) 1002
14. Number of whole numbers between 38 and 68 is
 (A) 31 (B) 30 (C) 29 (D) 28
15. The product of successor and predecessor of 999 is
 (A) 999000 (B) 998000
 (C) 989000 (D) 1998
16. The product of a non-zero whole number and its successor is always
 (A) an even number (B) an odd number
 (C) a prime number (D) divisible by 3
- Which of the following is not true?
 (A) $(7 + 8) + 9 = 7 + (8 + 9)$
 (B) $(7 \times 8) \times 9 = 7 \times (8 \times 9)$
 (C) $7 + 8 \times 9 = (7 + 8) \times (7 + 9)$
 (D) $7 \times (8 + 9) = (7 \times 8) + (7 \times 9)$
- Which of the following statements is not true?
 (A) Both addition and multiplication are associative for whole numbers.
 (B) Zero is the identity for multiplication of whole numbers.
 (C) Addition and multiplication both are commutative for whole numbers.
 (D) Multiplication is distributive over addition for whole numbers.
- 23.(i) The predecessor of 1 lakh is
 (A) 99000 (B) 99999
 (C) 999999 (D) 100001
- 23.(ii) The successor of 1 million is
 (A) 2 millions (B) 1000001
 (C) 100001 (D) 10001
24. Number of even numbers between 58 and 80 is
 (A) 10 (B) 11 (C) 12 (D) 13
25. Sum of the number of primes between 16 to 80 and 90 to 100 is
 (A) 20 (B) 18 (C) 17 (D) 16
26. Which of the following statements is not true?
 (A) The HCF of two distinct prime numbers is 1
 (B) The HCF of two co prime numbers is 1
 (C) The HCF of two consecutive even numbers is 2
 (D) The HCF of an even and an odd number is even.
27. The number of distinct prime factors of the largest 4-digit number is
 (A) 2 (B) 3 (C) 5 (D) 11
28. The number of distinct prime factors of the smallest 5-digit number is
 (A) 2 (B) 4 (C) 6 (D) 8
29. If the number $7254*98$ is divisible by 22, the digit at * is
 (A) 1 (B) 2 (C) 6 (D) 0
30. The largest number which always divides the sum of any pair of consecutive odd numbers is
 (A) 2 (B) 4 (C) 6 (D) 8
31. A number is divisible by 5 and 6. It may not be divisible by
 (A) 10 (B) 15 (C) 30 (D) 60
34. The number of common prime factors of 75, 60, 105 is
 (A) 2 (B) 3 (C) 4 (D) 5
35. Which of the following pairs is not co-prime?
 (A) 8, 10 (B) 11, 12
 (C) 1, 3 (D) 31, 33
36. Which of the following numbers is divisible by 11?
 (A) 1011011 (B) 1111111
 (C) 2222222 (D) 3333333
37. LCM of 10, 15 and 20 is
 (A) 30 (B) 60 (C) 90 (D) 180
38. LCM of two numbers is 180. Then which of the following is not the HCF of the numbers?
 (A) 45 (B) 60 (C) 75 (D) 90



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