



INTRODUCTION

1. Knowing our numbers helps us in counting objects in large numbers & representing them through numerals.
2. Numbers helps in communicating through suitable number names & to count concrete objects.
3. They help us to say which collection of bigger & arrange them in order.

Rule 2 (Repetition Rule):

When a symbol is represented in succession, the value of the numeral is obtained by rule of **addition**.

Example:



Repetition

$$= 1 + 1 = 2$$

$$\text{or } 2 \times 1 = 2$$

Similarly,

$$\text{III} = 1 + 1 + 1 = 3$$
$$\text{or } 3 \times 1 = 3$$


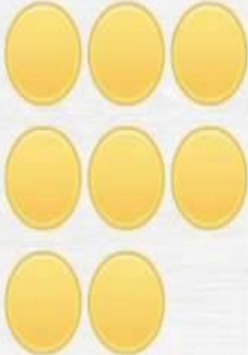


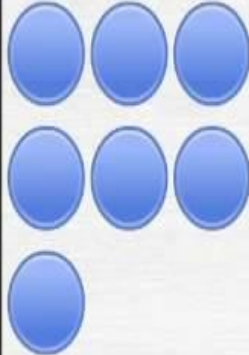
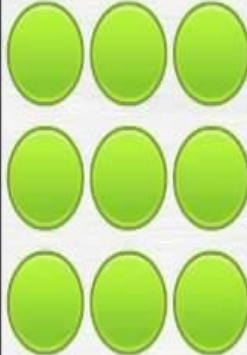
$$\text{XX} = 10 + 10 = 20$$
$$\text{or } 2 \times 10 = 20$$

$$\text{XXX} = 10 + 10 + 10 = 30$$
$$\text{or } 3 \times 10 = 30$$

$$\text{CC} =$$

ROMAN NUMERALS

1	I	11	XI	30	XXX	500	D
2	II	12	XII	40	XL	600	DC
3	III	13	XIII	50	L	700	DCC
4	IV	14	XIV	60	LX	800	DCCC
5	V	15	XV	70	LXX	900	CM
6	VI	16	XVI	80	LXXX	1,000	M
7	VII	17	XVII	90	XC	2,000	MM
8	VIII	18	XVIII	100	C	3,000	MMM
9	IX	19	XIX	200	CC	4,000	IV
10	X	20	XX	300	CCC	5,000	V
				400	CD	10,000	X

Hundred Thousands HTh	Ten Thousands TTh	Thousands Th	Hundreds H	Tens T	Ones O
					
300 000	80 000	6000	300	70	9

 Number
 Place value equation
 Number in words

Use of commas

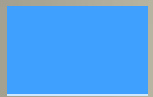
In our Indian System of Numeration we use ones, tens, hundreds, thousands and then lakhs and crores. Commas are used to mark thousands, lakhs and crores.

Crore 1,00,00,000	Ten Lakh 10,00,000	Lakh 1,00,000	Ten- Thousand 10,000	Thousand 1,000	Hundred 100	Ten 10
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Example: 5, 08, 01, 592
 3, 32, 40, 781
 7, 27, 05, 062

Ascending Order

213



230



245



277

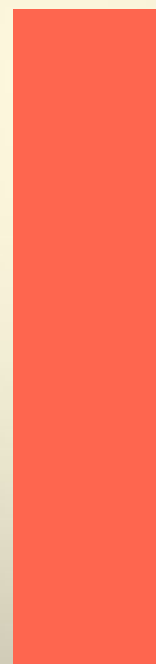


291



Descending Order

291



277



245



230



213



How Many Numbers Can You Make?

Greatest and Smallest Number

- To form greatest number, placed digits in descending order
- To form smallest number, placed digits in ascending order

Example: make the greatest and smallest 4-digit numbers using digits 6, 5, 9, 2

	Th	H	T	O
Greatest number	9	6	5	2
Smallest number	2	5	6	9

Ones place
Value = DIGIT x 1

Tens place
Value = DIGIT x 10

Hundreds place
Value = DIGIT x 100

Thousands place
Value = DIGIT x 1,000

5 , 3 6 0



INTERNATIONAL

Period	Million		Thousand			Ones		
Place	Ten Million	million	Hundred Thousand	Ten Thousand	Thousand	Hundreds	Tens	Ones
	TM	M	HTh	TTh	Th	H	T	O

For example: 96743682 can be placed in place value chart as

TM	M	HTh	TTh	Th	H	T	O
9	6	7	4	3	6	8	2

Large Numbers In Practice

Unit Conversion

1 centimetre = 10 millimetres

1 metre = 100 centimetres = 1000 millimetres

1 kilometre = 1000 metres

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

1 gram = 1000 milligrams

1 kilogram = 1000 grams = 1000000 milligrams

1 litre = 1000 millilitres

1 metre = 100 centimetres

Introducing 10,000

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

$$9 + 1 = 10 \text{ Ten}$$

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

$$99 + 1 = 100 \text{ Hundred}$$

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

$$999 + 1 = 1,000 \text{ Thousand}$$

Greatest 4-digit number + 1 = smallest 5-digit number

$$9,999 + 1 = 10,000 \text{ Ten thousand}$$

ESTIMATION

➤ Rounding a number to the nearest ten

Step 1- See the ones digit of the given number.

Step 2- If ones digit is less than 5, replace ones digit by 0, & keep the other digits as they are.

Step 3- If ones digit is 5, increase tens digit by 1, & replace ones digit by 0.

EXAMPLE:- In 53, the ones digit is $3 < 5$
so, the required rounded number is 50



Rule of Thumb: ≥ 5 is rounded to next bigger numbers...





Round Each Number to the Nearest Ten

8,589 = 8,590

2,569 = 2,570

495 = 500

3,619 = 3,620

6,219 = 6,220

599 = 600

5,089 = 5,090

194 = 190

1,599 = 1,600

9,349 = 9,350

9,659 = 9,660

9,459 = 9,460

2,609 = 2,610

2,429 = 2,430

4,869 = 4,870

7,849 = 7,850

Ex 1.3, 3

Estimate the following products using general rule:

Make four more such examples.

(a) 578×161

$$578 \times 161$$

By general rule

- 578 is rounded off to 600
- 161 is rounded off to 200

$$\begin{aligned}\text{Estimated Product} &= 600 \times 200 \\ &= 6 \times 100 \times 2 \times 100 \\ &= (6 \times 2) \times 10000 \\ &= 120000\end{aligned}$$

\therefore Estimated product = **1,20,000**

SOLVED EXAMPLES

- Eg.1- which is greater: 24576813 or 9897686?

Sol.- A number with more digits is greater
so, $24576813 > 9897686$

- Eg.2- which is smaller: 1003467 or 987965?

Sol.- A number with less digits is smaller
so, $1003467 < 987965$

- Eg.3- Arrange the following in ascending order:

3763214, 18340217, 984671, 3790423

Sol.- $984671 < 3763214 < 3790423 < 18340217$

- Eg.4- Arrange the following in descending order:

63872604, 4965328, 63890503, 5023145

Sol.- $63890503 > 63872604 > 5023145 > 4965328$

CLASS – VI Mathematics (Knowing our Numbers)
Worksheet-01

Choose correct option in questions 1 to 7.

1. Which is greatest?
 - a. 234
 - b. 543
 - c. 657
 - d. 456
2. Which is smallest?
 - a. 4567
 - b. 3456
 - c. 2345
 - d. 1234
3. What is $100 - 1$?
 - a. 9
 - b. 99
 - c. 999
 - d. 9999
4. What is the place value of 5 in '4567'?
 - a. 50
 - b. 5
 - c. 500
 - d. 5000
5. What is the sum of 567 and 843?
 - a. 567
 - b. 843
 - c. 1410
 - d. 1500
6. The greatest four digit number using 3, 0, 5, 4 without repetition is
 - a. 3054
 - b. 4035
 - c. 5403
 - d. 5043
7. 1 crore = _____ million
 - a. 10
 - b. 100
 - c. 1000
 - d. 1

Fill in the blanks:

8. Number name of 45678 is _____.
9. Place value of 4 in '56743' is _____.
10. Expanded form of 6549 is _____.
11. Number name of 756432 in international system of numeration is _____.