

Don

MATHEMATICS

6

FULL YEAR BOOK

Term - I

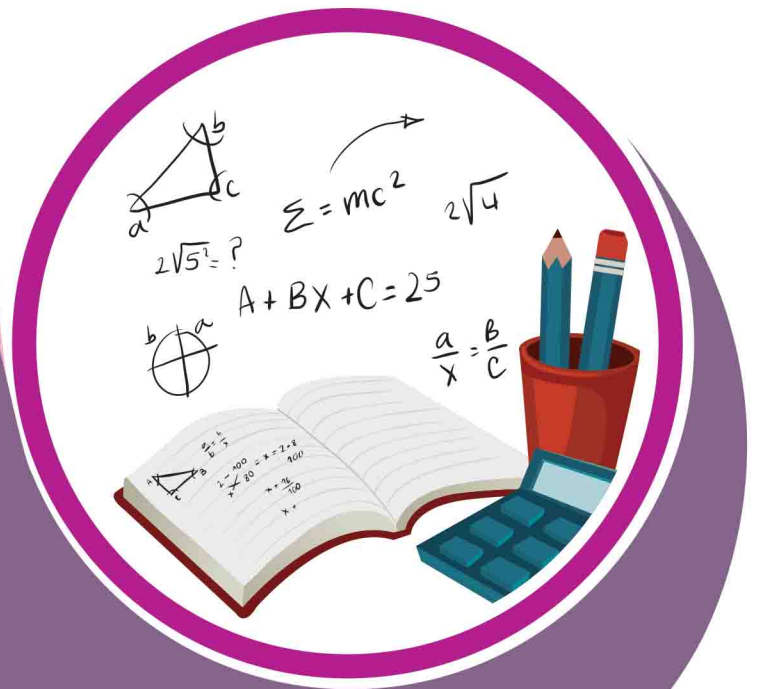
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Term - II

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Term - III

- ❖ As per the Latest Syllabus
- ❖ Points To Remember
- ❖ Textual Questions Solved
- ❖ Enormous Creative Questions
- ❖ Unit Question Papers
- ❖ Model Question Papers

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MATHEMATICS

2024-2025

FULLY REVISED EDITION

6

FULL YEAR BOOK

TERM - I

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TERM - II

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TERM - III



**ALL 3 TERMS
COMBINED**

- ❖ Important Formulae
- ❖ Example Questions Solved
- ❖ Exercise Questions Solved
- ❖ Enormous Solved Creative Questions
- ❖ Unit Question Papers
- ❖ Model Question Papers



Don Publications (P) Ltd.

Don

6th Standard
Mathematics
(3 Terms Combined)

As per the latest syllabus

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PREFACE

Don Mathematics for 6th standard is prepared based on the Tamilnadu Government's latest new syllabus.

In this book, all the three terms are given with full solution. For all the chapters, at the beginning important formulae are given. And all the textual exercises in all chapters are solved. Also enormous additional CREATIVE questions are given with full solution. Unit Question Papers are given for all the chapters. Model Question Papers are given for all the three terms.

We firmly believe that this book will be of immense help to the students to score centum in their exam.

Wishing you all the best.

S.A. Suresh Kumar, MCA., MBA.,
for Don Publications (P) Ltd.

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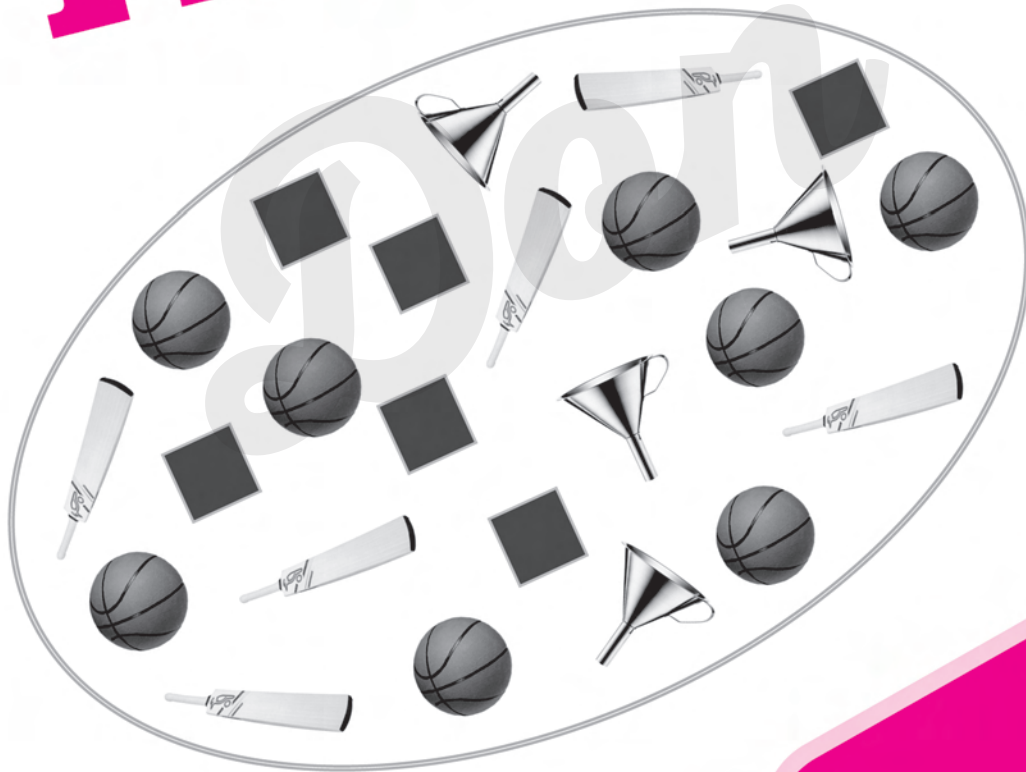
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TERM - I



1

NUMBERS

POINTS TO REMEMBER

Greatest number	Add	Equals	Smallest number	Number Name
Greatest 1 digit number - 9	+ 1	=	Smallest 2 digit number - 10	Ten
Greatest 2 digit number - 99	+ 1	=	Smallest 3 digit number - 100	Hundred
Greatest 3 digit number - 999	+ 1	=	Smallest 4 digit number - 1000	Thousand
Greatest 4 digit number - 9999	+ 1	=	Smallest 5 digit number - 10000	Ten Thousand
Greatest 5 digit number - 99999	+ 1	=	Smallest 6 digit number - 100000	Lakhs
Greatest 6 digit number - 999999	+ 1	=	Smallest 7 digit number - 1000000	Ten Lakhs
Greatest 7 digit number - 9999999	+ 1	=	Smallest 8 digit number - 10000000	Crores

TC	C	TL	L	T Th	Th	H	T	O
Ten Crores	Crores	Ten Lakhs	Lakhs	Ten Thousands	Thousands	Hundreds	Tens	Ones

Indian Number System			International Number System		
Period	Name	Numeral	Name	Numeral	Period
Ones	One	1	One	1	Ones
	Ten	10	Ten	10	
	Hundred	100	Hundred	100	
Thousands	Thousand	1,000	Thousand	1,000	Thousands
	Ten Thousand	10,000	Ten Thousand	10,000	
Lakhs	Lakhs	1,00,000	Hundred Thousand	100,000	Millions
	Ten Lakhs	10,00,000	Million	1,000,000	
Crores	Crores	1,00,00,000	Ten Million	10,000,000	
	Ten Crores	10,00,00,000	Hundred Million	100,000,000	
	Hundred Crores	100,00,00,000	Billion	1,000,000,000	Billions
	Thousand Crores	1000,00,00,000	Ten Billion	10,000,000,000	

☐ A number + 1 = Successor ☐ A number - 1 = Predecessor

☐ Natural numbers $N = \{1, 2, 3, \dots\}$

☐ Whole numbers $W = \{0, 1, 2, 3, \dots\}$

☐ The smallest natural number is 1.

☐ The smallest whole number is 0.

☐ The number 1 has no predecessor in the natural number.

☐ The predecessor of whole number 1 is 0.

☐ Any number multiplied by zero gives zero.

☐ Division by zero is not defined.

☐ < - Less than

☐ > - Greater than

☐ = - Equal to

☐ A famous mathematician Thomas Harriot, was the first to use "<" and ">" symbols.

☐ 10^{100} is called googol.

☐ $10^{\text{googol}} = (10^{10})^{100}$ is called googolplex.

Expansion of BIDMAS

B	Bracket ()
I	Indices
D	Division ÷ or /
M	Multiplication ×
A	Addition +
S	Subtraction -

..... Try these



- The Successor of 4576 is _____. *Ans : 4577*
- The Predecessor of 8970 is _____. *Ans : 8969*
- $999 + 1 =$ _____. *Ans : 1000*
- $10000 - 1 =$ _____. *Ans : 9999*
- The predecessor of the smallest 5 digit number is _____. *Ans : 9999*
- Give 3 examples where the number of things counted by you would be a 5 digit number or more. *Ans : leaves, sand, rice*
- Complete the table.

Number	TC	C	TL	L	T Th	Th	H	T	O	Number Name
1670						1	6	7	0	One thousand six hundred seventy
47684					4	7	6	8	4	Forty seven thousand six hundred eighty four
120001				1	2	0	0	0	1	One lakh twenty thousand one
7800500			7	8	0	0	5	0	0	Seventy eight lakh five hundred
53409098		5	3	4	0	9	0	9	8	Five crore thirty four thousand nine thousand ninety eight
198765912	1	9	8	7	6	5	9	1	2	Nineteen crore eighty seven lakh sixty five thousand nine hundred twelve

- Identify the incorrect places of comma and rewrite correctly:

Solution:

1) Indian System :

Correct form of 56,12,34,0,1,5 = 56, 12, 34, 015

Correct form of 9,90,03,2245 = 99, 00, 32, 245

2) International System :

Correct form of 7,5613,4534 = 756, 134, 534

Correct form of 30,30,304,040 = 3,030,304, 040

- Expand the following numbers:

i) 2304567

Expanded form : $2 \times 1000000 + 3 \times 100000 + 0 \times 10000 + 4 \times 1000 + 5 \times 100 + 6 \times 10 + 7 \times 1$

ii) 4509888

Expanded form : $4 \times 1000000 + 5 \times 100000 + 0 \times 10000 + 9 \times 1000 + 8 \times 100 + 8 \times 10 + 8 \times 1$

- There are ten lakh people in a district. What would be the population of 10 such districts?

Solution: People in one district = 10,00,000
Population in 10 districts = $10 \times 10,00,000$
= 1,00,00,000.

- The Government spends rupees 2 crores for education in a particular district every month. What would be its expenditure over 10 months?

Solution: Money spent for education in 1 month
= 2 crores
Money spent for education in 10 months
= 10×2 crores = 20 crores

iii) 9553556

Expanded form : $9 \times 1000000 + 5 \times 100000 + 5 \times 10000 + 3 \times 1000 + 5 \times 100 + 5 \times 10 + 6 \times 1$

- Find the place value of underlined digits:

(i) 38, 41, 567

The place value of 8 = $8 \times 100000 = 800000$
(Eight Lakh)

(ii) 94, 43, 810

The place value of 4 = $4 \times 10000 = 40000$
(Forty Thousand)

- Write down the numerals and place value of 5 in the numbers represented by the following number names:

Solution:

(i) Forty Seven Lakhs Thirty Eight Thousand Five Hundred Sixty One.

The place value of 5 = $5 \times 100 = 500$
(Five hundred)

(ii) **Nine Crores Eighty Two Lakhs Fifty Thousand Two Hundred and Forty One.**

The place value of 5 = $5 \times 10000 = 50000$
(Fifty thousand)

(iii) **Nineteen Crores Fifty Seven Lakhs Sixty Thousand Three Hundred Seventy.**

The place value of 5 = 5×1000000
= 50,00,00 (Fifty lakh)

14. How many hundreds are there in 10 lakhs?

Solution: $\frac{10 \text{ lakhs}}{\text{hundred}} = \frac{1000000}{100} = 10000$;
10 lakhs = 10000 hundreds

15. How many lakhs are there in a million?

Solution: $\frac{1 \text{ million}}{1 \text{ lakh}} = \frac{1,000,000}{1,00,000} = 10$;
1 million = 10 lakhs

16. 10 lakhs candidates write the Public Exam this year. If each exam centre is allotted with 1000 candidates. How many exam centres would be needed?

Solution: Total number of candidates = 10 lakhs
Number of candidates allotted for 1 centre = 1000
Number of centre needed =
$$= \frac{10 \text{ lakhs}}{1000} = \frac{1000000}{1000} = 1000$$

**EXAMPLE : 1.1**

The distance between the Sun and the Earth is about 92900000 miles. Read and write the number in the Indian method.

Solution:

Crores	Ten Lakhs	Lakhs	Ten thousands	Thou-sands	Hun-dreds	Tens	Ones
9	2	9	0	0	0	0	0

i.e., 9,29,00,000.

This is read as Nine Crore Twenty Nine Lakhs.

**EXAMPLE : 1.2**

The distance between the Sun and the Earth is about 92900000 miles. Read and write the number in the International method.

Solution:

Ten Millions	Millions	Hundred thousands	Ten thou-sands	Thou-sands	Hun-dreds	Tens	Ones
9	2	9	0	0	0	0	0

i.e., 92,900,000.

This is read as Ninety Two Million Nine Hundred Thousand.

**EXAMPLE : 1.3**

How many thousands are there in 1 lakh?

Solution:

Place Value	L	T Th	Th	H	T	O	
1 lakh	1	0	0	0	0	0	$\frac{1 \text{ lakh}}{1 \text{ thousand}}$
1 thousand			1	0	0	0	$= \frac{100000}{100} = 100$

Lakh is 2 places to the left of thousand.

So, it is $10 \times 10 = 100$ times thousand.

Hence, 1 lakh = 100 thousand.

**EXAMPLE : 1.4**

How many thousands are there in 1 million?

Solution:

Place Value	M	H Th	T Th	Th	H	T	O	
1 million	1	0	0	0	0	0	0	$\frac{1 \text{ million}}{1 \text{ thousand}}$
1 thousand				1	0	0	0	$\frac{1000000}{1000} = 1000$

Million is 3 places to the left of thousand.

1000 Thousands ($1000 \times 1000 = 1000000$) are in a million.

**EXERCISE : 1.1****1. Fill in the blanks:**

(i) The smallest 7 digit number is _____.

Ans : 10,00,000

(ii) The largest 8 digit number is _____.

Ans : 9,99,99,999

(iii) The place value of 5 in 7005380 is _____.

Ans : 5000 (Five Thousand)

- (iv) The expanded form of the number 76,70,905 is _____.

Ans : 7000000 + 600000 + 70000 + 900 + 5

2. Say True (OR) False:

- (i) Successor of a one digit number is always a one digit number. *Ans : False*
- (ii) Predecessor of a 3-digit number is always a 3 or 4-digit number. *Ans : False*
- (iii) In the Indian System of Numeration the number 67999037 is written as 6,79,99,037. *Ans : True*
- (iv) $88888 = 8 \times 10000 + 8 \times 100 + 8 \times 10 + 8 \times 1$. *Ans : False*

3. How many ten thousands are there in the smallest 6 digit number?

Solution: Smallest 6 digit number = 100000.

$$\frac{\text{6 digit number}}{\text{ten thousand}} = \frac{100000}{10000} = 10$$

There are 10 ten thousands in the smallest 6 digit number.

4. Observe the commas and write down the place value of 7.

- (i) 56,74,56,345 (ii) 567,456,345

Solution:

- i) The place value of 7 in 56,74,56,345
 $= 7 \times 10,00,000 = 7000000$ (Seventy lakh)
- ii) The place value of 7 in 567,456,345
 $= 7 \times 1,00,000 = 7,00,000$ (Seven Million)

5. Write the following numbers in the International System by using commas.

- (i) 347056 (ii) 7345671
 (iii) 634567105 (iv) 1234567890

Solution:

- (i) 347,056 = Three hundred forty seven thousand fifty six.
- (ii) 7,345,671 = Seven million three hundred forty five thousand six hundred seventy one.
- (iii) 634,567,105 = Six hundred thirty four million five hundred sixty seven thousand one hundred five.

- (iv) 1,234,567,890 = One billion two hundred thirty four million five hundred sixty seven thousand eight hundred ninety.

6. Write the largest six digit number and put commas in the Indian and the International Systems.

Solution: Indian system :

Largest six digit number = 9,99,999.

International system :

Largest six digit number = 999,999.

7. Write the number names of the following numerals in the Indian System.

- (i) 75,32,105 (ii) 9,75,63,453

Solution:

- (i) 75,32,105 - Seventy five lakh thirty two thousand one hundred five.
- (ii) 9,75,63,453 - Nine crore seventy five lakh sixtythree thousand four hundred fifty three.

8. Write the number names in words using the International System.

- (i) 345,678 (ii) 8,343,710 (iii) 103,456,789

Solution:

- (i) 345,678 - Three hundred forty five thousand six hundred seventy eight.
- (ii) 8,343,710 - Eight million three hundred forty three thousand seven hundred ten.
- (iii) 103,456,789 - One hundred three million four hundred fifty six thousand seven hundred eighty nine

9. Write the number name in numerals.

- (i) Two crores thirty lakhs fifty one thousand nine hundred eighty.
- (ii) Sixty six millions three hundred forty five thousand twenty seven.
- (iii) Seven hundred eighty nine million, two hundred thirteen thousand four hundred fifty six.

Solution: (i) 2,30,51,980. (ii) 66,345,027
 (iii) 789,213,456.

10. Tamil Nadu has about twenty six thousand three hundred forty five square kilometre of Forest land. Write the number mentioned in the statement in Indian System and International system.

Solution: Forest land of Tamil nadu = 26,345 sq.km.

11. The number of employees in the Indian Railways is about 10 lakh. Write this in the International System of numeration.

Solution: Employees in Indian Railways = 1,000,000
(One million)



OBJECTIVE TYPE QUESTIONS

12. The successor of 10 million is

- (a) 1000001 (b) 10000001
(c) 9999999 (d) 100001

Ans : (b) 10000001

13. The difference between the successor and the predecessor of 99999 is

- (a) 90000 (b) 1
(c) 2 (d) 99001

Ans : (c) 2

14. 1 billion is equal to

- (a) 100 crore (b) 100 million
(c) 100 lakh (d) 10000 lakh

Ans : (a) 100 crore

15. The expanded form of the number 6,70,905 is

- (a) $6 \times 10000 + 7 \times 1000 + 9 \times 100 + 5 \times 1$
(b) $6 \times 10000 + 7 \times 1000 + 0 \times 100 + 9 \times 100 + 0 \times 10 + 5 \times 1$
(c) $6 \times 1000000 + 7 \times 10000 + 0 \times 1000 + 9 \times 100 + 0 \times 10 + 5 \times 1$
(d) $6 \times 100000 + 7 \times 10000 + 0 \times 1000 + 9 \times 100 + 0 \times 10 + 5 \times 1$

Ans : (d) $6 \times 100000 + 7 \times 10000 + 0 \times 1000 + 9 \times 100 + 0 \times 10 + 5 \times 1$

..... Try these



1. Write the numbers in the ascending order.

688, 9, 23005, 50, 7500

Ascending order:

9, 50, 688, 7500, 23005

2. Find the least and the greatest among the numbers.

478, 98, 6348, 3, 6007, 50935

Least number = 3

Greatest number = 50, 935

3. Compare the two numbers and put <, > and = using place value chart:

15475 > 3214

73204 < 973561

8975430 = 8975430

1899799 = 1899799

4. The area in sq. km. of 4 Indian states are given below:

States	Area (Sq.km)
Tamil Nadu	1,30,058
Kerala	38,863
Karnataka	1,91,791
Andhra Pradesh	1,62,968

List the areas of the above 4 Indian States in the ascending and the descending order.

Ascending order:

Ans : $38,863 < 1,30,058 < 1,62,968 < 1,91,791$

Descending order:

Ans : $1,91,791 > 1,62,968 > 1,30,058 > 38,863$.

5. Using the four digits 9, 4, 8 and 5 we need to make different 4-digit numbers in such a way that the digits are not repeated. In the same way, try placing the digit 4 in thousand place and get six different 4-digit numbers. Also make different 4-digit numbers by fixing 8 and 5 in the thousands place.

Ans :

Th	H	T	O
4	5	8	9
4	5	9	8
4	8	5	9
4	8	9	5
4	9	5	8
4	9	8	5

Th	H	T	O
8	4	5	9
8	4	9	5
8	5	4	9
8	5	9	4
8	9	4	5
8	9	5	4

Th	H	T	O
5	4	8	9
5	4	9	8
5	8	4	9
5	8	9	4
5	9	4	8
5	9	8	4

6. Make different 4-digit numbers by exchanging the digits and check every time whether the number made is small or big.:

Let the 4 digit number be 5273

If the digits 7 and 3 are exchanged

5273 becomes 5237 and $5237 < 5273$

If the digits 2 and 7 are exchanged

5273 becomes 5723 and $5723 > 5273$

If the digits 5 and 2 are exchanged

5273 becomes 2573 and $2573 < 5273$



EXAMPLE : 1.5

Compare 59283746 and 59283748 using place value chart.

Solution:

Step 1: Number of digits in the two given numbers are equal.

Step 2: Compare the place values using the place value chart.

Place Value	C	T L	L	T Th	Th	H	T	O
First Number	5	9	2	8	3	7	4	6
Second Number	5	9	2	8	3	7	4	8

Compare the digits of the two numbers from the highest place value as noted below.

5 = 5	9 = 9	2 = 2	8 = 8	3 = 3	7 = 7	4 = 4	6 < 8
-------	-------	-------	-------	-------	-------	-------	-------

Here only the digits in the ones place are not equal and $6 < 8$.

Hence, $59283746 < 59283748$.



EXERCISE : 1.2

1. Fill in the blanks with > or < or = :

(i) 48792 _____ 48972. *Ans : <*

(ii) 1248654 _____ 1246854. *Ans : >*

(iii) 658794 _____ 658794. *Ans : =*

2. Say True (OR) False:

(i) The difference between the smallest number of seven digits and the largest number of six digits is 10. *Ans : False*

(ii) The largest 4-digit number formed by the digits 8, 6, 0, 9 using each digit only once is 9086. *Ans : False*

(iii) The total number of 4 digit numbers is 9000. *Ans : True*

3. Of the numbers 1386787215, 137698890, 86720560, which one is the largest? Which one is the smallest ?

Solution: The greatest number is 1386787215
The smallest number is 86720560

4. Arrange the following numbers in the descending order: 128435, 10835, 21354, 6348, 25840

Solution: Descending order:

$128435 > 25840 > 21354 > 10835 > 6348$.

5. Write any eight digit number with 6 in ten lakhs place and 9 in ten thousandth place.

Solution: 76095321, 86593214 (Similarly we can write many numbers)

6. Rajan writes a 3-digit number, using the digits 4, 7 and 9. What are the possible numbers he can write?

Solution: Digits: 4, 7, 9. Possible numbers Rajan can write = 479, 497, 749, 794, 947, 974.

7. The password to access my ATM card includes the digits 9,4,6 and 8. It is the smallest 4 digit even number. Find the password of my ATM Card.

Solution: Digits of the password of ATM card = 9, 4, 6, 8. Smallest 4 digit = 4698

8. Postal Index Number consists of six digits. The first three digits are 6, 3 and 1. Make the largest and the smallest Postal Index Number by using the digits 0, 3 and 6, each only once.

Solution: The first three digits of Postal Index Number = 6, 3, 1.
 Next three digits = 0, 3, 6.
 The smallest Postal Index Number = 631036
 The largest Postal Index Number = 631630

9. The heights (in metres) of the mountains in Tamil Nadu are as follows:

Sl. No	Mountains	Height (in metres)
1	Doddabetta	2637
2	Mahendragiri	1647
3	Aanaimudi	2695
4	Velliangiri	1778

- (i) Which is the highest mountain listed above?

Ans : Aanaimudi

- (ii) Order the mountains from the highest to the lowest.

Ans : Aanaimudi > Doddabetta > Velliangiri > Mahendragiri

- (iii) What is the difference between the heights of the mountains Aanaimudi and Mahendragiri?

Solution: Height of Aanaimudi = 2695
 Height of Mahendragiri = 1647

$$= \underline{1048}$$

The difference between the heights of Aanaimudi and Mahendragiri = 1048 m.



OBJECTIVE TYPE QUESTIONS

10. Which list of numbers is in order from the smallest to the largest?

- (a) 1468, 1486, 1484 (b) 2345, 2435, 2235
 (c) 134205, 134208, 154203

- (d) 383553, 383548, 383642

Ans : (c) 134205, 134208, 154203

11. The Arabian Sea has an area of 1491000 square miles. This area lies between which two numbers?

- (a) 1489000 and 1492540
 (b) 1489000 and 1490540
 (c) 1490000 and 1490100
 (d) 1480000 and 1490000

Ans : (a) 1489000 and 1492540

12. The chart below shows the number of newspapers sold as per Indian Readership Survey in 2018. Which could be the missing number in the table?

Name of the News paper	Ranking	Sold (in Lakh)
A	1	70
B	2	50
C	3	?
D	4	10

- (a) 8 (b) 52 (c) 77 (d) 26

Ans : (d) 26



EXAMPLE : 1.6

1. In an exhibition, the number of tickets sold on the first, second, third and fourth days are 1,10,000, 75,060, 25,700 and 30,606 respectively. Find the total number of tickets sold on all the 4 days.

Solution:

Number of tickets sold on the 1st day = 1,10,000
 Number of tickets sold on the 2nd day = 75,060
 Number of tickets sold on the 3rd day = 25,700
 Number of tickets sold on the 4th day = 30,606
 Adding all the above, the total number of tickets sold on all the 4 days = 2,41,366



EXAMPLE : 1.7

- In a year, a whole-sale paper firm sold 6,25,600 notebooks out of 7,50,000 note books. Find the number of notebooks left unsold.

Solution:

$$\begin{aligned}
 \text{Number of notebooks in the store} &= 7,50,000 \\
 \text{Number of notebooks sold} &= 6,25,600 \\
 \text{Number of notebooks unsold} &= \underline{1,24,400}
 \end{aligned}$$

**EXAMPLE : 1.8**

In a mobile store, the number of mobiles sold during a month is 1250. Assuming that the same number of mobiles are sold every month, find the number of mobiles sold in 2 years.

Solution:

$$\begin{aligned}
 \text{Number of mobiles sold in 1 month} &= 1250 \\
 1 \text{ year} &= 12 \text{ months} \\
 2 \text{ years} &= 2 \times 12 \\
 &= 24 \text{ months} \\
 \text{Number of mobiles sold in 24 months} &= 1250 \times 24 \\
 &= 30,000 \\
 \text{Number of mobiles sold in 2 years} &= 30,000
 \end{aligned}$$

**EXAMPLE : 1.9**

If ₹ 10,00,000 was distributed in a Government scheme to 500 women in the Self Help Groups, then find the amount given to each woman.

Solution:

$$\begin{aligned}
 \text{Amount to be given to 500 women} &= ₹ 10,00,000 \\
 \text{Amount given to each woman} &= 10,00,000 \div 500 \\
 &= ₹ 2000
 \end{aligned}$$

Each woman in the Self Help Group was given ₹ 2000.

**EXAMPLE : 1.10**

Simplify: $24 + 2 \times 8 \div 2 + 1$

Solution:

$$\begin{aligned}
 24 + 2 \times 8 \div 2 + 1 &\text{ (given question)} \\
 &= 24 + 2 \times 4 + 1 \quad (\div \text{ operation, completed first}) \\
 &= 24 + 8 + 1 \quad (\times \text{ operation, completed second}) \\
 &= 32 + 1 \quad (+ \text{ operation, completed third}) \\
 &= 31 \quad (- \text{ operation, completed last})
 \end{aligned}$$

**EXAMPLE : 1.11**

Simplify: $20 + [8 \times 2 + \{(6 \times 3) - (10 \div 5)\}]$

*Solution:***Given,**

$$\begin{aligned}
 &= 20 + [8 \times 2 + \{(6 \times 3) - (10 \div 5)\}] \\
 &= 20 + [8 \times 2 + \{(6 \times 3) - 2\}] \quad (\div \text{ completed first}) \\
 &= 20 + [8 \times 2 + \{18 - 2\}] \quad (\times \text{ completed second}) \\
 &= 20 + [8 \times 2 + 16] \quad (\{ \} \text{ completed third}) \\
 &= 20 + [16 + 16] \quad (\times \text{ completed fourth}) \\
 &= 20 + 32 \quad ([] \text{ operation completed fifth}) \\
 &= 52 \quad (+ \text{ completed last})
 \end{aligned}$$

**EXERCISE : 1.3****1. Fill in the blanks:**

- (i) If Arulmozhi saves ₹ 12 per day, then she saves ₹ _____ in 30 days. *Ans : 360*
- (ii) If a person 'A' earns ₹ 1800 in 12 days, then he earns ₹ _____ in a day. *Ans : 150*
- (iii) $45 \div (7 + 8) - 2 =$ _____. *Ans : 1*

2. Say True or False:

- (i) $3 + 9 \times 8 = 96$ *Ans : False*
- (ii) $7 \times 20 - 4 = 136$ *Ans : True*
- (iii) $40 + (56 - 6) \div 2 = 45$ *Ans : False*

3. The number of people who visited the Public Library for the past 5 months were 1200, 2000, 2450, 3060 and 3200 respectively. How many people visited the library in the last 5 months?*Solution:*

$$\begin{aligned}
 \text{People visited the library in 1}^{\text{st}} \text{ month} &= 1,200 \\
 \text{People visited the library in 2}^{\text{nd}} \text{ month} &= 2,000 \\
 \text{People visited the library in 3}^{\text{rd}} \text{ month} &= 2,450 \\
 \text{People visited the library in 4}^{\text{th}} \text{ month} &= 3,060 \\
 \text{People visited the library in 5}^{\text{th}} \text{ month} &= 3,200 \\
 \text{Total} &= \underline{11,910} \\
 \text{People visited the library in five months} &= 11,910.
 \end{aligned}$$

4. Cheran had a bank savings of ₹ 7,50,250. He withdrew ₹ 5,34,500 for educational purpose. Find the balance amount in his account.

Solution:

$$\begin{aligned}\text{Savings of Cheran} &= ₹ 7,50,250 \\ \text{Money withdraw for education} &= ₹ 5,34,500 \\ &= ₹ 2,15,750\end{aligned}$$

Balance amount in his account = ₹ 2,15,750

5. In a cycle factory, 1560 bicycles were manufactured every day. Find the number of bicycles manufactured in 25 days.

Solution:

$$\begin{aligned}\text{Bicycle manufactured in 1 day} &= 1560 \\ \text{Bicycle manufactured in 25 days} &= 1560 \times 25 \\ &= 39,000 \\ \text{Bicycle manufactured in 25 days} &= 39,000\end{aligned}$$

6. ₹ 62,500 was equally distributed as a New Year bonus for 25 employees of a company. How much did each receive?

Solution:

$$\begin{aligned}\text{Bonus received by 25 employees} &= ₹ 62,500 \\ \text{Bonus received by one employee} &= \frac{62,500}{25} \\ &= 2,500 \\ \text{Bonus received by one employee} &= ₹ 2,500\end{aligned}$$

7. Simplify the following numerical expressions:

- i) $(10 + 17) \div 3$ ii) $12 - [3 - \{6 - (5 - 1)\}]$
iii) $100 + 8 \div 2 + \{(3 \times 2) - 6 \div 2\}$

Solution:

- i) $(10 + 17) \div 3$ (given question)
 $= 27 \div 3$ (() operation, completed first)
 $= 9$ (÷ operation, completed last)
- ii) $12 - [3 - \{6 - (5 - 1)\}]$ (given question)
 $= 12 - [3 - \{6 - 4\}]$ (() completed first)
 $= 12 - [3 - 2]$ ({ } completed second)
 $= 12 - 1$ ([] completed third)
 $= 11$ (− operation, completed last)
- iii) $100 + 8 \div 2 + \{(3 \times 2) - 6 \div 2\}$ (given question)
 $= 100 + 8 \div 2 + \{(6 - 6 \div 2)\}$ (() completed first)
 $= 100 + 8 \div 2 + \{6 - 3\}$
 $(\div \text{ operation, completed second})$

$$\begin{aligned}&= 100 + 8 \div 2 + 3 \text{ (− operation, completed third)} \\ &= 100 + 4 + 3 \text{ (÷ operation, completed fourth)} \\ &= 107 \text{ (+ operation, completed last)}\end{aligned}$$



OBJECTIVE TYPE QUESTIONS

8. The value of $3 + 5 - 7 \times 1$ is

(a) 5 (b) 7 (c) 8 (d) 1 *Ans :* (d) 1

9. The value of $24 \div \{8 - (3 \times 2)\}$ is

(a) 0 (b) 12 (c) 3 (d) 4 *Ans :* (b) 12

10. Use BIDMAS and put the correct operator in the box. $2 \square 6 - 12 \div (4 + 2) = 10$

(a) + (b) − (c) × (d) ÷ *Ans :* (c) ×

Try these



1. Round off the following numbers to the nearest ten.

(i) 57 (ii) 189 (iii) 3,956 (iv) 57,312

Ans : (i) 57 is round off to the nearest ten as 60.

(ii) 189 is round off to the nearest ten as 190.

(iii) 3,956 is round off to the nearest ten as 3960.

(iv) 57,312 is round off to the nearest ten as 57310.

2. Round off the following numbers to the nearest ten, hundred and thousand.

(i) 9,34,678 (ii) 73,43,489

(iii) 17,98,45,673

Solution:

(i) 9,34,678 is round off to the nearest ten as 9,34,680

9,34,678 is round off to the nearest hundred as 9,34,700

9,34,678 is round off to the nearest thousand as 9,35,000

(ii) 73,43,489 is round off to the nearest ten as 73,43,490

73,43,489 is round off to the nearest hundred as 73,43,500

73,43,489 is round off to the nearest thousand as 73,43,000

- (iii) 17,98,45,673 is round off to the nearest ten as 17,98,45,670

17,98,45,673 is round off to the nearest hundred as 17,98,45,700

17,98,45,673 is round off to the nearest thousand as 17,98,46,000

3. The tallest mountain in the world Mount Everest, located in Nepal is 8,848 m high. Its height can be rounded to the nearest thousand as _____.

Ans : 9000 m

4. Estimate the sum and the difference rounding off to nearest thousands: 8457 and 4573.

Solution: Estimated value of 8457 = 8400
 Estimated value of 4573 = 4600
 Estimated value of sum = 13000
 Estimated value of difference = 3800

5. Estimate the product : 39×53

Solution: Estimate value of 39 = 40
 Estimate value of 53 = 50
 Estimate value of $39 \times 53 = 40 \times 50 = 2000$

6. Estimate the quotient : $6845 \div 395$

Solution: Estimate value of 395 = 400
 Estimate value of 6845 = 6800
 Estimate value of $6845 \div 395 = 6800 \div 400 = 17$



EXAMPLE : 1.12

Round off the number 8,436 to the nearest hundreds.

Step	To do	8,436 to hundreds
Step 1	Find the digit in hundreds place	8,436
Step 2	Look at the digit to its right	8,436
Step 3	If this digit is 5 or greater, add 1 to it. If it is less than 5, leave it unchanged	8,436 ($3 < 5$) Leave 4 unchanged
Step 4	Change the digits to the right of 4 to zeros	8,400



EXAMPLE : 1.13

Round off the number 78,794 to the nearest thousands.

Step	To do	78,794 to thousands
Step 1	Find the digit in thousands place	78,794
Step 2	Look at the digit to its right	78,794
Step 3	If this digit is 5 or greater, add 1 to it. If it is less than 5, leave it unchanged	78,794 ($7 > 5$) Add 1 to 8 and Change 8 to 9
Step 4	Change the digits to the right of 79 to zeros	79,000



EXAMPLE : 1.14

The amount deposited by a Gold merchant in his bank account in the month of January is ₹ 17,53,740 and in the month of February is ₹ 15,34,300. Estimate the sum and difference of the amount deposited to the nearest thousand.

Solution:

Rounding off to the nearest thousand is as follows.

	Actual Amount	Estimated Amount
Amount deposited in January	₹ 17,53,740	₹ 17,54,000
Amount deposited in February	₹ 15,34,300	₹ 15,34,000
Total amount deposited	₹ 32,88,040	₹ 32,88,000
Difference between the amounts deposited	₹ 2,19,440	₹ 2,20,000



EXAMPLE : 1.15

If the cost of a copy of Thirukkural book is ₹ 188, then find the estimated cost of 31 copies of such books. (Note : Find the rounded values of 188 and 31 and then find the result)

Solution:

Here, 188 is nearer to 200 and 31 is nearer to 30.

The exact cost of 31 copies is $188 \times 31 = ₹ 5,828$ whereas,

The estimated cost of 31 copies = $200 \times 30 = ₹ 6,000$

Therefore, the estimated cost of 31 copies of Thirukkural books is ₹ 6,000.

**EXAMPLE : 1.16**

Find the estimated value of $5598 \div 689$.

Solution:

5600 is nearest to 5598

700 is nearest to 689

Actual value

$$\begin{array}{r} 8 \\ 689 \overline{) 5598} \\ \underline{5512} \\ 86 \end{array}$$

Estimated value

$$\begin{array}{r} 8 \\ 700 \overline{) 5600} \\ \underline{5600} \\ 0 \end{array}$$

Hence, the estimated value of $5598 \div 689$ is 8.

**EXERCISE : 1.4****1. Fill in the blanks:**

- (i) The nearest 100 of 843 is _____. *Ans : 800*
 (ii) The nearest 1000 of 756 is _____. *Ans : 1,000*
 (iii) The nearest 10000 of 85654 is _____. *Ans : 90,000*

2. Say True or False:

- (i) 8567 is rounded off as 8600 to the nearest 10 *Ans : False*
 (ii) 139 is rounded off as 100 to the nearest 100 *Ans : True*
 (iii) 1,70,51,972 is rounded off as 1,70,00,000 to the nearest lakh *Ans : False*

3. Round off the following to the given nearest place:

- (i) 4,065; hundred (ii) 44,555; thousand
 (iii) 86,943; ten thousand (iv) 50,81,739; lakh
 (v) 33,75,98,482; ten crore

Solution:

- i) 4,065 is rounded off to the nearest hundred as 4100
 ii) 44,555 is rounded off to the nearest thousand as 45000
 iii) 86,943 is rounded off to the nearest ten thousand as 90,000.
 iv) 50,81,739 is rounded off to the nearest lakh as 51,00,000.
 v) 33,75,98,482 is rounded off to the nearest ten crore as 30,00,00,000.

4. Estimate the sum of 157826 and 32469 rounded off to the nearest ten thousand.

Solution:

$$\begin{array}{rcl} \text{Estimated value of } 1,57,826 & = & 1,60,000 \\ \text{Estimated value of } 32,469 & = & 30,000 \\ \hline \text{Sum} & = & 1,90,000 \end{array}$$

5. Estimate by rounding off each number to the nearest hundred.

- (i) $8074 + 4178$ (ii) $1768977 + 130589$

Solution:

- (i) $8074 + 4178$

Estimate value of 8074 nearest hundred = 8,100

Estimate value of 4178 nearest hundred = 4,200

$$\text{Sum} = \underline{12,300}$$

Solution:

- (ii) $1768977 + 130589$

Estimate value of 1768977 nearest hundred = 1769000

Estimate value of 130589 nearest hundred = 130600

$$\text{Sum} = \underline{1899600}$$

6. The population of a city was 43,43,645 in the year 2001 and 46,81,087 in the year 2011. Estimate the increase in population by rounding off to the nearest thousand.

Solution: Population in 2011 = 46,81,087

Population in 2001 = 43,43,645

Increase in population = 3,37,442

Estimated value of increase in population to the nearest hundred = 3, 37,000.

**OBJECTIVE TYPE QUESTIONS****7. The number which on rounding off to the nearest thousand gives 11000 is**

- (a) 10345 (b) 10855
 (c) 11799 (d) 10056 *Ans : (b) 10855*

8. The estimation to the nearest hundred of 76812 is

- (a) 77000 (b) 76000
 (c) 76800 (d) 76900 *Ans : (c) 76800*

9. The number 9785764 is rounded off to the nearest lakh as

- (a) 9800000 (b) 9786000
 (c) 9795600 (d) 9795000

Ans : (a) 9800000

10. The estimated difference of 167826 and 2765 rounded off to the nearest thousand is

- (a) 180000 (b) 165000
(c) 140000 (d) 155000 *Ans : (b) 165000*

..... **Try these**



1. Find the value of $6 + 3 + 8$ and $3 + 6 + 8$

- i) Are they same?
ii) Is there any other way of arranging these three numbers?

Solution: i) They are same.

- ii) We can rearrange these numbers as
 $8 + 3 + 6 = 17$, $8 + 6 + 3 = 17$,
 $6 + 8 + 3 = 17$, $3 + 8 + 6 = 17$

2. Find the value of $5 \times 2 \times 6$ and $2 \times 5 \times 6$
i) Are they same?

- ii) Is there any other way of rearranging these three numbers?

Solution: i) They are same.

- ii) We can rearrange these numbers as
 $6 \times 2 \times 5 = 60$, $6 \times 5 \times 2 = 60$,
 $5 \times 6 \times 2 = 60$, $2 \times 6 \times 5 = 60$.

3. Is $7 - 5$, the same as $5 - 7$? Why?

Solution: $7 - 5 = 2$, $5 - 7 \neq 2$, $7 - 5 \neq 5 - 7$

4. What is the value of $(15 - 8) - 6$? Is it the same as $15 - (8 - 6)$? Why?

Solution: $(15 - 8) - 6 = 7 - 6 = 1$
 $15 - (8 - 6) = 15 - 2 = 13$
 $\therefore (15 - 8) - 6 \neq 15 - (8 - 6)$

5. What is $15 \div 5$? Is it the same as $5 \div 15$? Why?

Solution: $15 \div 5 = 3$
 $5 \div 15 = \frac{5}{15} = \frac{1}{3}$ $\therefore 15 \div 5 \neq 5 \div 15$

6. What is the value of $(100 \div 10) \div 5$? Is it the same as $100 \div (10 \div 5)$? Why?

Solution: $(100 \div 10) \div 5 = 10 \div 5 = 2$
 $100 \div (10 \div 5) = 100 \div 2 = 50$
 $\therefore (100 \div 10) \div 5 \neq 100 \div (10 \div 5)$

7. Use atleast three different pairs of whole numbers to verify that subtraction is not commutative.

Solution: $5 - 2 = 3$ but $2 - 5 \neq 3$
 $9 - 4 = 5$ but $4 - 9 \neq 5$
 $3 - 1 = 2$ but $1 - 3 \neq 2$

8. Is $10 \div 5$, the same as $5 \div 10$? Justify it by taking two more combinations of numbers.

Solution: $\frac{10}{5} = 2$; $\frac{5}{10} = \frac{1}{2}$

$\therefore 10 \div 5 \neq 5 \div 10$

Similarly $\frac{8}{2} = 4$, $\frac{2}{8} = \frac{1}{4}$

$\therefore \frac{8}{2} \neq \frac{2}{8}$

Similarly $\frac{20}{4} = 5$, $\frac{4}{20} = \frac{1}{5}$

$\therefore \frac{20}{4} \neq \frac{4}{20}$



EXERCISE : 1.5

1. Fill in the blanks:

- (i) The difference between the smallest natural number and the smallest whole number is _____. *Ans : 1*

- (ii) $17 \times \underline{\hspace{2cm}} = 34 \times 17$. *Ans : 34*

- (iii) When _____ is added to a number, it remains the same. *Ans : 0*

- (iv) Division by _____ is not defined. *Ans : Zero*

- (v) Multiplication by _____ leaves a number unchanged. *Ans : One*

2. Say True (OR) False:

- (i) 0 is the identity for multiplication of whole numbers. *Ans : False*

- (ii) Sum of two whole numbers is always less than their product. *Ans : False*

- (iii) Both addition and multiplication are associative for whole numbers. *Ans : True*

- (iv) Both addition and multiplication are commutative for whole numbers. *Ans : True*

- (v) Multiplication is distributive over addition for whole numbers. *Ans : True*

3. Name the property being illustrated in each of the cases given below:

- (i) $75 + 34 = 34 + 75$

Ans : Commutativity for Addition

(ii) $(12 \times 4) \times 8 = 12 \times (4 \times 8)$

Ans : Associativity for Multiplication

(iii) $50 + 0 = 50$ *Ans* : Zero is Additive Identity

(iv) $50 \times 1 = 50$

Ans : One is Multiplicative Identity

(v) $50 \times 42 = 50 \times 40 + 50 \times 2$

Ans : Distributivity of Multiplication over Addition**4. Use the properties of whole numbers and simplify:**

(i) 50×102

Solution: $50 \times 102 = 50 \times (100 + 2)$
 $= (50 \times 100) + (50 \times 2)$
 [Distributivity of Multiplication over addition]
 $= 5000 + 100 = 5100$

(ii) $500 \times 689 - 500 \times 89$

Solution: $500 \times 689 - 500 \times 89 = 500 \times (689 - 89)$
 [Distributivity of Multiplication over subtraction]
 $= 500 \times 600$
 $= 300000$

(iii) $4 \times 132 \times 25$

Solution: $4 \times 132 \times 25 = 132 \times (25 \times 4)$
 [Associativity for Multiplication]
 $= 132 \times 100 = 13200$

(iv) $196 + 34 + 104$

Solution: $196 + 34 + 104 = (196 + 104) + 34$
 [Associativity for Multiplication]
 $= 300 + 34 = 334$

**OBJECTIVE TYPE QUESTIONS**

5. $(53 + 49) \times 0$ is

- (a) 102 (b) 0
 (c) 1 (d) $53 + 49 \times 0$ *Ans* : (b) 0

6. $\frac{59}{1}$ is

- (a) 1 (b) 0 (c) $\frac{59}{1}$ (d) 59
Ans : (d) 59

7. The product of a non-zero whole number and its successor is always

- (a) an even number (b) an odd number
 (c) zero (d) none of these
Ans : (a) an even number

8. The whole number that does not have a predecessor is

- (a) 10 (b) 0
 (c) 1 (d) none of these *Ans* : (b) 0

9. Which of the following expressions is not zero?

- (a) 0×0 (b) $0 + 0$
 (c) $2 / 0$ (d) $0 / 2$ *Ans* : (c) $2 / 0$

10. Which of the following is not true?

- (a) $(4237 + 5498) + 3439 = 4237 + (5498 + 3439)$
 (b) $(4237 \times 5498) \times 3439 = 4237 \times (5498 \times 3439)$
 (c) $4237 + 5498 \times 3439 = (4237 + 5498) \times 3439$
 (d) $4237 \times (5498 + 3439) = (4237 \times 5498) + (4237 \times 3439)$

Ans : (c) $4237 + 5498 \times 3439 = (4237 + 5498) \times 3439$ **EXERCISE : 1.6****Miscellaneous Practice Problems**

1. Try to open my locked suitcase which has the biggest 5 digit odd number as the password comprising the digits 7, 5, 4, 3 and 8. Find the password.

Solution:

Digits of password of suitcase = 7, 5, 4, 3, 8

Biggest 5 digit number = 87543

Password of suitcase = 87543

2. As per the census of 2001, the population of four states are given below. Arrange the states in ascending and descending order of their population.

- Tamil Nadu 72147030
- Rajasthan 68548437
- Madhya Pradesh 72626809
- West Bengal 91276115

Solution: Ascending order of population of states. $6,85,48,437 < 7,21,47,030 < 7,26,26,809 < 9,12,76,115$

Rajasthan < Tamil Nadu < Madhya Pradesh < West Bengal

Descending order of population of states.

 $9,12,76,115 > 7,26,26,809 > 7,21,47,030 > 6,85,48,437$

West Bengal > Madhya Pradesh > Tamil Nadu > Rajasthan

3. Study the following table and answer the questions:

Year	No. of Tigers
1990	3500
2008	1400
2011	1706
2014	2226

- (i) How many tigers were there in 2011?

Solution: Tigers in 2011 = 1706

- (ii) How many tigers were less in 2008 than in 1990?

Solution: Tigers in 1990 = 3500

Tigers in 2008 = 1400

Decrease of Tigers = 2100

- (iii) Did the number of tigers increase or decrease between 2011 and 2014? If yes, by how much?

Solution: Tigers in 2014 = 2226

Tigers in 2011 = 1706

Increase of Tigers = 520

4. Mullaikodi has 25 bags of apples. In each bag there are 9 apples. She shares them equally amongst her 6 friends. How many apples do each get? Are there any apples left over?

Solution:

Number of bags Mullaikodi has = 25

Number apples in 1 bag = 9

Total apples = 25×9 = 225

Number of friends = 6

Number of apples get by each friend

$$= \frac{225}{6} = 37, \text{ Remainder} = 3$$

Among 6 friends, each of them get 37 apples.
3 apples left over.

5. A poultry has produced 15472 eggs and fits 30 eggs in a tray. How many trays do they need?

Solution: Eggs in a poultry = 15472

Eggs in one tray = 30

$$\text{Number of trays needed} = \frac{15472}{30} = 515 \frac{22}{30}$$

$$= 515 + 1 = 516$$

516 trays required.



Challenging Problems

6. Read the table and answer the following questions.

Name of the Star	Diameter (in miles)
Sun	864730
Sirius	1556500
Canopus	25941900
Alpha Centauri	1037700
Arcturus	19888800
Vega	2594200

- (i) Write the Canopus star's diameter in words, in the Indian and the International System.

Solution: Indian System:

Two crore fifty nine lakh forty one thousand nine hundred.

International System:

Twenty five million nine hundred forty one thousand nine hundred

- (ii) Write the sum of the place values of 5 in Sirius star's diameter in the Indian System.

Solution: Sum of the place values of 5 in Sirius star's diameter

$$= 500000 + 50000 + 500 = 5,50,500.$$

- (iii) Eight hundred sixty four million seven hundred thirty. Write in Indian System.

Solution: 864,000,730 = 86,40,00,730

Eighty six crore forty lakh seven hundred thirty.

- (iv) Write the diameter in words of Arcturus star in the International System.

Solution: International System:

Nineteen million eight hundred eighty eight thousand eight hundred.

- (v) Write the difference of the diameters of Canopus and Arcturus stars in the Indian and the International Systems.

Solution: Difference of the diameters of Canopus and Arcturus stars

$$= 2,59,41,900 - 1,98,88,800$$

$$= 60,53,100.$$

Indian System:

60,53,100 = Sixty lakh fifty three thousand one hundred.

International System:

6,053,100 = Six million fifty three thousand one hundred.

7. Anbu asks Arivu Selvi to guess a five digit odd number. He gives the following hints.

- The digit in the 1000s place is less than 5
- The digit in the 100s place is greater than 6
- The digit in the 10s place is 8

What is Arivu Selvi answer? Does she give more than one answer?

Ans : 43781, 72,885, 91,983, 23,787,.....
(Many answers are possible)

8. A Music concert is taking place in a stadium. A total of 7,689 chairs are to be put in rows of 90.

(i) How many rows will there be?

(ii) Will there be any chairs left over?

Solution: Total chairs in a stadium = 7,689

Chairs in one row = 90

$$\text{Numbers of rows} = \frac{7689}{90} = 85 \frac{39}{90}$$

85 rows are required to fill 7650 chairs.

The remaining chairs are 39.

9. Round off the seven digit number 29,75,842 to the nearest lakhs and ten lakhs. Are they the same?

Solution: 29,75,842 rounded off to the nearest lakh
= 30,00,000

29,75,842 rounded off to the nearest ten lakh
= 30,00,000

Both are same.

10. Find the 5 or 6 or 7 digit numbers from a newspaper or a magazine to get a rounded number to the nearest ten thousand.

Ans : Own answer.

CREATIVE QUESTIONS**I. Multiple Choice Questions:**

1. 25, 67, 624 _____ 27, 02, 534

(a) >

(b) <

(c) =

(d) ≥

Ans : (b) <

2. 9, 37, 67, 652 _____ 9, 24, 23, 725

(a) >

(b) <

(c) =

(d) ≤

Ans : (a) >

3. 44, 63, 776 _____ 44, 63, 776

(a) >

(b) <

(c) =

(d) ≤

Ans : (c) =

4. 72, 52, 255 _____ 65, 23, 765

(a) >

(b) <

(c) =

(d) ≥

Ans : (a) >

5. 8, 26, 72, 273 _____ 38, 64, 743

(a) >

(b) <

(c) =

(d) ≤

Ans : (a) >

6. $2 \times 3 + 5 =$ _____

(a) 12

(b) 11

(c) 10

(d) 8

Ans : (b) 11

7. $3 \times 6 + 4 - 1 + (5 + 5) =$ _____

(a) 27

(b) 31

(c) 46

(d) 25

Ans : (b) 31

8. $5 \times (5 + 5) + 4 \div 2 =$ _____

(a) 50

(b) 51

(c) 52

(d) 53

Ans : (c) 52

9. $6 \div 2 (1 + 2) =$ _____

(a) 7

(b) 9

(c) 11

(d) 13

Ans : (b) 9

10. $5 + 2 \times 3 \times (5 + 1) \div 2 + 1 =$ _____

(a) 22

(b) 24

(c) 26

(d) 28

Ans : (b) 24

11. The nearest 100 of 7845221 is _____

(a) 78,45,310

(b) 78,45,300

(c) 78,45,350

(d) 78,45,200

Ans : (d) 78, 45, 200

12. The nearest 1000 of 1,03,692 is _____

(a) 1,03,000

(b) 1,04,000

(c) 1,05,000

(d) 1,10,000

Ans : (b) 1,04,000

13. The nearest ten of 12,57,821 is _____

- (a) 12,57,820 (b) 12,57,840
(c) 12,57,860 (d) 12,57,830

Ans : (a) 12,57,820

14. The nearest hundred of $537 + 115 + 4795$ _____

- (a) 5,500 (b) 5,400
(c) 5,300 (d) 5,000

Ans : (b) 5,400

15. The nearest ten of $18240 - 757.15$ is _____

- (a) 10,600 (b) 10,670
(c) 10,690 (d) 10,700

Ans : (b) 10,670

16. $77 + \underline{\hspace{1cm}} = 103 + 77$

- (a) 103 (b) 101
(c) 102 (d) 104

Ans : (a) 103

17. $56 + (937 + 44) = 937 + \underline{\hspace{1cm}}$

- (a) $937 + 56$ (b) $937 + 44$
(c) $56 + 44$ (d) $56 - 44$

Ans : (c) $56 + 44$

18. $88 + 0 = \underline{\hspace{1cm}}$

- (a) 0 (b) 88
(c) -88 (d) 87

Ans : (b) 88

19. $872 + \underline{\hspace{1cm}} = 872$

- (a) 873 (b) 0
(c) -872 (d) -873

Ans : (b) 0

20. $77 + 998 = 998 + \underline{\hspace{1cm}}$

- (a) 927 (b) 77
(c) 991 (d) 0

Ans : (b) 77

21. $183 \times \underline{\hspace{1cm}} = 183$

- (a) 0 (b) 1
(c) 2 (d) 3

Ans : (b) 1

22. $75 \times 42 = 42 \times \underline{\hspace{1cm}}$

- (a) -42 (b) -75
(c) 75 (d) 0

Ans : (c) 75

23. $2 \times 179 \times 50 = 179 \times \underline{\hspace{1cm}}$

- (a) 2×50 (b) -2×50
(c) 2×-50 (d) 0

Ans : (a) 2×50

24. $394 \times 65 \times 72 = 394 \times 72 \times \underline{\hspace{1cm}}$

- (a) 75 (b) 65
(c) 45 (d) 35

Ans : (b) 65

2 MARKS

1. Circle the smallest number.

53, 21, 789 53,21,889 54,21,789 55,31,987

Solution:

53,21,789 53,21,889 54,21,789 55,31,987

2. Write the smallest and the largest number that you can form using digits 3, 7, 9 and 5.

Solution:

Largest Number : 9753

Smallest Number : 3579

3. Write any six digit number with 3 in lakh place and 5 in hundred place.

Solution:

372514

4. Add: $35,78,928 + 4,75,935$

Solution: $35,78,928 +$

$4,75,935$

$40,54,863$

5. Subtract: 7,81,601 from 9,87,50,210

Solution:

$98750210 -$

781601

97968609

6. Name the property being illustrated in each of the cases given below (each):

(i) $48 + 37 = 37 + 48$

Solution: Commutativity for Addition

(ii) $13 \times (4 \times 7) = (13 \times 4) \times 7$

Solution: Associativity for Multiplication

(iii) $0 + 30 = 30 + 0 = 30$

Solution: Zero is additive identity

(iv) $1 \times 30 = 30 \times 1 = 30$

Solution: One is multiplicative identity

(v) $30 \times 12 = 30 \times 10 + 30 \times 2$

Solution: Distributivity of Multiplication over addition.

3 MARKS

1. Write the following numbers in ascending order.

73,13,537; 94,24,272; 57,32,373; 3,46,25,722

Solution:

Ascending Order

 $57,32,373 < 73,13,537 < 94,24,272 < 3,46,25,722$

2. Write the following numbers in descending order.

2,72,31,445; 46,56,531; 75,62,436; 36,31,468

Solution:

Descending Order

 $2,72,31,445 > 75,62,436 > 46,56,531 > 36,31,468$

3. Solve:
- $78,15,929 + 25,28,591 - 59,72,891$

Solution: $78,15,929 +$

$$\begin{array}{r} 25,28,591 \\ 1,03,44,520 \\ - 59,72,891 \\ \hline 43,71,629 \end{array}$$

4. Find the missing digits.

$$\begin{array}{r} 8 \quad 2 \quad \square \quad 4 \quad 2 \quad 5 \\ 1 \quad \square \quad 5 \quad \square \quad 7 \quad 8 \quad (+) \\ \hline 9 \quad 5 \quad 9 \quad 8 \quad 0 \quad 3 \end{array}$$

Solution:

$$\begin{array}{r} 8 \quad 2 \quad \boxed{4} \quad 4 \quad 2 \quad 5 \\ 1 \quad \boxed{3} \quad 5 \quad \boxed{3} \quad 7 \quad 8 \quad (+) \\ \hline 9 \quad 5 \quad 9 \quad 8 \quad 0 \quad 3 \end{array}$$

5. Find the missing digits.

$$\begin{array}{r} 9 \quad \square \quad 7 \quad 2 \quad \square \quad 2 \\ \square \quad 8 \quad \square \quad 2 \quad 3 \quad \square \quad (-) \\ \hline 8 \quad 4 \quad 3 \quad 0 \quad 4 \quad 7 \end{array}$$

Solution:

$$\begin{array}{r} 9 \quad \boxed{2} \quad 7 \quad 2 \quad \boxed{8} \quad 2 \\ \boxed{0} \quad 8 \quad \boxed{4} \quad 2 \quad 3 \quad \boxed{5} \quad (-) \\ \hline 8 \quad 4 \quad 3 \quad 0 \quad 4 \quad 7 \end{array}$$

6. Estimate the sum of 5,78,928 and 4,75,935 rounded off to the nearest thousand.

Solution:

Estimate value of 5,78,928 = 5,79,000

Estimate value of 4,75,935 = 4,76,000

Sum = 10,55,000

7. Estimate the product
- 321×582

Solution:

Estimate value of 321 = 300

Estimate value of 582 = 600

Estimate value of $321 \times 582 = 1,80,000$

8. Estimate the quotient
- $68572 \div 124$

Solution:

Estimate value of 68572 = 68600

Estimate value of 124 = 100

Estimate value of $68572 \div 124 = 686$

9. Use the properties of whole numbers and simplify. (each)

(i) 70×201 (ii) $100 \times 76 - 100 \times 26$ (iii) $11 \times 32 \times 29$ *Solution:*(i) 70×201

$$\begin{aligned} 70 \times (200 + 1) &= 70 \times 200 + 70 \times 1 \\ &= 14000 + 70 = 14070 \end{aligned}$$

(ii) $100 \times 76 - 100 \times 26$

$$\begin{aligned} 100 \times 76 - 100 \times 26 &= 100(76 - 26) \\ &= 100 \times 50 = 5000 \end{aligned}$$

(iii) $11 \times 32 \times 29$

$$\begin{aligned} 11 \times 32 \times 29 &= 11 \times (32 \times 29) \\ &= 11 \times 928 \\ &= 10208 \end{aligned}$$

5 MARKS

1. The number of passengers at the airport in different cities.

City	Name of the airport	No. of passengers
Delhi	Indira Gandhi International Airport	78,449
Kolkata	Netaji Subash Chandra Bose International Airport	54,472
Mumbai	Chatrapati Shivaji International Airport	36,813
Chennai	Anna International Airport	65,215

- (a) Write the number of passengers in words using each airport.

- (b) Arrange in ascending order.

Solution:

City	Name of the airport	No. of passengers
Delhi	Indira Gandhi International Airport	Seventy eight thousand four hundred forty nine
Kolkata	Netaji Subash Chandra Bose International Airport	Fifty four thousand four hundred and seventy two
Mumbai	Chatrapati Shivaji International Airport	Thirty six thousand eight hundred and thirteen
Chennai	Anna International Airport	Sixty five thousand two hundred and fifteen

* * * * *

- (b) Ascending Order

$$36813 < 54472 < 65215 < 78449$$

2. Mr. Smith bought a bike for ₹ 2,46,745 and a car for ₹ 15,80,480. What amount of money did he spend in all?

Solution:

$$\text{Cost of bike} = ₹ 2,46,745$$

$$\text{Cost of car} = ₹ 15,80,480$$

$$= ₹ 18,27,225$$

Total amount spent by Mr. Smith is ₹ 18, 27, 225

3. A factory manufactures 456 soaps in a day. How many soaps will the company manufacture in 15 weeks?

Solution:

Factory produce number of soaps in 1 day

$$= 456$$

$$1 \text{ week} = 7 \text{ days}$$

$$15 \text{ weeks} = 105 \text{ days}$$

Number of soaps produce in 105 days

$$= 456 \times 105$$

$$= 47880$$

4. 68 pearls are needed to make a necklace. If there are 14,620 pearls, then how many necklaces can be made?

Solution:

1 necklace is made by 68 pearls.

No. of Necklaces can be made by 14620 pearls

$$= 14620 \div 68$$

$$= 215$$

UNIT TEST

Numbers

Time : 1.00 hr.

Marks: 30

I. Choose the best answer:

 $5 \times 1 = 5$

1. 1 billion is equal to

- a) 100 crore (b) 100 million (c) 100 lakh (d) 10000 lakh

2. The Arabian Sea has an area of 1491000 square miles. This area lies between which two numbers?

- a) 1489000 and 1492540 b) 1489000 and 1490540
c) 1490000 and 1490100 d) 1480000 and 1490000

3. The value of $3 + 5 - 7 \times 1$ is

- a) 5 b) 7 c) 8 d) 1

4. The estimated difference of 167826 and 2765 rounded off to the nearest thousand is

- a) 180000 b) 165000 c) 140000 d) 155000

5. $(53 + 49) \times 0$ is

- a) 102 b) 0 c) 1 d) $53 + 49 \times 0$

II. Fill in the blanks:

 $5 \times 1 = 5$

- The largest 8 digit number is _____.
- Fill in the blanks with (<, > or =) 1248654 _____ 1246854.
- If a person 'A' earns ₹ 1800 in 12 days, then he earns ₹ _____ in a day.
- The nearest 100 of 843 is _____.
- Division by _____ is not defined.

III. Answer the following Questions:

 $5 \times 2 = 10$

- Using the digits 5, 2, 0, 7, 3 form the largest 5 digit number and the smallest 5 digit number.
- Rajan writes a 3-digit number, using the digits 4, 7 and 9. What are the possible numbers he can write?
- Cheran had a bank savings of ₹ 7,50,250. He withdrew ₹ 5,34,500 for educational purpose. Find the balance amount in his account.
- Estimate the sum of 157826 and 32469 rounded off to the nearest ten thousand.
- Use the properties of whole numbers and simplify: 50×102

IV. Answer the following Questions:

 $2 \times 5 = 10$

- The number of people who visited the Public Library for the past 5 months were 1200, 2000, 2450, 3060 and 3200 respectively. How many people visited the library in the last 5 months?
- Mullaikodi has 25 bags of apples. In each bag there are 9 apples. She shares them equally amongst her 6 friends. How many apples do each get? Are there any apples left over?

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