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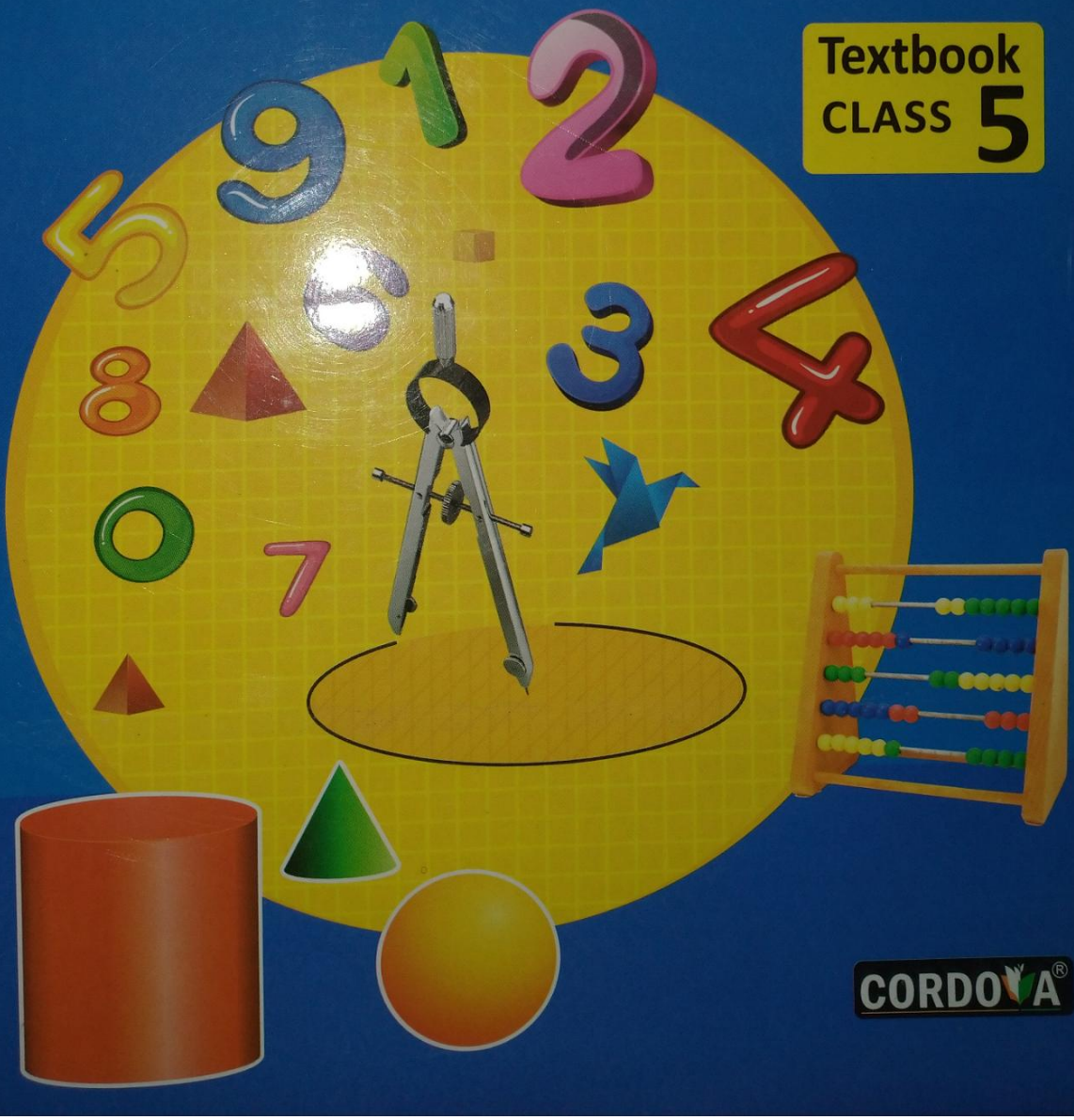
MY JOYFUL BOOK OF Mathematics

Textbook CLASS 5



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CHAPTER 1

Numbers

Learning Outcomes

In this chapter, you will learn about...

- Introduction of numbers up to five digits.
- Expanded form of numbers.
- Concept of place value.
- Comparison of numbers.
- Writing numbers in ascending and descending order.

Use **Cordova Smart Class Software** on the **smart board** in class to make learning enjoyable.

We have already learnt numbers up to four digits in previous class. Let us recall.

EXERCISE 1.1

Use Cordova Smart Class Software on the smart board in class to do Exercise

1. Write in words :
   (i) 3849 (ii) 5308
   (iii) 8074 (iv) 7777
2. Write in numerals :
   (i) Four thousand three hundred twenty
   (ii) Seven thousand four hundred eighty nine
   (iii) One thousand nine hundred nine
   (iv) Eight thousand seven hundred sixty five
3. Write in expanded form :
   (i) 6827 (ii) 3179
   (iii) 8105 (iv) 4180
4. Write in short form :
   (i) 3000 + 400 + 50 + 6
   (ii) 7000 + 000 + 90 + 8
   (iii) 4000 + 200 + 20 + 0
   (iv) 6000 + 000 + 00 + 5
5. Make the smallest and greatest 4-digit numbers using the digits 4, 0, 2 and 1 each only once.
6. Arrange in ascending order :
   (i) 4217, 4315, 4035, 4479
   (ii) 2893, 2983, 2398, 2978
7. Arrange in descending order :
   (i) 1728, 7128, 8127, 2718
   (ii) 9256, 9526, 9652, 9729
8. Use correct sign > , < or = :
   (i) 1002 ☐ 1020
   (ii) 3540 ☐ 3450
   (iii) 8357 ☐ 8357
   (iv) 6825 ☐ 6827
   (v) 7952 ☐ 7942

Numbers up to Five Digits

We know that, the greatest 4-digit number is 9999.
"What number comes after 9999?"

Let us add 1 to 9999.

9999 + 1 = 10000

It is read as 'ten thousand'.
It is the smallest 5-digit number.

T Th	Th	H	T	O
1	0	0	0	0

T Th stands for ten thousands place.

Remember : 99999 is the greatest 5-digit number.

Let us see.

10 ones = $10 \times 1 = 10$ = 1 ten
10 tens = $10 \times 10 = 100$ = 1 hundred
10 hundreds = $10 \times 100 = 1000$ = 1 thousand
10 thousands = $10 \times 1000 = 10000$ = 10 thousands

Forming Numbers

Let's play a game to make numbers. In this game, numbers are represented as symbols.

△ = One = 1
□ = One ten = 10
☆ = One hundred = 100
○ = One thousand = 1,000
▭ = Ten thousands = 10,000

With the help of above symbols, the numbers are written as shown below :

(a) One ☆ and one ○ = 100 + 1000 = 1100

(b) One ▭, four ☆ and seven △ = 10,000 + 400 + 7
= 10407

(c) Three ○, six ☆, two □ and one △
= 3000 + 600 + 20 + 1
= 3621

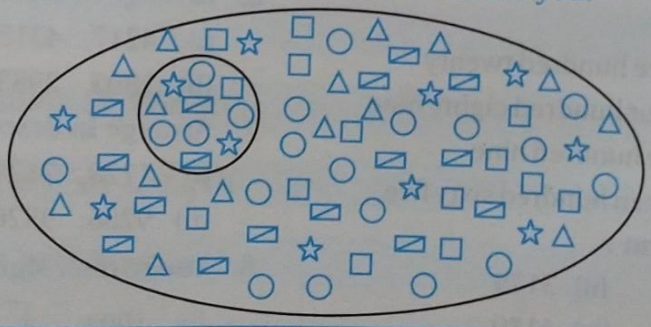
Do and Learn

1. For each of the following, write the numbers formed :

(a) Nine ○, three ☆, One □ and seven △ = _____ + _____ + _____ + _____ = _____.

(b) Eight ▭, four ○, two ☆, five □ and one △ = _____ + _____ + _____ + _____ + _____ = _____.

2. Encircle a group of symbols and make numbers. One is done for you.



Ten Thousands ▭	Thousands ○	Hundreds ☆	Tens □	Ones △	Number
2	4	2	1	1	20000 + 4000 + 200 + 10 + 1 = 24211

Expanded and Short Form of a Number

The expanded form of a number helps us to understand the value of each digit in the given number. The expanded form can be written in words as well as in numbers.

Let us take an example to understand.

Example 1 : Write the expanded form of 84176.

Solution: Let us first write the number in the place value chart.

T Th	Th	H	T	O
8	4	1	7	6

84176 = 8 ten thousands + 4 thousands + 1 hundred + 7 tens + 6 ones

= 80000 + 4000 + 100 + 70 + 6

Let us try writing the numbers in the short form also.

(a) 5000 + 400 + 40 + 7 = 5447

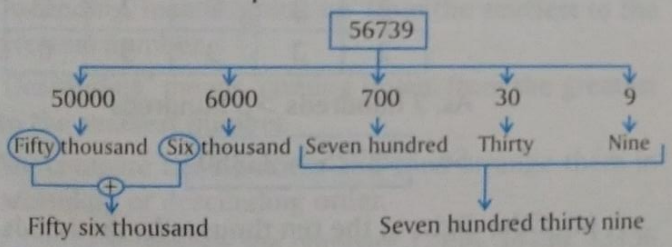
(b) 30000 + 8000 + 800 + 80 + 0 = 38880

(c) 90000 + 8000 + 700 + 00 + 6 = 98706

Reading Numbers

We can read the numbers with the help of expanded form.

Let us take an example.



Thus, 56739 is read as Fifty six thousand seven hundred thirty nine.

Remember : The digits at ten thousands and thousands places should be read together.

Numbers having five or more digits can be read quickly and easily by putting them into groups using commas.

Examples :

(a) 17,249 : Seventeen thousand two hundred forty nine

(b) 38,080 : Thirty eight thousand eighty

Do and Learn

Write any five 5-digit numbers formed by using the digits 5, 3, 7, 9 and 6 each only once. Also, write the expanded and word form. One is done for you.

Number	Expanded form	Word form
35679	30000 + 5000 + 600 + 70 + 9	Thirty five thousand six hundred seventy nine

Place Value

Each digit of a number has a place value.

The place value of a digit depends on its place in the number. It is read from right to left.

Let us understand it by taking an example.

Example 2 : Find the place value of each digit in the number 41805.

Solution : Let us write the number in place value chart.

T Th	Th	H	T	O
4	1	8	0	5

The place value of 5 is 5 × 1 = 5

The place value of 0 is 0 × 10 = 0

The place value of 8 is 8 × 100 = 800

The place value of 1 is 1 × 1000 = 1000

The place value of 4 is 4 × 10000 = 40000

Remember : The place value of a digit increases ten times as it moves one place from right to left.

Example 3 : Find the place value of the underlined digit in each of the following numbers :

(a) 1<u>2</u>,987 (b) <u>9</u>2,010 (c) 54,0<u>3</u>8

Solution : (a) In 12,987, 2 is in thousands place, so place value of 2 in the given number is $2 \times 1000 = 2000$.

(b) In 92,010, 9 is in ten thousands place, so place value of 9 in the given number is $9 \times 10{,}000 = 90{,}000$.

(c) In 54,038, 3 is in tens place, so place value of 3 in the given number is $3 \times 10 = 30$.

Do Yourself

1. Fill in the place value table for the following :

Number	TTh	Th	H	T	O
85240	8	5	2	4	0
20563					
94506					
80523					
45302					

2. Find the place value of the underlined digit for the following numbers:

(a) <u>7</u>5004 (b) 6887<u>7</u>

(c) 2<u>3</u>344 (d) 13<u>2</u>72

(e) 8015<u>1</u> (f) 7672<u>5</u>

(g) 24<u>5</u>06 (h) 8<u>0</u>008

Comparison of Numbers

Let us learn to compare numbers.

1. **When the number of digits are different :**

The number which has more digits is always greater.

Example :

	TTh	Th	H	T	O
5 digits	2	1	5	6	7
4 digits		4	3	6	0

So, 21567 > 4360

2. **When the number of digits are same :**

(a) We compare the digits at the ten thousands place first.

Example :

T Th	Th	H	T	O
2	3	5	7	0
1	1	5	7	0

As, 2 ten thousands >1 ten thousand

So, 23570 > 11570

(b) If the digits at the ten thousands place are same, we compare the digits at the thousands place.

Example :

T Th	Th	H	T	O
2	4	5	7	6
2	2	1	7	6

As, 4 thousands >2 thousands

So, 24576 > 22176

(c) If the digits at the ten thousands and thousands places are same, we compare the digits at the hundreds place.

Example :

T Th	Th	H	T	O
2	3	7	2	5
2	3	3	5	0

As, 7 hundreds >3 hundreds

So, 23725 > 23350

(d) If the digits at the ten thousands, thousands and hundreds places are same, we compare the digits at the tens place.

Example :

T Th	Th	H	T	O
1	5	4	3	7
1	5	4	6	0

As, 3 tens < 6 tens

So, 15437 < 15460

(e) If the digits at the ten thousands, thousands, hundreds and tens places are same, we compare the digits at the ones place.

Example :

T Th	Th	H	T	O
5	4	3	2	7
5	4	3	2	4

As, 7 ones > 4 ones

So, 54327 > 54324

(f) When the digits at all places are same, the numbers are equal.

Example :

T Th	Th	H	T	O
9	2	3	4	5
9	2	3	4	5

So, 92345 = 92345

Do Yourself

Use >, < or = to compare the following :

1. 1735 ☐ 14880
2. 29178 ☐ 2178
3. 34213 ☐ 35075
4. 12341 ☐ 12341
5. 35640 ☐ 14467
6. 16175 ☐ 13175

Ascending and Descending Order

'Ascending' means 'going up' from the smallest to the greatest number.

'Descending' means 'coming down' from the greatest to the smallest number.

We compare the numbers and then arrange them in ascending or descending order.

Example 4 : Arrange the numbers 12136, 14136, 13136 and 16136 in ascending order.

Solution : First we arrange the given numbers in place value chart.

T Th	Th	H	T	O
1	2	1	3	6
1	4	1	3	6
1	3	1	3	6
1	6	1	3	6

Comparing the numbers, we get the numbers in ascending order as follows :

12136, 13136, 14136, 16136

Example 5 : Arrange the numbers 34129, 34912, 34219, 34192 in descending order.

Solution : First we arrange the given numbers in place value chart.

T Th	Th	H	T	O
3	4	1	2	9
3	4	9	1	2
3	4	2	1	9
3	4	1	9	2

Comparing the numbers, we get the numbers in descending order as follows :

34912, 34219, 34192, 34129

Do Yourself

1. Rewrite the numbers in ascending order :
   (a) 27298, 27290, 27920, 27029
   (b) 16365, 13656, 15366, 13566
2. Rewrite the numbers in descending order :
   (a) 36150, 37310, 38512, 36142
   (b) 27251, 25517, 28235, 26375

EXERCISE 1.2

Use Cordova Smart Class Software on the smart board in class to do Exercise

1. Write the following numbers in words :
   (i) 24056 (ii) 40009
   (iii) 99999 (iv) 80511
   (v) 67725
2. Write the expanded form of the following numbers :
   (i) 12372 (ii) 23434
   (iii) 45302 (iv) 75004
   (v) 68877

3. Write the equivalent numbers of the following expanded forms:

(i) 40000 + 5000 + 700 + 70 + 2

(ii) 60000 + 0000 + 000 + 20 + 6

(iii) 30000 + 9000 + 900 + 00 + 8

(iv) 50000 + 2000 + 800 + 10 + 1

(v) 80000 + 0000 + 000 + 00 + 8

4. Find out the place value of 6 and 2 in the following numbers :

(i) 28506 (ii) 36265

(iii) 52266 (iv) 69242

(v) 82563

5. Mark the right symbol (<, >, =) between the given numbers :

(i) 2979 2932

(ii) 5423 5432

(iii) 8952

(iv) 6850 6852

(v) 3675 3675

(vi) 9821 9799

6. Write the following numbers in ascending order :

(i) 26886, 37725, 30840, 25975, 40021

(ii) 59307, 53907, 59703, 57039, 57903

(iii) 74443, 74434, 74344, 77444, 77555

7. Write the following numbers in descending order :

(i) 41525, 51425, 34152, 42325, 50925

(ii) 86067, 81316, 85032, 82511, 81154

(iii) 76543, 73456, 74356, 76435, 74653

REVIEW EXERCISE

1. Tick (✓) the correct answer :

(a) Which is the same as 60 tens?

(i) 6 ones ☐

(ii) 60 ones ☐

(iii) 6 hundreds ☐

(b) The sum of the place values of two 4s in 40140 is

(i) 40040 ☐

(ii) 40000 ☐

(iii) 44000 ☐

(c) A five digit number begins with ..... place.

(i) hundreds ☐

(ii) ten thousands ☐

(iii) thousands ☐

(d) The greatest number of five digits using the digits 1, 0, 9 and 8 repeating 0 is

(i) 98101 ☐

(ii) 98100 ☐

(iii) 99101 ☐

2. Fill in the blanks :

(a) The number just after 38,999 is.....

(b) The number just before 53,180 is..... .

(c) The expanded form of 90,999 is ..... .

(d) The place of 0 in 10,376 is ..... .

3. Arrange the following numbers in ascending order:
   (a) 24567, 25467, 27654, 26457
   (b) 99909, 99990, 90999, 99999
4. Arrange the following numbers in descending order:
   (a) 46334, 46433, 44633, 46343
   (b) 29325, 25239, 22539, 23259
5. Write the following numbers in expanded form:
   (a) 23079 (b) 56234
6. Form the smallest and greatest 5-digit numbers using the given digits.
   (a) 0, 2, 3, 1, 4 (b) 2, 7, 6, 5, 9
7. Write the number names :
   (a) 13,579 (b) 28,306
8. In each of the following, encircle the smallest number :
   (a) 35004 35040 34555 35054
   (b) 63377 63737 63773 63338
9. In each of the following, encircle the greatest number :
   (a) 16507 16057 16075 16570
   (b) 36354 46357 36344 46355
10. Use correct sign >, < or = :
   (a) 19267 ☐ 19276
   (b) 37056 ☐ 30000 + 500 + 70 + 6
   (c) 24561 ☐ 24351
   (d) 60000 + 1000 + 100 ☐ 61100

2 Addition and Subtraction

Learning Outcomes

In this chapter, you will learn about...

- Use of place value in addition and subtraction of numbers.
- Use of carrying in addition and subtraction.

Use Cordova Smart Class Software on the smart board in class to make learning enjoyable.

We have already learnt addition and subtraction of 3-digit numbers in previous class. In this chapter, we will learn about addition and subtraction up to 4-digit numbers. Let's recall.

EXERCISE 2.1

Use Cordova Smart Class Software on the smart board in class to do Exercise

Solve:

1. $\begin{array}{r} 406 \\ +313 \\ \hline \end{array}$

2. $\begin{array}{r} 723 \\ +189 \\ \hline \end{array}$

3. $\begin{array}{r} 653 \\ +333 \\ \hline \end{array}$

4. $\begin{array}{r} 700 \\ -599 \\ \hline \end{array}$

5. $\begin{array}{r} 557 \\ -277 \\ \hline \end{array}$

6. $580 + 27 + 306 =$ .....
7. $473 - 296 =$ .....
8. $364 + 67 - 199 =$ .....
9. $37 - 15 + 10 =$ .....
10. 185 boys and 162 girls are studying in Government Higher Secondary School, Udiyas. What is the total number of students studying in this school?
11. In a garden 255 roses, 156 marigold, 178 jasmine plants are there. What is the total number of flowering plants?
12. Gita's father is at the mart to sell pots. This time her father built 523 pots, of which 484 were sold out. How many pots are left unsold?
13. Do addition and subtraction with Indian numbers.

(i) ८ ५ ७ + ३ २ ४

(ii) ४ ६ १ + २ ८ ५

(iii) ६ ५ ७ + ४ १ ३

(iv) ८ ७ १ − ४ ३ ५

(v) ५ १ २ − ४ ८ १

(vi) ३ ५ ७ − १ ४ ६

Addition and Subtraction using Place Value

The mathematics teacher asked the students to solve the following problem:

A postman delivered 535 letters in the month of March, 1212 letters in the month of April and 1022 letters in the month of May. How many letters were delivered altogether in the three months?

All the students tried to solve the problem. She saw Manisha and Rohan completed the sum but they got two different answers.

Check the methods they followed and tell whose answer is correct.

Manisha

Letters delivered in March	=	535
Letters delivered in April	=	1212
Letters delivered in May	= +	1022
Total letters delivered	=	7584

Rohan

Letters delivered in March	=	535
Letters delivered in April	=	1212
Letters delivered in May	= +	1022
Total letters delivered	=	2769

Did you observe that, Manisha did not follow the place value correctly, while writing the numbers.

So, her answer was incorrect.

Let us learn how to write numbers using place value.

Example 1 : Add 2025, 1331 and 3203.

Solution : Arrange the numbers vertically as shown below :

	Th	H	T	O
	2	0	2	5
	1	3	3	1
+	3	2	0	3
	6	5	5	9

Steps :

1. **Add the ones** : (5 + 1 + 3) ones = 9 ones
2. **Add the tens** : (2 + 3 + 0) tens = 5 tens
3. **Add the hundreds** : (0 + 3 + 2) hundreds = 5 hundreds
4. **Add the thousands** : (2 + 1 + 3) thousands = 6 thousands

2025 + 1331 + 3203 = 6559

Example 2 : Subtract 1345 from 3786.

Solution : Arrange the numbers vertically as shown below :

	Th	H	T	O
	3	7	8	6
−	1	3	4	5
	2	4	4	1

Steps :

1. **Subtract the ones** : (6 − 5) ones = 1 one
2. **Subtract the tens** : (8 − 4) tens = 4 tens
3. **Subtract the hundreds** : (7 − 3) hundreds = 4 hundreds
4. **Subtract the thousands** : (3 − 1) thousands = 2 thousands

3786 − 1345 = 2441

Do Yourself

Write according to the place values and solve :

1. 5680 + 2317 = _____

	Th	H	T	O
+				

2. 4852 − 2431 = _____

	Th	H	T	O
−				

3. 7002 + 156 = _____

	Th	H	T	O
+				

4. 6538 − 4124 = _____

	Th	H	T	O
−				

Use of Carrying in Addition and Subtraction

Addition of 4-digit Numbers

Example 3 : Add 3197 and 2875.

Solution :

Step 1 : **Add the ones :**

(7 + 5) ones = 12 ones

12 ones = 10 ones + 2 ones

= 1 ten + 2 ones

Write 2 in the ones place and carry over 1 to the tens place.

	Th	H	T	O
			(1)	
	3	1	9	7
+	2	8	7	5
				2

Step 2 : **Add the tens :**

(1 + 9 + 7) tens = 17 tens

17 tens = 10 tens + 7 tens

= 1 hundred + 7 tens

Write 7 in the tens place and carry over 1 to the hundreds place.

	Th	H	T	O
		(1)	(1)	
	3	1	9	7
+	2	8	7	5
			7	2

Step 3 : **Add the hundreds :**

(1 + 1 + 8) hundreds = 10 hundreds

10 hundreds = 1 thousand + 0 hundreds

Write 0 in the hundreds place and carry over 1 to the thousands place.

	Th	H	T	O
	(1)	(1)	(1)	
	3	1	9	7
+	2	8	7	5
		0	7	2

Step 4 : **Add the thousands :**

(1 + 3 + 2) thousands = 6 thousands

Write 6 in the thousands place.

	Th	H	T	O
	(1)	(1)	(1)	
	3	1	9	7
+	2	8	7	5
	6	0	7	2

3197 + 2875 = 6072

Example 4 : Add 2572, 2498 and 4312.

Solution :

	Th	H	T	O
	(1)	(1)	(1)	
	2	5	7	2
	2	4	9	8
+	4	3	1	2
	9	3	8	2

2572 + 2498 + 4312 = 9382

Do Yourself

Add :

1.

	Th	H	T	O
	2	5	3	7
+1	4	2	4	

2.

	Th	H	T	O
	1	9	0	9
+2	2	2	5	

3.

	Th	H	T	O
	5	7	2	8
	1	4	6	6
+1	0	0	8	

4.

	Th	H	T	O
	2	9	9	9
	3	2	9	7
+1	2	9	7	

Subtraction of 4-digit Numbers

Example 5 : Subtract 1256 from 2574.

Solution :

Step 1 : **Subtract the ones :**

Since 4 ones is less than 6 ones,

we regroup 7 tens 4 ones as 6 tens 14 ones.

Now, subtract 6 ones from 14 ones.

14 ones – 6 ones = 8 ones

Write 8 in the ones place.

	Th	H	T	O
	◯	◯	6	14
	2	5	~~7~~	~~4~~
–	1	2	5	6
				8

Step 2 : **Subtract the tens :**

We are left with 6 tens.

6 tens – 5 tens = 1 ten

Write 1 in the tens place.

	Th	H	T	O
	◯	◯	6	14
	2	5	~~7~~	~~4~~
–	1	2	5	6
			1	8

Step 3 : **Subtract the hundreds :**

5 hundreds – 2 hundreds = 3 hundreds

Write 3 in the hundreds place.

	Th	H	T	O
	◯	◯	6	14
	2	5	~~7~~	~~4~~
–	1	2	5	6
		3	1	8

Step 4 : **Subtract the thousands :**

2 thousands – 1 thousand = 1 thousand

Write 1 in the thousands place.

	Th	H	T	O
	◯	◯	6	14
	2	5	~~7~~	~~4~~
–	1	2	5	6
	1	3	1	8

2574 – 1256 = 1318

Example 6 : Subtract 2357 from 4000.

Solution : Since we do not have ones, tens and hundreds, so, we regroup.

4 thousands = 3 thousands 10 hundreds

10 hundreds = 9 hundreds 10 tens

10 tens = 9 tens 10 ones

Now subtract ones, then tens, then hundreds and finally thousands.

	Th	H	T	O
	3	9	9	10
	~~4~~	~~0~~	~~0~~	~~0~~
–	2	3	5	7
	1	6	4	3

4000 – 2357 = 1643

Do Yourself

Subtract :

1.

Th	H	T	O
◯	◯	◯	◯
3	4	4	5
– 1	3	4	8

2.

Th	H	T	O
◯	◯	◯	◯
4	9	6	5
– 2	4	4	6

3.

Th	H	T	O
◯	◯	◯	◯
6	5	7	0
– 3	3	9	7

4.

Th	H	T	O
◯	◯	◯	◯
6	0	0	0
– 4	2	2	8

Application Based Questions

Example 7 : School A has 3256 students and school B has 4745 students. How many students are there in all?

Solution : Number of students in school A = 3256

Number of students in school B = 4745

Total number of students = 3256 + 4745

= 8001

$$\begin{array}{r} \overset{1}{3}\ \overset{1}{2}\ \overset{1}{5}\ 6 \\ +\ 4\ 7\ 4\ 5 \\ \hline 8\ 0\ 0\ 1 \end{array}$$

Thus, there are 8001 students in the two schools.

Example 8 : My school library has 8735 books. Out of these, 2736 are in Hindi and the remaining are in English. How many books are there in English?

Solution : Total number of books = 8735

Number of books in Hindi = 2736

Number of books in English = 8735 − 2736

= 5999

$$\begin{array}{r} \overset{7}{\cancel{8}}\ \overset{16}{\cancel{7}}\ \overset{12}{\cancel{3}}\ \overset{15}{\cancel{5}} \\ -\ 2\ 7\ 3\ 6 \\ \hline 5\ 9\ 9\ 9 \end{array}$$

Thus, there are 5999 books in English.

Do Yourself

1. A stadium can hold 8000 people. One day, there were 5980 people, out of which 3997 were men. How many were women?
2. There are 4632 females and 4998 males in a town. What is the total population of the town?

EXERCISE 2.2

Use Cordova Smart Class Software on the smart board in class to do Exercise

1. Solve :

(i) $\begin{array}{r} 2942 \\ +\ 1056 \\ \hline \end{array}$ (ii) $\begin{array}{r} 7431 \\ +\ 1629 \\ \hline \end{array}$

(iii) $\begin{array}{r} 6075 \\ +\ 3146 \\ \hline \end{array}$ (iv) $\begin{array}{r} 4875 \\ +\ 2156 \\ \hline \end{array}$

(v) $\begin{array}{r} 5000 \\ -\ 2552 \\ \hline \end{array}$ (vi) $\begin{array}{r} 8808 \\ -\ 5303 \\ \hline \end{array}$

(vii) $\begin{array}{r} 9421 \\ -\ 8372 \\ \hline \end{array}$ (viii) $\begin{array}{r} 8521 \\ -\ 7372 \\ \hline \end{array}$

2. Add :
   (i) 8725 and 907 (ii) 7865 and 2107
   (iii) 5113, 1999 and 638 (iv) 8999 and 1001
3. Subtract :
   (i) 840 from 3944 (ii) 2407 from 4817
   (iii) 4999 from 6000 (iv) 7986 from 8344
4. Find out the sum of the greatest 4-digit number and the greatest 3-digit number.
5. Ramesh has deposited 2850 rupees in January and 3650 rupees in February to his bank account. What is the total deposited amount during these two months by Ramesh?
6. Anshu bought a bicycle in 2999 rupees and Ruchi bought another bicycle in 2650 rupees. Find out how much extra money Anshu paid as compared to Ruchi.
7. Sum of two numbers is 7678. If one number is 4613, find out the second number.
8. Mohan had 10000 rupees. He bought wheat for Rs. 4500 and rice for Rs. 1600. How much money was left with him?
9. During three phases of pulse polio campaign in bagwas panchayat, total number of children who were administered polio drop are 8975. In the first phase 2780 children were administered and in the second phase 2925 children were administered. Find out how many children were administered polio drop in the third phase.

10. Do addition and subtraction with Indian Hindi numbers :

(i) २ ५ ६ ८ + ४ ३ ५ ४ = _____

(ii) २ ३ ५ ७ + ४ ८ ६ १ = _____

(iii) ८ ६ २ ३ + १ ८ ७ ६ = _____

(iv) ३ ४ ५ ७ + ४ ८ १ २ = _____

(v) १ ६ ३ ८ − ८ ६ ५ = _____

(vi) ६ ३ २ ४ − ५ ८ १ ६ = _____

(vii) ३ ५ ६ २ − २ ४ ८ ६ = _____

(viii) ४ १ ८ ६ − ३ ० ८ ७ = _____

11. Shyam bought an almirah for ३८८० rupees and a bed for २६२४ rupees. How much money has Shyam spent in total?

12. Rama bought a table for ३०५० rupees and Radha bought another table for २९३० rupees. What is the price difference between both the tables?

13. Add the greatest and the smallest ४ digit number.

14. २६४ students appeared in an exam. १९८ of them passed. Find out the total number of failed students.

15. Sum of two numbers is १०३२. If one number is ३८६, then find out the second number.

16. For sewing three curtains, we need १२५ m of cloth, and for five tents we need २८६ m of cloth. How much cloth is required for curtains and tents both?

REVIEW EXERCISE

1. Tick (✓) the correct answer :

(a) How much is 660 less than 1000?
(i) 440 ☐ (ii) 340 ☐ (iii) 540 ☐

(b) 5246 + 1000 equals
(i) 5346 ☐ (ii) 5256 ☐ (iii) 6246 ☐

(c) What should be added to 5000 to get 9630?
(i) 4440 ☐ (ii) 4630 ☐ (iii) 4970 ☐

(d) 7000 – 4331 equals
(i) 2669 ☐ (ii) 2660 ☐ (iii) 2665 ☐

(e) ☐ + 100 = 8644
(i) 8544 ☐ (ii) 7644 ☐ (iii) 8634 ☐

2. Solve :

(a) 3254 + 1424 (b) 4376 + 2234
(c) 5369 – 3914 (d) 6281 – 2816

3. A supermarket sells 1048 eggs in the first week and 1536 in the second week of a month. How many eggs does the supermarket sell in total?

4. Class 5 was to collect ₹ 6000 for the annual carnival. The students collected ₹ 3257. How much more money do they need to collect?

5. 1354 women and 3528 men went to see the cricket match. How many people in total went to see the match?

6. 4000 boxes were loaded in a truck. 1725 boxes were delivered in one shop and 2135 boxes in another shop. How many boxes were left in the truck?

7. In a school, there are 1728 students in the primary section, 1212 students in the middle section and 764 students in the senior section. Find the total number of students in the school.

8. Saurabh had ₹ 3000. He gave ₹ 1260 to his sister and donated ₹ 560. How much money is left with him?

CHAPTER 3

Multiplication and Division

Learning Outcomes

In this chapter, you will learn about...

- Multiplication of 3-digit numbers by standard method.
- Division of 3-digit numbers by standard method.

Use **Cordova Smart Class Software** on the **smart board** in class to make learning enjoyable.

Multiplication of 3-digit Numbers

Example 1 : Multiply 132 by 64.

Solution : Arrange the numbers in columns of like places and follow the steps below.

Step 1 : Multiply 132 by 4 ones.
132 × 4 ones = 528
Write 528 in the first row.

Step 2 : Multiply 132 by 6 tens.
132 × 6 tens
= 132 × 60
= 7920
Write 7920 in the second row.

	Th	H	T	O
		1	3	2
×			6	4
		5	2	8
+	7	9	2	0
	8	4	4	8

Step 3 : Add the two products.
528 + 7920 = 8448
So, 132 × 64 = 8448

Example 2: Multiply 398 by 144.

Solution : Here, 144 = 100 + 40 + 4
So, we first multiply 398 by 4, then by 40 and then by 100. At last add the products so obtained.

	TTh	Th	H	T	O	
			3	9	8	
×			1	4	4	
		1	5	9	2	← 398 × 4
	1	5	9	2	0	← 398 × 40
+	3	9	8	0	0	← 398 × 100
	5	7	3	1	2	← 398 × 144

Thus, 398 × 144 = 57312

Do Yourself

Multiply :

1. 234 × 15
2. 325 × 129
3. 319 × 208
4. 525 × 190

Properties of Multiplication

1. When a number is multiplied by 0, the product is 0.

Examples : (a) 8 × 0 = 0
(b) 37 × 0 = 0

2. When a number is multiplied by 1, the product is the number itself.

Examples : (a) 9 × 1 = 9
(b) 15 × 1 = 15

3. When two or more numbers are multiplied, change in the order of the numbers to be multiplied does not change the product.

Example : 8 × 4 = 32
4 × 8 = 32
So, 8 × 4 = 4 × 8

Do Yourself

Fill in the boxes :

1. 217 × 0 = ☐
2. 119 × 1 = ☐
3. 92 × 57 = ☐ × 92
4. 16 × 27 × 0 = ☐

Example 3 : In Mr Roy's orchard, there are 714 rows of trees with 68 trees in each row. How many trees are there in the orchard?

Solution : Total number of trees = 714 × 68 = 48552

		7	1	4
	×		6	8
		5	7	1	2
+	4	2	8	4	0
	4	8	5	5	2

Thus, there are 48,552 trees in the orchard.

Example 4 : Nidhi gets ₹ 265 as travel allowance every week. How much money does she get in 2 years?

Solution : 1 year = 52 weeks

2 years = 2 × 52 weeks = 104 weeks

Travel allowance for 1 week = ₹ 265

Travel allowance for 104 weeks

= ₹ 265 × 104

= ₹ 27560

		2	6	5
	×	1	0	4
	1	0	6	0
	0	0	0	0
+	2	6	5	0	0
	2	7	5	6	0

Thus, Nidhi gets ₹ 27,560 as travel allowance in 2 years.

EXERCISE 3.1

Use Cordova Smart Class Software on the smart board in class to do Exercise

1. **Solve :**
   - (i) 286 × 125
   - (ii) 677 × 212
   - (iii) 637 × 380
   - (iv) 999 × 400
   - (v) 777 × 222
   - (vi) 609 × 605
   - (vii) 987× 321
   - (viii) 845 × 599
   - (ix) 988 × 514
   - (x) 900 × 888
2. **Multiply the following Devanagari script numbers:**
   - (i) ५६२ × ३८४
   - (ii) ७१५ × २६०
   - (iii) ४३६ × ५००
   - (iv) ६१६ × ६३४
   - (v) ८२३ × ४९२
3. A packet contains 225 toffees, How many toffees will be there in 45 such packets?
4. 165 students are studying in Government Higher Secondary School, Tada. A donor donates 550 rupees per student for their uniform. Find out the total donated amount.
5. A drum contains 220 litres oil. How much oil will 340 drums contain?
6. Price of a single chair is 678 rupees. What will be the price of 296 chairs?
7. How many plants will be there in 213 flowerbeds, if each flowerbed has 525 plants?
8. How many balls are there in 634 boxes, if each box contains 408 balls?

Division of 3-digit Number by 2-digit Number

Example 5 : Divide : 312 ÷ 13

Solution :

Method - I

20 + 4 = 24

13) 312

−260 ← (13 × 20)

52

−52 ← (13 × 4)

00

Method - II

24

13) 312

−26

52

−52

00

Thus, 312 ÷ 13 = 24

Here, 312 is the dividend, 13 is the divisor, 24 is the quotient and 0 is the remainder.

Let us revise the terms related to division.

- The number to be divided is called the dividend.
- The number by which we divide the dividend is called the divisor.
- The answer in division is called the quotient.
- The number that is left over after the division is called the remainder.

Note : Remainder must be smaller than the divisor.

Division Algorithm

You can check your division using division algorithm.
According to division algorithm, we have

Dividend = Divisor × Quotient + Remainder

Example 6 : Divide : 483 ÷ 11

Solution :

```
        43
   11 ) 483
       -44
        43
       -33
        10
```

Here, Dividend = 483, Divisor = 11
Quotient = 43, Remainder = 10

Check : Divisor × Quotient + Remainder
= 11 × 43 + 10
= 473 + 10
= 483
= Dividend

Do Yourself

Divide and check your answer :

1. 828 ÷ 36
2. 966 ÷ 23
3. 607 ÷ 17
4. 759 ÷ 15

Properties of Division

1. When we divide a number by 1, the quotient is the number itself.

Examples : (a) 18 ÷ 1 = 18
(b) 427 ÷ 1 = 427

2. When we divide 0 by a number (except zero), the quotient is 0.

Examples : (a) 0 ÷ 49 = 0
(b) 0 ÷ 175 = 0

3. When we divide a number by itself, the quotient is 1.

Examples : (a) 27 ÷ 27 = 1
(b) 253 ÷ 253 = 1

4. Division by 0 is not possible.

Note : We cannot change the order of the dividend and divisor in division.
14 ÷ 2 = 7 but 2 ÷ 14 is not possible.

Do Yourself

Fill in the boxes :

1. 72 ÷ 72 = ☐
2. 35 ÷ 1 = ☐
3. 0 ÷ 217 = ☐
4. 807 ÷ ☐ = 1

Example 7 : A fruit seller buys 952 apples. He arranges them equally in 14 boxes. How many apples does he put in each box?

Solution : Total number of apples = 952
Number of boxes = 14
Number of apples in one box = 952 ÷ 14
= 68

```
        68
   14 ) 952
       -84
        112
       -112
          0
```

Thus, he puts 68 apples in each box.

Example 8 : A shopkeeper has 195 balls. He puts them equally in 12 boxes. How many balls does he put in each box? How many balls are left over?

Solution : Total number of balls = 195
Number of boxes = 12
Number of balls in each box = 195 ÷ 12
= 16 (remainder 3)

```
        16
   12 ) 195
       -12
        75
       -72
         3
```

Thus, he puts 16 balls in each box and 3 balls are left.

EXERCISE 3.2

Use Cordova Smart Class Software on the smart board in class to do Exercise

1. Solve :
   (i) 255 ÷ 15 (ii) 312 ÷ 12
   (iii) 640 ÷ 16 (iv) 702 ÷ 13
   (v) 357 ÷ 21 (vi) 770 ÷ 28
   (vii) 952 ÷ 34 (viii) 847 ÷ 18
   (ix) 656 ÷ 23 (x) 945 ÷ 35
2. Divide the following Devanagari script numbers :
   (i) ५८४ ÷ ४१ (ii) ७३५ ÷ ३५
   (iii) ८५८ ÷ ३३ (iv) ४३७ ÷ १६
   (v) ५६१ ÷ २३
3. Chhaya bought 20 copies for 360 rupees. What is the price of a single copy?
4. Dheeraj has 864 bananas. How many dozen bananas does he have? (1 dozen = 12 objects)
5. 702 people can sit in 27 buses. How many people can sit in one bus?
6. Onkar has 400 rupees. If the cost of cloth is 30 rupees per m, then how many metres of cloth can he buy and how much money will be left?
7. How many garlands can be made from 648 flowers, if each garland is made of 24 flowers?
8. How many years are there in 936 months?

REVIEW EXERCISE

1. Tick (✓) the correct answer :
   (a) 45 × 12 = ☐
   (i) 540 ☐ (ii) 480 ☐ (iii) 57 ☐
   (b) 600 × ☐ = 6000
   (i) 1000 ☐ (ii) 100 ☐ (iii) 10 ☐
   (c) What is the dividend in the expression 850 ÷ 17 = 50 ?
   (i) 17 ☐ (ii) 850 ☐ (iii) 50 ☐
   (d) 0 ÷ 12 equals
   (i) 0 ☐ (ii) 1 ☐ (iii) 12 ☐
   (e) How many groups of 8 are there in 96?
   (i) 13 ☐ (ii) 14 ☐ (iii) 12 ☐
2. State true (T) or false (F) :
   (a) The order of numbers cannot be changed in multiplication.
   (b) Division by 0 is not possible.
   (c) Repeated addition is also called multiplication.
   (d) The remainder is always smaller than the divisor.
   (e) 15 × 2 × 10 = 75 × 6
3. Multiply :
   (a) 127 × 52 (b) 183 × 69 (c) 338 × 124
   (d) 229 × 115 (e) 426 × 218 (f) 593 × 99
4. Divide :
   (a) 825 ÷ 15 (b) 382 ÷ 18 (c) 563 ÷ 24
   (d) 929 ÷ 21 (e) 584 ÷ 17 (f) 728 ÷ 32
5. A book has 148 pages. How many pages are there in 35 such books?
6. A box can hold 18 cans. There are 950 cans to be packed. How many boxes are needed to pack the cans? How many cans will be left over?
7. One box full of apples has 225 apples. How many apples are there in 117 such boxes?
8. During an examination 448 students of primary school were made to sit in 14 classrooms. If same number of students sit in all rooms, then find the number of students in each room.
9. The weight of a book is 450 g. Find the weight of 30 such books.
10. 18 students of class 5 collected ₹ 900 for the class party. How much did each contribute, if each gave the same amount?