

Teacher's Handbook

Learning

Maths

3



- ✓ Teaching-learning methods
- ✓ Homework tasks
- ✓ Answer key



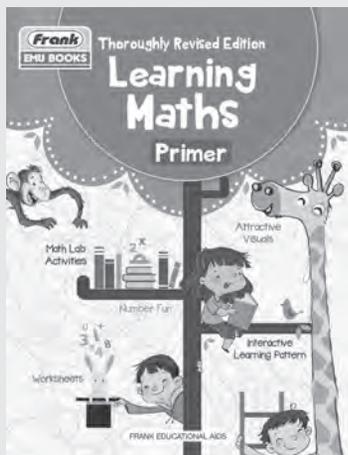
LEARNING MATHS is a series of nine Mathematics textbooks for Classes Introductory to 8. Conforming to the National Curriculum Framework, the series aims to develop thinking and reasoning skills among students by connecting the mathematics curriculum with real-life situations. To make the books user-friendly, mathematical concepts are introduced and explained thoroughly before moving on to essential drill and practice.

KEY FEATURES OF THE PRIMARY SERIES

The revised edition of Learning Maths for primary classes has been developed to create a passion for the subject among the learners. The key features are:

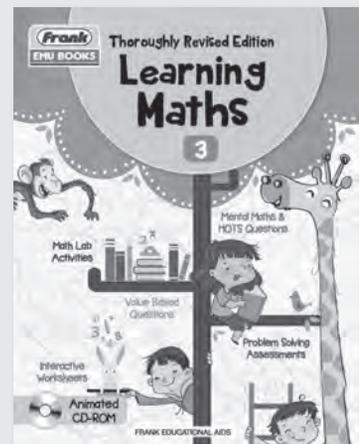
- Graded content with an **INTERACTIVE LEARNING PATTERN** for maximum involvement of children
- Practice Section for additional drilling includes **REVISION EXERCISE**, **SPEEDY MATHS**, **TRICKY MATHS**, **MENTAL MATHS**, **MCQS**, **MATH LAB ACTIVITY**, and much more to meet the curriculum requirement
- **VALUE BASED QUESTIONS** and **PROBLEM SOLVING ASSESSMENT** introduce a variety of real-life situations, and guide students to tackle the problems by strategizing
- **HIGHER ORDER THINKING SKILL (HOTS)** questions include challenges that trigger analytical reasoning
- **WORKSHEETS** at the end of each chapter present fun-filled posers enhance interest in mathematics

PLUS!



The books are supplemented by

- **ENRICHED TEACHER'S MANUAL**
- **Animated AUDIO-VISUAL CDS** to integrate concept-building. They support book content through visuals, animations and interactive exercises.
- We also offer **WEB SUPPORT** for teachers at www.frankedu.com



APPLY YOUR SKILLS

- PROBLEM SOLVING ASSESSMENT**
- Arrange the following in increasing order: 8, 18, 80, 800, 8000. Is something common among them?
 - How many matchsticks do you need if you are asked to write all the Roman numerals?
 - How do you mean a watch or clock with Roman numerals written on it? Did you notice any new numbers? Can you write the numbers in Roman numerals?
 - Express the following in Roman numerals:
 - a. $4 + 5 = 9$
 - b. $9 - 7 = 2$
 - c. $3 \times 3 = 9$
 - d. $8 - 2 = 4$
 - Spin VIII into the sum of Hindu-Arabic numerals.

- VALUE BASED QUESTIONS**
- Write the following about yourself in Roman numerals.
 - a. I am _____ years old.
 - b. I was born in _____ month of the year.
 - c. I study in class _____.
 - d. I have _____ members in my family.
 - e. I have _____ brother/sister.
 Mention the value depicted by you.

- HOTS**
- How many different Roman numerals up to X can you make with 2, 3 and 4 matchsticks?
 - Are all Roman numerals found among the capital English letters? If yes, how many are they?
 - Who am I? Write in Roman numerals.
 - a. I am 5 more than 5.
 - b. I am 7 less than 9.
 - c. I am twice of 3.
 - d. I am half of 6.

**PROBLEM SOLVING ASSESSMENT
(DEVELOP PROBLEM SOLVING SKILLS)**

**VALUE BASED QUESTIONS
(REAL LIFE APPLICATIONS)**

**MENTAL MATHS
(STRATEGIES FOR FAST CALCULATION)**

GUESS WHO AM I?

I am a four-digit number. I have 1 in my thousands place and 2 in my hundreds place. I am a palindrome. A palindrome reads the same—forward and backwards. The words "pop" and "noon" are palindromes. The numbers "747" and "84248" are palindromes. What number am I?

Example 2: Show the given numbers in the place value table. Write their names too.

Periods	Thousands	Hundreds	Tens	Ones	Number names		
Place	T	H	T	O			
Value							
a.	5	3	1	9	0	The lakh, thirty-one thousand nine hundred.	
b.	9	0	8	9	3	9	Nine lakh eight thousand nine hundred thirty-nine.
c.	7	8	8	0	3	5	Seven lakh eighty eight thousand thirty-five.

SPEEDY MATHS

- 10 ones = 1 ten
- 10 tens = 1 hundred
- 10 hundreds = 1 thousand
- 10 thousands = 1 ten thousand
- 100 ones = 1 hundred
- 100 tens = 1 thousand
- 100 hundreds = 1 lakh
- 100 thousands = 1 lakh
- 10 ten thousands = 1 lakh

Notice, how the place value of each digit increases 10 times as we move from right to left i.e., from ones to tens, tens to hundreds, hundreds to thousands and so on.

MATH LAB

- Unfold the paper. You will see that this paper is divided into four equal parts as shown in Figure 5. Shade one of the four parts of Figure 5. The shaded part in Figure 5 represents one-fourth ($\frac{1}{4}$) of the whole.
- Take this test rectangular paper ABCD and fold it into four equal parts as shown before. Unfold it so that each part represents $\frac{1}{4}$ as shown in Figure 6.
- Shade 3 parts out of 4 equal parts of Figure 6. The shaded part in Figure 6 is three-fourths ($\frac{3}{4}$) of the whole.



WORKSHEET

Colour the section of the flag that indicates the given fraction.

a. $\frac{1}{4}$ b. $\frac{3}{4}$ c. $\frac{1}{2}$

d. $\frac{3}{4}$ e. $\frac{1}{2}$ f. $\frac{1}{2}$

TEST YOUR SKILLS

- WORD QUESTIONS**
- # 12 sweets are to be divided among 4 children. the number of sweets each child will get is:
 - a. 2
 - b. 3
 - c. 4
 - d. 6
 - 48 rupees is to be shared between 6 friends. The amount of rupees each friend will get is:
 - a. ₹ 2
 - b. ₹ 8
 - c. ₹ 5
 - d. ₹ 12
 - 20 is divided by a number, we get the quotient as:
 - a. 4
 - b. 5
 - c. the number that cannot be divided
 - d. 22
 - Remainder = 3 and Divisor = 5, then Dividend =:
 - a. 146
 - b. 179
 - c. 4, 218
 - d. 218
- For one quarter of time in a day, How long did he study?
 - a. 4 hours
 - b. 9 hours
 - c. 9 hours
 - d. 9 hours

How do you make your own and make your own at the rate shown alongside.

How do you solve the question and show your solutions with your peers. Give marks out of 10 to each other. Those who score the maximum marks will be the winner.

- WORD QUESTIONS**
- How many times can you take away 7 from 42?
 - Write two division facts for $11 \times 12 = 132$.
 - The quotient of place value of 3 in 324 and 3 in (10,00/100,000).
 - Add 124 and 243. Divide the sum by 5. Is there a remainder? What will it be?
- A labourer earns ₹630 in a week. How much does he earn in a day?

**TRICKY MATHS
(BUILD THINKING SKILLS)**

**SPEEDY MATHS
(SHARPEN MATHEMATICAL SKILLS)**

INTERACTIVE LEARNING PATTERN

Example 2: Multiply 42×36 .

	H	T	O	
	4	2		
\times	3	6		
	2	5	2	
\times	1	2	6	0
	1	3	1	2

So, $42 \times 36 = 1512$.

Why do we add 0 in ones place in the second row?

second row of the multiplication with zero, then we get 126 tens or 1260.

**MATH LAB
(BUILD CONCEPTS THROUGH ACTIVITIES)**

**WORKSHEET
(INTERACTIVE FORM OF PRACTICE)**

	O	C	H	T	O			
	5		5	1				1
	2							2
								4

	T	H	H	T	O			
	7	2						6
								9
								5

- and write the answer:
- 84 \times 17 = _____
 - 67 \times 25 = _____
 - 92 \times 28 = _____
 - 95 \times 37 = _____
 - 87 \times 72 = _____

OBJECTIVES

The students should know about

- (i) Four-digit numbers
 - (a) Smallest four-digit numbers
 - (b) Largest four-digit numbers
- (ii) Reading and writing 4-digit numbers
- (iii) Numbers on Abacus
- (iv) Place value and Face value
- (v) Expanded form of 4-digit numbers
- (vi) Successor and predecessor of a 4-digit number
- (vii) Comparison of numbers
- (viii) Ascending and descending orders
- (ix) Formation of smallest and greatest 4-digit numbers
- (x) Rounding off to the nearest numbers

Prerequisite Knowledge: The students should have the basic knowledge of ones, tens and hundreds numbers as they have studied in their previous classes.

Teaching Aids: Writing board, marker, coloured chalks, charts, smart-board/projector, geometrical box and pointer.

Method of Teaching: The following topics and sub-topics of the chapter will be explained by taking some practical examples.

- (i) **Four-digit numbers:** They consists of ones place, tens place, hundreds place and thousands place.

10 ones = 1 ten, 10 tens = 1 hundred and 10 hundreds = 1 thousand

(a) Smallest four-digit number = 1000

(b) Largest four-digit number = 9999

- (ii) **Reading and writing four digit number**

5421 = Five thousand four hundred twenty-one.

- (iii) **Four-digit numbers on the Abacus**

3815 =	Th	H	T	O
				
	3	8	1	5

(iv) **Place value and face value**

Example: 3725

Place value of 7 = 700

and face value of 7 = 7

(v) **Expanded form of four-digit numbers**

Expanded form of 2385 = 2000 + 300 + 80 + 5

(vi) **Successors and predecessors**

Successor of 3500 = 3501

Predecessor of 3500 = 3499

(vii) **Ascending order:** Arranging the 4-digit numbers in the increasing order.

(viii) **Descending order:** Arranging the 4-digit numbers in their decreasing order.

Recapitulation: The whole chapter will be revised in the class by taking few practical examples involving the students.

Home Assignments

(A) From Textbook

- (i) Exercise 1.2 — Solve Q. No. 1 to 5
- (ii) Exercise 1.3 — Solve Q. No. 1 to 6
- (iii) Exercise 1.4 — Solve Q. No. 1, 2, 3 and 4
- (iv) Exercise 1.5 — Solve Q. No. 1, 2, 3 and 4 all parts
- (v) Exercise 1.6 — Solve Q. No. 1
- (vi) Exercise 1.7 — Solve Q. No. 1 to 6 all parts

(B) Extra Questions

- (i) Write the all numbers lying between 5200 and 5218.
- (ii) Find the place value and face value of 8 in 7832.
- (iii) Arrange in ascending and descending order of the following numbers.
3216, 3206, 3281, 3156, 3100, 3208
- (iv) Compare the numbers 3143 and 3256.
- (v) Write the greatest and smallest numbers with the given digits, using each digit only once.

	Smallest	Greatest
(a) 2, 4, 6, 8	_____	_____
(b) 6, 2, 0, 9	_____	_____
(c) 3, 0, 5, 2	_____	_____
(d) 9, 2, 8, 6	_____	_____

Textbook Solutions

Exercise 1.1

1.–7. Refer answers at the end of the book.

8. To form the greatest number from the given digits, we arrange them in descending order and to form the smallest number, we arrange them in ascending order.

	Smallest No.	Greatest No.
a. 3, 4, 6	346	643
b. 5, 8, 2	258	852

9. For descending order, we arrange the given numbers from greatest to smallest.
- $813 > 331 > 318 > 118$
 - $500 > 440 > 404 > 400$
 - $546 > 365 > 218 > 188$
10. For ascending order, we arrange the given numbers from smallest to greatest.
- $156 < 188 < 780 < 910$
 - $134 < 236 < 431 < 632$
 - $185 < 187 < 789 < 918$
11. Rule: Number increases in each step by
- 2
 - 100
 - 10
 - 4
 - 5
12. Refer answers at the end of the book.

Exercise 1.2

- 1.–5. Refer answers at the end of the book.
- 1001, 1002, 1003, 1004, ..., 1048, 1049, 1050
 - 2825, 2826, 2827, ..., 2866, 2867, 2868
 - 5450, 5451, 5452, ..., 5498, 5499, 5500
 - 6238, 6239, 6240, ..., 6256, 6257, 6258
 - 8465, 8466, 8467, ..., 8488, 8489, 8490
 - 9100, 9101, 9102, ..., 9198, 9199, 9200

Exercise 1.3

1. and 3–5. Refer answers at the end of the book.
- $4000 + 200 + 20 + 4 = 4224$
 - $8000 + 300 + 50 + 6 = 8356$
 - $9000 + 900 + 90 + 9 = 9999$
 - $7000 + 30 + 6 = 7036$
 - $9000 + 50 + 6 = 9056$
 - $2000 + 700 + 80 + 1 = 2781$
 - $3000 + 700 + 40 + 2 = 3742$
 - $5000 + 600 + 0 + 8 = 5608$
 - $8000 + 300 + 70 + 0 = 8370$
- e.-h. Refer answers at the end of the book.

Exercise 1.4

- The successor of a number can be obtained by adding 1 to it.
 - $3785 + 1 = 3786$
 - $5129 + 1 = 5130$
 - $5469 + 1 = 5470$
 - $6734 + 1 = 6735$
 - $8090 + 1 = 8091$
 - $9542 + 1 = 9543$
- The predecessor of a number can be obtained by subtracting 1 from it.
 - $1000 - 1 = 999$
 - $1894 - 1 = 1893$
 - $2884 - 1 = 2883$
 - $4725 - 1 = 4724$
 - $8145 - 1 = 8144$
 - $9216 - 1 = 9215$
- Similar working as in Q1 and Q2.
- Greatest 3-digit no. = 999
Its successor = $999 + 1 = 1000$
- Greatest 4-digit no. = 9999
Its predecessor = $9999 - 1 = 9998$

Exercise 1.5

- Since $5 > 4$ in thousands place, $5234 > 4432$.
 - Since $3 < 8$ in ones place, $4183 < 4188$
 - Since $9 > 6$ in thousands place, $9356 > 6352$
 - Since 1989 has 4 digits and 756 has 3 digits, $1989 > 756$
 - Both numbers have same digits, $1888 = 1888$
 - Since $0 < 5$ in ones place, $9000 < 9005$
 - Since $0 < 7$ in hundreds place, $7037 < 7733$
 - Since $6 > 2$ in thousands place, $6156 > 2623$

- i. Since $3 < 9$ in hundred place, $4933 < 4993$
 j. Both numbers have same digits, $9300 = 9300$

2. a.

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

 $⑨⑧13 > 9087$
 (Biggest)
 $①023 \rightarrow$ Smallest

b.

Th	H	T	O
3	1	8	5
①	8	8	8
①	①	0	0
3	1	8	0
⑧	⑤	1	0

 $⑧⑤10$
 (Biggest)
 $①100$ Smallest

c.

Th	H	T	O
⑧	9	8	9
⑨	⑨	8	0
⑧	⑦	8	0
⑨	0	9	0
⑨	0	0	8

 $⑨⑨80 > 9090$ & 9008
 (Biggest)
 $⑧⑦80 < ⑧989$
 \downarrow
 (Smallest)

d.

Th	H	T	O
3	1	3	5
⑤	3	3	1
①	1	3	5
3	1	5	3
⑤	⑤	5	5

 $⑤555 > ⑤331$
 (Biggest)
 $①135 \rightarrow$ Smallest

3. a.

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

 \rightarrow ④ In thousands place
 \rightarrow ② $4 < 5 < 8$
 $\therefore 885 < 4789 < 5183 < 8234$
 \rightarrow ③

b.

Th	H	T	O
1	8	0	0
⑧	0	0	1
1	1	0	8
⑧	①	0	8

 \rightarrow ②
 \rightarrow ③ Out of 1108 and 1800,
 \rightarrow ① 1108 < 1800, Since 1 < 8 on hundreds place
 \rightarrow ④ Out of 8108 and 8001, 8108 > 8001
 Since 1 > 0 in hundreds place
 $\therefore 1108 < 1800 < 8001 < 8108$

d.

Th	H	T	O
⑨	①	3	4
④	3	9	1
①	3	3	4
	1		

 \rightarrow ④
 \rightarrow ② In thousands place, $1 < 4 < 9$
 \rightarrow ① $\therefore 991 < 1334 < 4391 < 9134$
 \rightarrow ①

c and e. Similar working as above.

4. a.

Th	H	T	O
1	0	0	2
2	2	1	0
2	0	0	1
1	1	2	2

 \rightarrow ③ Out of 1002 and 1122, $0 < 2$ in hundreds place
 \rightarrow ① $\therefore 1002 < 1122$
 \rightarrow ② Out of 2210 and 2001, $2 > 0$ in hundreds
 \rightarrow ④ $\therefore 2210 < 2001$
 $\therefore 2210 > 2001 > 1122 > 1002$

b.

Th	H	T	O
1	3	5	6
1	8	5	8
	8	7	3
	7	3	1

 \rightarrow ③ In hundreds place of 1356 and 1858, 3 is the smallest
 \rightarrow ②
 \rightarrow ① Out of 873 and 731, $8 > 7$ in hundreds place
 \rightarrow ④ $\therefore 873 > 731$
 $\therefore 1858 > 1356 > 873 > 731$

- c.

Th	H	T	O
1	3	5	8
5	0	3	8
5	0	1	8
1	8	8	5

 → ④
 5038 → ① Out of 5038 and 5018
 5018 → ② $3 > 1$ in tens place $\therefore 5038 > 5018$
 1885 → ③ Out of 1885 and 1358
 $8 > 3$ in hundreds place $\therefore 1885 > 1358$
 $\therefore 5038 > 5018 > 1885 > 1358$

- d.

Th	H	T	O
9	1	0	0
9	9	0	0
9	0	1	0
9	0	0	9

 → ② In hundreds place, 1 is the second largest
 9900 → ① In hundreds place, 9 is the greatest
 9010 → ③ Out of 9010 and 9009, $1 > 0$ in tens place
 9009 → ④
 $\therefore 9900 > 9100 > 9010 > 9009$

e. Similar working as above.

Exercise 1.6

- To form the greatest number, we write the given digits in descending order.
 To form the smallest number, we write the given digits in ascending order. Not that zero can't take the highest place.
 Refer answers at the end of the book.

Exercise 1.7

Refer answers at the end of the book.

Exercise 1.8

- To round off to nearest tens: If the digit at ones place is less than 5, we replace the ones digit by 0 and keep the other digits as they are.
 If the digit at ones place is 5 or greater than 5, we increase the tens digit by 1 and replace the ones digit by 0.

a. $12 \rightarrow 10$ (as $2 < 5$)	b. $24 \rightarrow 20$ (as $4 < 5$)
c. $33 \rightarrow 30$ (as $3 < 5$)	d. $52 \rightarrow 50$ (as $2 < 5$)
e. $216 \rightarrow 220$ (as $6 > 5$)	f. $385 \rightarrow 390$ (as 5 in units place)
g. $192 \rightarrow 190$ (as $2 < 5$)	h. $667 \rightarrow 670$ (as $7 > 5$)
- To round off to nearest hundreds: If the digit at tens place is less than 5, we replace each one of the tens and ones digit by 0, and keep the other digits as they are.
 If the digit at tens place is 5 or greater than 5, we increase the hundreds digit by 1 and replace each one of the tens and ones digit by 0.

a. $116 \rightarrow 100$ (as $1 < 5$)	b. $197 \rightarrow 200$ (as $9 > 5$)
c. $456 \rightarrow 500$ (as 5 in tens place)	d. $849 \rightarrow 800$ (as $4 < 5$)
e. $1384 \rightarrow 1400$ (as $8 > 5$)	f. $2076 \rightarrow 2100$ (as $7 > 5$)
g. $5817 \rightarrow 5800$ (as $1 < 5$)	h. $6870 \rightarrow 6900$ (as $7 > 5$)
- Refer answers at the end of the book.
- 45 rounded off to 50.
- Since 5 is in tens place, so we round up to the higher hundreds place. So 2456 is rounded off to 2500. Yes, Drishya's estimate equal to Aliya's when rounded off to the nearest hundreds.

Test Your Skills

Multiple Choice Questions

- 1.–5. Refer answers at the end of the book.

Prerequisite Knowledge: The students should have the basic knowledge of writing the numerals in different ways and their significance as they have studied in their previous classes.

Teaching Aids: Writing board, marker, chalks, charts, geometrical box, smart-board/projector and pointer.

Method of Teaching: The following topics will be taught in the class.

(i) **Roman and Hindu-Arabic Numerals:**

Roman Numerals	I	II	III	IV	V	X	L	C	D	M
Hindu-Arabic Numerals	1	2	3	4	5	10	50	100	500	1000

(ii) **Rules of writing Roman Numerals:**

Rule 1: I = 1, II = 1 + 1, III = 1 + 1 + 1

Only symbol I and X can be repeated.

Rule 2: IV = 5 - 1 = 4 and VI = 5 + 1 = 6

Rule 3: Smaller values can be placed before another of greater value only once.

So, IIV → wrong or IIIIV → wrong

(iii) **Uses of Roman Numerals**

In clock, in book for chapters, for classrooms and in question papers.

Recapitulation: The chapter will be revised in the class by giving some simple examples and if the students have any problem, that will be solved accordingly.

Home Assignments

(A) From Textbook

- (i) Exercise 2.1 — Solve Q. No. 1 to 6 all parts
- (ii) Apply Your Skills : Solve all problems

(B) Extra Questions

- (i) Write in Roman Numerals:
12, 18, 19, 24, 29 and 39
- (ii) Writing in Hindu-Arabic Numerals:
IX, XX, XIV, XXV and XXX VIII

Textbook Solutions

Exercise 2.1

1.-2. Refer answers at the end of the book.

3. a. $V + \underline{\quad} = VII$

$\Rightarrow 5 + \underline{\quad} = 7$

$\Rightarrow \underline{\quad} = 7 - 5 = 2$ or II

c. $II + \underline{\quad} = IV$

$\Rightarrow 2 + \underline{\quad} = 4$

$\Rightarrow \underline{\quad} = 4 - 2 = 2$ or II

4. a. $3 \bigcirc V \Rightarrow 3 \lt \ 5$

c. $IX \bigcirc X \Rightarrow 9 \lt \ 10$

5. a. III IV V b. VIII IX

6. Refer answer at the end of the book.

b. $X - I = \underline{\quad}$

$\Rightarrow 10 - 1 = 9$ or IX

d. $X - II = \underline{\quad}$

$\Rightarrow 10 - 2 = 8$ or VIII

b. $VII \bigcirc 4 \Rightarrow 7 \gt \ 4$

d. $VI \bigcirc 6 \Rightarrow 6 \equiv \ 6$

c. V VI d. IV V

Test Your Skills

Multiple Choice Questions

- 1.-2. Refer answers at the end of the book.
3. b. $IV + IV = 4 + 4 = 8$ (VIII)
4. a. Predecessor of IV is $4 - 1 = 3$ (III)
5. Refer answers at the end of the book.

Mental Maths

1. VII \square IX $\rightarrow 7 \leq 9$
2. V, VII, IX
3. $7 \rightarrow VII$
4. X
5. II, IV, VI, VIII, X

Apply Your Skill

Problem Solving Assessment

1. Refer answers at the end of the book.
 2. I, II, III, IV, V, VI, VII, VIII, IX, X
 $1 + 2 + 3 + 3 + 2 + 3 + 4 + 5 + 3 + 2 = 28$ matchsticks
 3. 11 and 12 $\rightarrow XI, XII$
4. – 5. Refer answers at the end of the book.

Value Based Questions

1. Refer answer at the end of the book.

HOTS

1. Refer answers at the end of the book.
2. Yes. C, D, I, L, M, V, X $\rightarrow 7$
3. a. $5 + 5 = 10 = X$ b. $9 - 7 = 2 = II$ c. $3 \times 3 = 9 = IX$ d. $6 \div 2 = 3 = III$

CHAPTER

3

Addition

OBJECTIVES

The students should know about

- | | |
|-----------------------------------|---------------------------------------|
| (i) Addition of 4-digit numbers | (ii) Addition by breaking the numbers |
| (iii) Finding the missing numbers | (iv) Word problems |

Prerequisite Knowledge: The students should have the basic knowledge of the addition of two-digit numbers and three digit numbers as they have studied in their previous classes.

Teaching Aids: Writing board, marker, chalks, charts, geometrical box, smart-board/projector and the pointer.

Method of Teaching: The following sub-topics of this chapter will be taught in the class taking some practical problems.

- (i) **Addition by breaking any one number**

Example: Add 56 and 32.

Method I: Breaking 32 $56 + 10 + 10 + 10 + 2$

$$\begin{array}{cccc} & \underbrace{} & \underbrace{} & \underbrace{} & \underbrace{} & \underbrace{} \\ & 66 & 76 & 86 & 88 & \end{array}$$

Method II: Breaking 56 $32 + 10 + 10 + 10 + 10 + 10 + 10 + 6$

$$\begin{array}{cccccc} & \underbrace{} & \underbrace{} & \underbrace{} & \underbrace{} & \underbrace{} & \underbrace{} & \underbrace{} \\ & 42 & 52 & 62 & 72 & 82 & 88 & \end{array}$$

(ii) **Adding 4-digit numbers (without regrouping)**

Example: Add 3656 and 4240.

Let us put the numbers in correct columns.

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

(iii) **Addition of 4-digit numbers (with regrouping)**

Example: Add 5648 and 3928.

Let us put the numbers in correct columns.

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

Recapitulation: The whole chapter will be revised in the class by involving the students in some practical problems and if they have any problem, that will be solved accordingly.

Home Assignments

(A) From Textbook

- (i) Exercise 3.1 — Solve Q. No. 1 to 6
- (ii) Exercise 3.2 — Solve Q. No. 1 all parts
- (iii) Exercise 3.3 — Solve Q. No. 1 and 2 all parts
- (iv) Exercise 3.6 — Solve Q. No. 1, 2, 3, 4 all parts

(B) Extra Questions

- (i) Add 3658 and 6325 by regrouping the numbers.
- (ii) Fill in the blanks:
 - (a) $678 + 1104 = \underline{\hspace{2cm}} + 678$
 - (b) $8735 + 2000 = \underline{\hspace{2cm}}$.

Textbook Solutions

Exercise 3.1

1. Refer answer at the end of the book.
2. a. $30 + 34 \bigcirc 64$ b. $30 \bigcirc 6 + 12 + 14$ c. $30 + 28 \bigcirc 57$
 $64 \ominus 64$ $30 \lt 32$ $58 \gt 57$

d. $25 \bigcirc 4 + 9 + 5 + 5$

$25 \bigcirc 23$

e. $15 + 25 \bigcirc 45$

$40 \bigcirc 45$

f. $22 \bigcirc 10 + 6 + 7$

$22 \bigcirc 23$

3. a.
$$\begin{array}{r} \text{HTO} \\ 123 \\ + 366 \\ \hline 489 \end{array}$$

b.
$$\begin{array}{r} \text{HTO} \\ 160 \\ + 728 \\ \hline 888 \end{array}$$

c.
$$\begin{array}{r} \text{HTO} \\ 407 \\ + 422 \\ \hline 829 \end{array}$$

d.
$$\begin{array}{r} \text{HTO} \\ 525 \\ + 130 \\ \hline 655 \end{array}$$

e.
$$\begin{array}{r} \text{HTO} \\ 222 \\ + 555 \\ \hline 777 \end{array}$$

f.
$$\begin{array}{r} \text{HTO} \\ 709 \\ + 270 \\ \hline 979 \end{array}$$

g.
$$\begin{array}{r} \text{HTO} \\ \textcircled{0} \textcircled{0} \\ 652 \\ + 299 \\ \hline 951 \end{array}$$

h.
$$\begin{array}{r} \text{HTO} \\ \textcircled{0} \textcircled{0} \\ 589 \\ + 127 \\ \hline 716 \end{array}$$

i.
$$\begin{array}{r} \text{HTO} \\ \textcircled{0} \\ 682 \\ + 336 \\ \hline 1018 \end{array}$$

j.
$$\begin{array}{r} \text{HTO} \\ \textcircled{0} \\ 585 \\ + 805 \\ \hline 1390 \end{array}$$

4. Refer answers at the end of the book.

5. a.
$$\begin{array}{r} \text{HTO} \\ \text{Pictures taken on Monday} = 255 \\ \text{Pictures taken on Tuesday} + 400 \\ \hline \text{Total pictures taken} = 655 \end{array}$$

Sunny took 655 pictures in all.

b.
$$\begin{array}{r} \text{HTO} \\ \text{Shells collected yesterday} = 158 \\ \text{Shells collected today} + 511 \\ \hline \text{Total shells collected} = 669 \end{array}$$

Shally have 669 sea shells in all.

c.
$$\begin{array}{r} \text{HTO} \\ \textcircled{0} \\ 472 \\ + 394 \\ \hline 866 \end{array}$$

Adarsh gets the sum 866.

6. a. $1000 (999 + 1 = 1000)$

b. $1000 (1000 + 0 = 1000)$

c. $112 (100 + 12 = 112)$

d. $723 (700 + 20 + 3 = 723)$

Exercise 3.2

1. a. $56 + 30$

$$\begin{array}{r} 5 \text{ tens} \quad 6 \text{ ones} \\ + 3 \text{ tens} \quad + 0 \text{ ones} \\ \hline 8 \text{ tens} \quad 6 \text{ ones} \end{array}$$

So, $56 + 30 = 8 \text{ tens} + 6 \text{ ones}$
 $= 80 + 6 = 86$

b. $48 + 21$

$$\begin{array}{r} 4 \text{ tens} \quad 8 \text{ ones} \\ + 2 \text{ tens} \quad + 1 \text{ ones} \\ \hline 6 \text{ tens} \quad 9 \text{ ones} \end{array}$$

So, $48 + 21 = 6 \text{ tens} + 9 \text{ ones}$
 $= 60 + 9 = 69$

c. $65 + 55$

$$\begin{array}{r} 6 \text{ tens} \quad 5 \text{ ones} \\ + 5 \text{ tens} \quad + 5 \text{ ones} \\ \hline 11 \text{ tens} \quad 10 \text{ ones} \end{array}$$

So, $65 + 55 = 11 \text{ tens} + 10 \text{ ones}$
 $= 110 + 10 = 120$

d. $312 + 42$

3 hundreds	1 ten	2 ones
	+ 4 tens	+ 2 ones
	5 tens	4 ones

So, $312 + 42 = 3 \text{ hundreds} + 5 \text{ tens} + 4 \text{ ones} = 300 + 50 + 4 = 354$

e. $628 + 310$

6 hundreds	2 tens	8 ones
+ 3 hundreds	+ 1 ten	+ 0 ones
9 hundreds	3 tens	8 ones

So, $628 + 310 = 9 \text{ hundreds} + 3 \text{ tens} + 8 \text{ ones} = 900 + 30 + 8 = 938$

f. $345 + 154$

3 hundreds	4 tens	5 ones
+ 1 hundred	+ 5 tens	+ 4 ones
4 hundreds	9 tens	9 ones

So, $345 + 154 = 4 \text{ hundreds} + 9 \text{ tens} + 9 \text{ ones} = 400 + 90 + 9 = 499$

Exercise 3.3

<p>1. a. $\begin{array}{r} \text{Th H T O} \\ 4\ 3\ 3\ 5 \\ + 5\ 2\ 1\ 2 \\ \hline 9\ 5\ 4\ 7 \end{array}$</p>	<p>b. $\begin{array}{r} \text{Th H T O} \\ 8\ 2\ 3\ 5 \\ + 1\ 4\ 5\ 4 \\ \hline 9\ 6\ 8\ 9 \end{array}$</p>	<p>c. $\begin{array}{r} \text{Th H T O} \\ 6\ 3\ 2\ 3 \\ + 3\ 4\ 5\ 2 \\ \hline 9\ 7\ 7\ 5 \end{array}$</p>	<p>d. $\begin{array}{r} \text{Th H T O} \\ 1\ 7\ 4\ 5 \\ + 6\ 2\ 4\ 3 \\ \hline 7\ 9\ 8\ 8 \end{array}$</p>	<p>e. $\begin{array}{r} \text{Th H T O} \\ 8\ 0\ 4\ 2 \\ + 1\ 7\ 5\ 6 \\ \hline 9\ 7\ 9\ 8 \end{array}$</p>
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<p>f. $\begin{array}{r} \text{Th H T O} \\ 3\ 4\ 3\ 4 \\ + 5\ 3\ 5\ 3 \\ \hline 8\ 7\ 8\ 7 \end{array}$</p>	<p>g. $\begin{array}{r} \text{Th H T O} \\ 5\ 3\ 2\ 1 \\ + 3\ 5\ 3\ 4 \\ \hline 8\ 8\ 5\ 5 \end{array}$</p>	<p>h. $\begin{array}{r} \text{Th H T O} \\ 8\ 3\ 2\ 2 \\ + 1\ 5\ 3\ 4 \\ \hline 9\ 8\ 5\ 6 \end{array}$</p>	<p>i. $\begin{array}{r} \text{Th H T O} \\ 2\ 0\ 0\ 0 \\ + 5\ 8\ 0\ 9 \\ \hline 7\ 8\ 0\ 9 \end{array}$</p>
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2. First we write the numbers in correct columns and then add.

<p>a. $\begin{array}{r} \text{Th H T O} \\ 2\ 3\ 6\ 7 \\ + 1\ 4\ 2\ 1 \\ \hline 3\ 7\ 8\ 8 \end{array}$</p>	<p>b. $\begin{array}{r} \text{Th H T O} \\ 6\ 9\ 8\ 2 \\ + 2\ 0\ 1\ 7 \\ \hline 8\ 9\ 9\ 9 \end{array}$</p>	<p>c. $\begin{array}{r} \text{Th H T O} \\ 5\ 2\ 6\ 4 \\ + 1\ 3\ 2\ 5 \\ \hline 6\ 5\ 8\ 9 \end{array}$</p>
--	--	--

<p>d. $\begin{array}{r} \text{Th H T O} \\ 2\ 5\ 0\ 0 \\ + 7\ 4\ 0\ 0 \\ \hline 9\ 9\ 0\ 0 \end{array}$</p>	<p>e. $\begin{array}{r} \text{Th H T O} \\ 3\ 8\ 4\ 8 \\ + 2\ 0\ 4\ 1 \\ \hline 5\ 8\ 8\ 9 \end{array}$</p>	<p>f. $\begin{array}{r} \text{Th H T O} \\ 6\ 2\ 0\ 1 \\ + 2\ 4\ 8\ 7 \\ \hline 8\ 6\ 8\ 8 \end{array}$</p>
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3. a. Four hundred thirty-two \longrightarrow $\begin{array}{r} \text{Th H T O} \\ 4\ 3\ 2 \end{array}$
 Eight thousand one hundred thirty-four \longrightarrow $\begin{array}{r} + 8\ 1\ 3\ 4 \\ \hline 8\ 5\ 6\ 6 \end{array}$

b. & c. Similar working as above.

Exercise 3.4

<p>1. a. $\begin{array}{r} \text{Th H T O} \\ 6\ 0\ 0\ 0 \\ + 3\ 0\ 0\ 0 \\ \hline 9\ 0\ 0\ 0 \end{array}$</p>	<p>b. $\begin{array}{r} \text{Th H T O} \\ 4\ 5\ 6\ 9 \\ + 2\ 0\ 0\ 0 \\ \hline 6\ 5\ 6\ 9 \end{array}$</p>	<p>c. $\begin{array}{r} \text{Th H T O} \\ 5\ 9\ 0\ 2 \\ + 4\ 0\ 0\ 0 \\ \hline 9\ 9\ 0\ 2 \end{array}$</p>
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$$\begin{array}{r} \text{d.} \quad \text{Th H T O} \\ 1 \ 3 \ 8 \ 6 \\ + 7 \ 0 \ 0 \ 0 \\ \hline 9 \ 3 \ 8 \ 6 \end{array}$$

$$\begin{array}{r} \text{e.} \quad \text{Th H T O} \\ 4 \ 2 \ 6 \\ + 6 \ 0 \ 0 \ 0 \\ \hline 6 \ 4 \ 2 \ 6 \end{array}$$

$$\begin{array}{r} \text{f.} \quad \text{Th H T O} \\ 3 \ 3 \ 9 \ 0 \\ + 5 \ 0 \ 0 \ 0 \\ \hline 8 \ 3 \ 9 \ 0 \end{array}$$

Exercise 3.5

$$\begin{array}{r} \text{1. a.} \quad \begin{array}{r} \xrightarrow{(3-3=0)} \\ 3 \ ? \ 2 \ ? \\ \xrightarrow{(8-7=1)} \\ + 1 \ 3 \ ? \ 7 \\ \xrightarrow{(7-2=5)} \\ \hline ? \ 3 \ 7 \ 8 \\ \xrightarrow{(3+1=4)} \end{array} \end{array}$$

$$\begin{array}{r} \text{b.} \quad \begin{array}{r} \xrightarrow{(7-2=5)} \\ 5 \ 4 \ 2 \ 1 \\ \xrightarrow{(9-1=8)} \\ + ? \ ? \ ? \ ? \\ \xrightarrow{(7-4=3)} \\ \hline 8 \ 7 \ 7 \ 9 \\ \xrightarrow{(8-5=3)} \end{array} \end{array}$$

$$\begin{array}{r} \text{c.} \quad \begin{array}{r} \xrightarrow{(5-5=0)} \\ 3 \ 4 \ 2 \ ? \\ \xrightarrow{(8-2=6)} \\ + ? \ 3 \ ? \ 5 \\ \xrightarrow{(4+3=7)} \\ \hline 9 \ ? \ 8 \ 5 \\ \xrightarrow{(9-3=6)} \end{array} \end{array}$$

$$\begin{array}{r} \text{d.} \quad \begin{array}{r} \xrightarrow{(6-3=3)} \\ ? \ 5 \ 8 \ ? \\ \xrightarrow{(9-9=0)} \\ + 3 \ ? \ 0 \ 9 \\ \xrightarrow{(5-5=0)} \\ \hline 6 \ 5 \ ? \ 9 \\ \xrightarrow{(8+0=8)} \end{array} \end{array}$$

Exercise 3.6

$$\begin{array}{r} \text{1. a.} \quad \text{Th H T O} \\ \textcircled{1} \ \textcircled{1} \ \textcircled{1} \\ 4 \ 6 \ 5 \ 3 \\ + 1 \ 6 \ 4 \ 9 \\ \hline 6 \ 3 \ 0 \ 2 \end{array}$$

$$\begin{array}{r} \text{b.} \quad \text{Th H T O} \\ \textcircled{1} \ \textcircled{0} \ \textcircled{0} \\ 5 \ 8 \ 8 \ 7 \\ + 2 \ 3 \ 6 \ 9 \\ \hline 8 \ 2 \ 5 \ 6 \end{array}$$

$$\begin{array}{r} \text{c.} \quad \text{Th H T O} \\ \textcircled{1} \ \textcircled{1} \\ 4 \ 7 \ 0 \ 9 \\ + 1 \ 5 \ 3 \ 9 \\ \hline 6 \ 2 \ 4 \ 8 \end{array}$$

$$\begin{array}{r} \text{d.} \quad \text{Th H T O} \\ \textcircled{1} \ \textcircled{0} \ \textcircled{0} \\ 5 \ 6 \ 6 \ 6 \\ + 3 \ 7 \ 7 \ 7 \\ \hline 9 \ 4 \ 4 \ 3 \end{array}$$

$$\begin{array}{r} \text{e.} \quad \text{Th H T O} \\ \textcircled{1} \\ 4 \ 0 \ 5 \ 0 \\ + 7 \ 6 \ 6 \\ \hline 4 \ 8 \ 1 \ 6 \end{array}$$

$$\begin{array}{r} \text{f.} \quad \text{Th H T O} \\ \textcircled{1} \ \textcircled{1} \\ 3 \ 7 \ 9 \ 4 \\ + 5 \ 3 \ 2 \ 5 \\ \hline 9 \ 1 \ 1 \ 9 \end{array}$$

$$\begin{array}{r} \text{g.} \quad \text{Th H T O} \\ \textcircled{1} \ \textcircled{1} \\ 3 \ 2 \ 3 \ 9 \\ + 4 \ 7 \ 1 \\ \hline 3 \ 7 \ 1 \ 0 \end{array}$$

$$\begin{array}{r} \text{h.} \quad \text{Th H T O} \\ \textcircled{1} \\ 6 \ 4 \ 4 \ 2 \\ + 1 \ 8 \ 4 \ 7 \\ \hline 8 \ 2 \ 8 \ 9 \end{array}$$

$$\begin{array}{r} \text{i.} \quad \text{Th H T O} \\ \textcircled{1} \ \textcircled{1} \\ 7 \ 0 \ 8 \ 9 \\ + 2 \ 8 \ 7 \ 3 \\ \hline 9 \ 9 \ 6 \ 2 \end{array}$$

$$\begin{array}{r} \text{2. a.} \quad \text{Th H T O} \\ \textcircled{1} \ \textcircled{1} \ \textcircled{1} \\ 4 \ 3 \ 7 \ 2 \\ 3 \ 7 \ 1 \ 9 \\ + 4 \ 8 \\ \hline 8 \ 1 \ 3 \ 9 \end{array}$$

$$\begin{array}{r} \text{b.} \quad \text{Th H T O} \\ \textcircled{1} \ \textcircled{1} \ \textcircled{1} \\ 5 \ 7 \ 6 \ 5 \\ 3 \ 7 \ 4 \\ + 2 \ 8 \ 0 \ 9 \\ \hline 8 \ 9 \ 4 \ 8 \end{array}$$

$$\begin{array}{r} \text{c.} \quad \text{Th H T O} \\ \textcircled{1} \ \textcircled{1} \ \textcircled{1} \\ 4 \ 5 \ 9 \\ 1 \ 8 \ 2 \ 3 \\ + 2 \ 6 \ 4 \ 5 \\ \hline 4 \ 9 \ 2 \ 7 \end{array}$$

$$\begin{array}{r} \text{d.} \quad \text{Th H T O} \\ \textcircled{1} \ \textcircled{1} \ \textcircled{2} \\ 6 \ 0 \ 4 \ 7 \\ 2 \ 9 \ 9 \ 6 \\ + 9 \ 0 \ 8 \\ \hline 9 \ 9 \ 5 \ 1 \end{array}$$

$$\begin{array}{r} \text{e.} \quad \text{Th H T O} \\ \textcircled{1} \ \textcircled{1} \\ 4 \ 4 \ 3 \ 2 \\ 2 \ 3 \ 3 \ 2 \\ + 1 \ 4 \ 5 \ 5 \\ \hline 8 \ 2 \ 1 \ 9 \end{array}$$

$$\begin{array}{r} \text{f.} \quad \text{Th H T O} \\ \textcircled{1} \ \textcircled{1} \ \textcircled{2} \\ 3 \ 0 \ 0 \ 9 \\ 1 \ 5 \ 4 \ 8 \\ + 1 \ 8 \ 9 \ 7 \\ \hline 6 \ 4 \ 5 \ 4 \end{array}$$

$$\begin{array}{r} \text{g.} \quad \text{Th H T O} \\ \textcircled{1} \ \textcircled{1} \\ 4 \ 2 \ 5 \ 8 \\ 3 \ 8 \ 2 \ 7 \\ + 1 \ 0 \ 1 \ 2 \\ \hline 9 \ 0 \ 9 \ 7 \end{array}$$

$$\begin{array}{r} \text{h.} \quad \text{Th H T O} \\ \textcircled{1} \ \textcircled{1} \ \textcircled{2} \\ 4 \ 5 \ 6 \ 9 \\ 2 \ 3 \ 5 \ 3 \\ + 1 \ 4 \ 2 \ 9 \\ \hline 8 \ 3 \ 5 \ 1 \end{array}$$

$$\begin{array}{r} \text{i.} \quad \text{Th H T O} \\ \textcircled{1} \ \textcircled{1} \ \textcircled{1} \\ 5 \ 6 \ 4 \ 2 \\ 2 \ 4 \ 6 \ 4 \\ + 1 \ 5 \ 1 \ 8 \\ \hline 9 \ 6 \ 2 \ 4 \end{array}$$

$$\begin{array}{r} \text{3. a.} \quad \text{Th H T O} \\ \textcircled{1} \ \textcircled{1} \ \textcircled{1} \\ 5 \ 8 \ 6 \ 9 \\ + 3 \ 5 \ 8 \ 7 \\ \hline 9 \ 4 \ 5 \ 6 \end{array}$$

$$\begin{array}{r} \text{b.} \quad \text{Th H T O} \\ \textcircled{1} \ \textcircled{1} \ \textcircled{1} \\ 5 \ 8 \ 5 \ 2 \\ + 3 \ 6 \ 5 \ 9 \\ \hline 9 \ 5 \ 1 \ 1 \end{array}$$

$$\begin{array}{r} \text{c.} \quad \text{Th H T O} \\ \textcircled{1} \ \textcircled{2} \\ 1 \ 0 \ 5 \ 8 \\ 4 \ 9 \\ + 7 \ 1 \ 8 \ 5 \\ \hline 8 \ 2 \ 9 \ 2 \end{array}$$

		Th	H	T	O
		①	①	①	
6. No. of men	=	2	4	7	6
No. of women	=	2	3	9	4
No. of children	=	+ 1	3	2	7
Total people	=	<u>6 1 9 7</u>			

There are 6197 people in the village.

Exercise 3.9

	Estimated Sum	Actual Sum		Estimated Sum	Actual Sum
1. a.	8 0 <u>+ 5 0</u> 1 3 0	8 2 <u>+ 4 6</u> 1 2 8	b.	9 0 <u>+ 3 0</u> 1 2 0	8 7 <u>+ 2 9</u> 1 1 6
c.	3 0 <u>+ 8 0</u> 1 1 0	3 3 <u>+ 7 8</u> 1 1 1	d.	5 0 <u>+ 4 0</u> 9 0	4 8 <u>+ 3 6</u> 8 4
e.	2 5 0 <u>+ 3 9 0</u> 6 4 0	2 5 3 <u>+ 3 8 6</u> 6 3 9	f.	3 1 0 <u>+ 7 5 0</u> 1 0 6 0	3 0 5 <u>+ 7 5 3</u> 1 0 5 8
g.	1 9 0 <u>+ 2 2 0</u> 4 1 0	1 8 7 <u>+ 2 1 5</u> 4 0 2	h.	6 7 0 <u>+ 2 1 0</u> 8 8 0	6 7 3 <u>+ 2 1 4</u> 8 8 7
2. a.	3 0 0 <u>+ 7 0 0</u> 1 0 0 0	2 5 2 <u>+ 6 8 7</u> 9 3 9	b.	6 0 0 <u>+ 2 0 0</u> 8 0 0	5 8 4 <u>+ 1 9 2</u> 7 7 6
c.	2 0 0 <u>+ 3 0 0</u> 5 0 0	1 8 7 <u>+ 3 3 5</u> 5 2 2	d.	3 0 0 <u>+ 6 0 0</u> 9 0 0	2 7 8 <u>+ 6 2 1</u> 8 9 9

Exercise 3.10

1. **a.** A flock of 20 birds were flying in the sky. 7 more birds join in. How many birds are there in all?
- b.** A packet contains 9 candles, 13 more candles are put in that packet. How many candles are in the packet?
- c.** Shally found eighteen seashells on the beach. Her sister found twenty-seven seashells. How many seashells did they find in all?
- d.** Lalit reads 25 pages of a book. He has to read 104 more pages to complete the book. How many pages does the book have?
- e.** A farmer grew 136 pumpkins in his farm last year. This year, he grew 120 pumpkins in his farm. How many pumpkins did he grow in two years?
- f.** Monika spends 124 rupees for a top and 215 rupees for a jeans. Find the amount that Monika spends in all.

Note: Any reasonable problems can be considered.

Test Your Skills

Multiple Choice Questions

1.-5. Refer answers at the end of the book.

Mental Maths

- $4061 + 3286 = 7347$
- $1000 - (200 + 400) = 400$
- $906 + 231 \square 453 + 784 \Rightarrow 1137 < 1237$
- $59 + 1 \longrightarrow 60 + 10 \longrightarrow 70 + 10 \longrightarrow 80 \Rightarrow 59 + 21 = \boxed{80}$
- $600 + 300 = 900$

Apply Your Skills

Problem Solving Assessment

	Th	H	T	O
1. Pencils made in the 1st shift	=	7	5	7
Pencils made in the 2nd shift	=	+ 2	0	6
Pencils made in the day	=	<u>9</u>	<u>6</u>	<u>4</u>
9643 pencils were made on that day.				

	Th	H	T	O
2. No. of bags of sugar	=	②	①	①
No. of bags of wheat flour	=	1	8	4
No. of bags of rice	=	+ 6	5	2
Total no. of bags	=	<u>9</u>	<u>1</u>	<u>5</u>
In all, there are 9152 bags in the shop.				

	Th	H	T	O
3. No. of tourists on 1 st day	=	①	①	①
No. of tourists on 2 nd day	=	1	5	4
No. of tourists on 3 rd day	=	+ 2	8	6
Total no. of tourists	=	<u>7</u>	<u>4</u>	<u>3</u>
The number of tourists who visited the fair is 7433.				

4. Successor of 499	=	5	0	0
Greatest number formed by 3 different digits	=	+ 9	8	7
Sum	=	<u>1</u>	<u>4</u>	<u>8</u>

5. Refer answers given at the end of the book.

Value Based Questions

	Th	H	T	O
1. Money collected in 1 st month	=	①	①	①
Money collected in 2 nd month	=	+ ₹1	4	1
Total money collected	=	<u>₹9</u>	<u>2</u>	<u>0</u>

The villagers collected ₹9200 in all.

Value: Social responsibility

2.	No. of saplings planted by Class III A	=	405
	No. of saplings planted by Class III B	=	504
	No. of saplings planted by Class III C	=	473
	No. of saplings planted by Class III D	=	+ 336
	Total number of saplings planted	=	<u>1718</u>

Value: Care for nature.

HOTS

1. & 2. Refer answers at the end of the book.

CHAPTER

4

Subtraction

OBJECTIVES

The students should know about

- Minuend and subtrahend
- Subtraction by breaking up
- Subtraction of 4-digit numbers (without borrowing)
- Subtraction of 4-digit numbers (with borrowing)
- Combining addition and subtraction
- Word Problems

Prerequisite Knowledge: The students should have the basic knowledge of subtraction of two and three digits as they have studied in their previous classes.

Teaching Aids: Writing board, marker, chalks, charts, duster, geometrical box, smart-board/projector and pointer.

Method of Teaching: The following topics will be taught in the class from the given chapter.

(i) **Minuend:** The bigger number is called minuend.

(ii) **Subtrahend:** The smaller number which is to be subtracted is called subtrahend.

Example: $54 - 39 = 15$

Minuend Subtrahend Difference

(iii) **Subtraction by breaking up:**

Example: Subtract 22 from 65.

$$= 65 - 10 - 10 - 2 = 43$$

55
45
43

(iv) **Subtraction of 4-digit numbers (without borrowing)**

Example: Subtract 5422 from 7534.

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

(v) **Subtraction of 4-digit numbers (with borrowing)**

Example: Subtract 2543 from 6000.

$$\begin{array}{r} \text{Th} \quad \text{H} \quad \text{T} \quad \text{O} \\ \begin{array}{cccc} \overset{5}{\cancel{6}} & \overset{9}{\cancel{0}} & \overset{9}{\cancel{0}} & \overset{10}{\cancel{0}} \\ - & 2 & 5 & 4 & 3 \\ \hline & 3 & 4 & 5 & 7 \end{array} \end{array}$$

(vi) **Word Problems:** The total strength of students in a school is 1872. If number of boys is 1025, find the number of girls.

$$\begin{array}{r} \text{Th} \quad \text{H} \quad \text{T} \quad \text{O} \\ \text{Solution: Total number of students} = \quad \begin{array}{cccc} & 1 & 8 & \overset{6}{\cancel{7}} & \overset{12}{\cancel{2}} \\ \text{Number of boys} & = & - & 1 & 0 & 2 & 5 \\ \hline \therefore \text{Number of girls} & = & & & 8 & 4 & 7 \end{array} \end{array}$$

Recapitulation: The whole chapter will be revised in the class by given simple examples of subtraction and if they feel some problem, that will be removed accordingly.

Home Assignments

(A) From Textbook

- (i) Exercise 4.1 — Solve Q. No. 1 to 4 all parts
- (ii) Exercise 4.3 — Solve Q. No. 2, 3, 4 all parts
- (iii) Exercise 4.5 — Solve Q. No. 1 all parts
- (iv) Exercise 4.6 — Solve Q. No. 1 to 3 all parts
- (v) Exercise 4.8 — Solve Q. No. 1 to 10
- (vi) Exercise 4.12 — Solve Q. No. 1 to 3 all parts

(B) Extra Questions

- (i) Subtract 3250 from 3305 (with borrowing)
- (ii) Find the value of $7618 - 1000 + 2050$
- (iii) What must be subtracted from 5438 to get 3484?

Textbook Solutions

Exercise 4.1

1. a. $58 - 28 \bigcirc 30 \Rightarrow 30 \ominus 30$ b. $46 - 35 \bigcirc 6 \Rightarrow 11 \otimes 6$
c. $47 - 15 \bigcirc 16 \Rightarrow 32 \otimes 16$ d. $88 - 45 \bigcirc 29 \Rightarrow 43 \otimes 29$
e. $75 - 48 \bigcirc 11 \Rightarrow 27 \otimes 11$ f. $77 - 68 \bigcirc 17 \Rightarrow 9 \otimes 17$

2. a.
$$\begin{array}{r} \text{T} \quad \text{O} \\ \begin{array}{cc} \overset{2}{\cancel{3}} & \overset{0}{\cancel{0}} \\ - & 1 & 8 \\ \hline & 1 & 8 \end{array} \end{array}$$
 b.
$$\begin{array}{r} \text{T} \quad \text{O} \\ \begin{array}{cc} \overset{8}{\cancel{9}} & \overset{0}{\cancel{0}} \\ - & 3 & 9 \\ \hline & 5 & 3 \end{array} \end{array}$$
 c.
$$\begin{array}{r} \text{T} \quad \text{O} \\ \begin{array}{cc} \overset{7}{\cancel{8}} & \overset{0}{\cancel{0}} \\ - & 5 & 8 \\ \hline & 2 & 3 \end{array} \end{array}$$
 d.
$$\begin{array}{r} \text{T} \quad \text{O} \\ \begin{array}{cc} \overset{6}{\cancel{7}} & \overset{0}{\cancel{0}} \\ - & 3 & 6 \\ \hline & 3 & 4 \end{array} \end{array}$$
 e.
$$\begin{array}{r} \text{T} \quad \text{O} \\ \begin{array}{cc} \overset{5}{\cancel{6}} & \overset{0}{\cancel{0}} \\ - & 4 & 7 \\ \hline & 1 & 6 \end{array} \end{array}$$

3. a. $\begin{array}{r} \text{H T O} \\ 871 \\ - 50 \\ \hline 821 \end{array}$	b. $\begin{array}{r} \text{H T O} \\ 985 \\ - 674 \\ \hline 311 \end{array}$	c. $\begin{array}{r} \text{H T O} \\ 560 \\ - 60 \\ \hline 500 \end{array}$	d. $\begin{array}{r} \text{H T O} \\ 651 \\ - 330 \\ \hline 321 \end{array}$
e. $\begin{array}{r} \text{H T O} \\ 482 \\ - 338 \\ \hline 144 \end{array}$	f. $\begin{array}{r} \text{H T O} \\ 798 \\ - 279 \\ \hline 529 \end{array}$	g. $\begin{array}{r} \text{H T O} \\ 711 \\ - 528 \\ \hline 183 \end{array}$	h. $\begin{array}{r} \text{H T O} \\ 393 \\ - 195 \\ \hline 208 \end{array}$

4. a. Money Akshay had = $\begin{array}{r} \text{H T O} \\ ₹567 \end{array}$ Money spent at store = $\begin{array}{r} - ₹246 \end{array}$ Money left = $\begin{array}{r} ₹321 \end{array}$ Akshay has left with ₹321.	b. Beads Shivani has = $\begin{array}{r} \text{H T O} \\ 821 \end{array}$ Beads Shivani gave to friend = $\begin{array}{r} - 301 \end{array}$ Beads left = $\begin{array}{r} 520 \end{array}$ Shivani has 520 beads left with her.
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Exercise 4.2

1. a. $89 - 26$ $= 89 - 20 - 6$ $= 69 - 6 = 63$	b. $56 - 35$ $= 56 - 30 - 5$ $= 26 - 5 = 21$	c. $75 - 51$ $= 75 - 50 - 1$ $= 25 - 1 = 24$
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Exercise 4.3

1. a. $\begin{array}{r} \text{Th H T O} \\ 2897 \\ - 1465 \\ \hline 1432 \end{array}$	b. $\begin{array}{r} \text{Th H T O} \\ 3921 \\ - 2810 \\ \hline 1111 \end{array}$	c. $\begin{array}{r} \text{Th H T O} \\ 4582 \\ - 2461 \\ \hline 2121 \end{array}$	
d. $\begin{array}{r} \text{Th H T O} \\ 5463 \\ - 1023 \\ \hline 4440 \end{array}$	e. $\begin{array}{r} \text{Th H T O} \\ 6590 \\ - 2360 \\ \hline 4230 \end{array}$	f. $\begin{array}{r} \text{Th H T O} \\ 7856 \\ - 4754 \\ \hline 3102 \end{array}$	
g. $\begin{array}{r} \text{Th H T O} \\ 7895 \\ - 6382 \\ \hline 1513 \end{array}$	h. $\begin{array}{r} \text{Th H T O} \\ 8635 \\ - 2415 \\ \hline 6220 \end{array}$	i. $\begin{array}{r} \text{Th H T O} \\ 9085 \\ - 6054 \\ \hline 3031 \end{array}$	
2. a. $\begin{array}{r} \text{Th H T O} \\ 8653 \\ - 343 \\ \hline 8310 \end{array}$	b. $\begin{array}{r} \text{Th H T O} \\ 4876 \\ - 3051 \\ \hline 1825 \end{array}$	c. $\begin{array}{r} \text{Th H T O} \\ 7429 \\ - 4219 \\ \hline 3210 \end{array}$	d. $\begin{array}{r} \text{Th H T O} \\ 9638 \\ - 8537 \\ \hline 1101 \end{array}$
3. a. $\begin{array}{r} \text{Th H T O} \\ 3685 \\ - 2143 \\ \hline 1542 \end{array}$	b. $\begin{array}{r} \text{Th H T O} \\ 5824 \\ - 3702 \\ \hline 2122 \end{array}$	c. $\begin{array}{r} \text{Th H T O} \\ 4895 \\ - 3274 \\ \hline 1621 \end{array}$	
4. a. $\begin{array}{r} \text{Th H T O} \\ 9886 \\ - 0875 \\ \hline 9011 \end{array}$	b. $\begin{array}{r} \text{Th H T O} \\ 5094 \\ - 3052 \\ \hline 2042 \end{array}$	c. $\begin{array}{r} \text{Th H T O} \\ 7682 \\ - 5060 \\ \hline 2622 \end{array}$	

Exercise 4.4

1. a.
$$\begin{array}{r} 3\sqrt{257} \rightarrow (3-2=1) \\ -?1? \rightarrow (7-2=5) \\ \hline 2?12 \rightarrow (5-1=4) \\ \hline 2?12 \rightarrow (2-1=1) \end{array}$$
- b.
$$\begin{array}{r} 7\sqrt{64?} \rightarrow (7-1=6) \\ -?5?9 \rightarrow (0+9=9) \\ \hline 1?20 \rightarrow (4-2=2) \\ \hline 1?20 \rightarrow (6-5=1) \end{array}$$
- c.
$$\begin{array}{r} 6? \sqrt{?7} \rightarrow (3+2=5) \\ +?421 \rightarrow (2+4=6) \\ \hline 523? \rightarrow (6-5=1) \\ \hline 523? \rightarrow (7-1=6) \end{array}$$
- d.
$$\begin{array}{r} 7\sqrt{956} \rightarrow (7-0=7) \\ -?4?0 \rightarrow (5-2=3) \\ \hline 7?2? \rightarrow (6-0=6) \\ \hline 7?2? \rightarrow (9-4=5) \end{array}$$

Exercise 4.5

- a. $4963 - 1000 = 3963$ b. $6781 - 6000 = 781$ c. $4869 - 1000 = 3869$
 d. $6385 - 3000 = 3385$ e. $6809 - 2000 = 4809$ f. $7772 - 7000 = 772$

Exercise 4.6

1. a.
$$\begin{array}{r} \text{Th H T O} \\ 48\cancel{5}01 \\ - 1623 \\ \hline 3228 \end{array}$$
- b.
$$\begin{array}{r} \text{Th H T O} \\ 7\cancel{9}063 \\ - 4872 \\ \hline 3091 \end{array}$$
- c.
$$\begin{array}{r} \text{Th H T O} \\ 7\cancel{0}8 \\ 8\cancel{6}94 \\ - 3990 \\ \hline 4704 \end{array}$$
- d.
$$\begin{array}{r} \text{Th H T O} \\ 8\cancel{9}0000 \\ - 4765 \\ \hline 4135 \end{array}$$
- e.
$$\begin{array}{r} \text{Th H T O} \\ 2\cancel{0}3\cancel{0}6 \\ \cancel{3}\cancel{4}\cancel{6}7 \\ - 2576 \\ \hline 0891 \end{array}$$
- f.
$$\begin{array}{r} \text{Th H T O} \\ 4\cancel{8}8\cancel{0} \\ \cancel{5}00\cancel{9}\cancel{3} \\ - 3856 \\ \hline 1237 \end{array}$$
- g.
$$\begin{array}{r} \text{Th H T O} \\ 4\cancel{9}9 \\ \cancel{5}00000 \\ - 2483 \\ \hline 2517 \end{array}$$
- h.
$$\begin{array}{r} \text{Th H T O} \\ 8\cancel{0}19 \\ \cancel{9}2\cancel{0}01 \\ - 5408 \\ \hline 3793 \end{array}$$
- i.
$$\begin{array}{r} \text{Th H T O} \\ 1\cancel{0}0 \\ 2\cancel{1}048 \\ - 1356 \\ \hline 792 \end{array}$$
2. a.
$$\begin{array}{r} \text{Th H T O} \\ 2\cancel{0}9 \\ \cancel{3}\cancel{1}0004 \\ - 1275 \\ \hline 1829 \end{array}$$
- b.
$$\begin{array}{r} \text{Th H T O} \\ 3\cancel{9}9 \\ \cancel{4}00008 \\ - 2129 \\ \hline 1879 \end{array}$$
- c.
$$\begin{array}{r} \text{Th H T O} \\ 1\cancel{0}1 \\ 6\cancel{2}200 \\ - 4046 \\ \hline 2174 \end{array}$$
- d.
$$\begin{array}{r} \text{Th H T O} \\ 4\cancel{9} \\ 9\cancel{5}0000 \\ - 6075 \\ \hline 3425 \end{array}$$
- e.
$$\begin{array}{r} \text{Th H T O} \\ 8\cancel{9} \\ \cancel{9}00047 \\ - 5283 \\ \hline 3764 \end{array}$$
- f.
$$\begin{array}{r} \text{Th H T O} \\ 2 \\ \cancel{3}0257 \\ - 1824 \\ \hline 1433 \end{array}$$
3. a.
$$\begin{array}{r} \text{Th H T O} \\ 6\cancel{9} \\ 2\cancel{7}0008 \\ - 1309 \\ \hline 1399 \end{array}$$
- b.
$$\begin{array}{r} \text{Th H T O} \\ 8 \\ 38\cancel{9}06 \\ - 2509 \\ \hline 1387 \end{array}$$
- c.
$$\begin{array}{r} \text{Th H T O} \\ 6\cancel{9}9 \\ \cancel{7}00000 \\ - 4587 \\ \hline 2413 \end{array}$$

Exercise 4.7

1.-2. Refer answers at the end of the book.

Exercise 4.8

$$\begin{array}{r}
 \text{Th H T O} \\
 \\
 1. \text{ Population of village} = 2 \ 7 \ 8 \ 04 \\
 \text{No. of weavers in village} = - 1 \ 2 \ 3 \ 8 \\
 \hline
 \therefore \text{No. of farmers in village} = 1 \ 5 \ 4 \ 6
 \end{array}$$

There are 1546 farmers in the village.

$$\begin{array}{r}
 \text{Th H T O} \\
 \\
 2. \text{ No. of invitation cards printed} = 1 \ 9 \ 5 \ 00 \\
 \text{No. of invitation cards sent} = - 9 \ 9 \ 7 \\
 \hline
 \text{No. of invitation cards not used} = 9 \ 5 \ 3
 \end{array}$$

953 invitation cards were not used.

$$\begin{array}{r}
 \text{Th H T O} \\
 \\
 3. \text{ No. of children took part in painting competition} = 9 \ 7 \ 6 \ 5 \\
 \text{No. of children below 10 years} = - 4 \ 2 \ 1 \ 3 \\
 \hline
 \therefore \text{No. of children above 10 years} = 5 \ 5 \ 5 \ 2 \\
 \hline
 \text{5552 children were above 10 years of age.}
 \end{array}$$

$$\begin{array}{r}
 \text{Th H T O} \\
 \\
 4. \text{ Packets of biscuits bought} = 8 \ 00 \ 00 \ 00 \\
 \text{Packets of biscuits distributed} = - 7 \ 5 \ 8 \ 2 \\
 \hline
 \therefore \text{No. of packets left} = 4 \ 1 \ 8
 \end{array}$$

418 packets of biscuits were left on Independence day.

$$\begin{array}{r}
 \text{Th H T O} \\
 \\
 5. \text{ Quantity of milk in milkbooth} = 7 \ 5 \ 3 \ 06 \text{ litres} \\
 \text{Quantity of milk supplied} = - 5 \ 8 \ 9 \ 7 \text{ litres} \\
 \hline
 \text{Milk left in the milkbooth} = 1 \ 6 \ 3 \ 9 \text{ litres}
 \end{array}$$

1639 litres of milk is left in the milkbooth.

$$\begin{array}{r}
 \text{Th H T O} \\
 \\
 6. \text{ Money earned} = ₹ 8 \ 8 \ 02 \ 5 \\
 \text{Money spent} = - ₹ 6 \ 7 \ 4 \ 0 \\
 \hline
 \text{Money saved} = ₹ 1 \ 8 \ 8 \ 5
 \end{array}$$

Saroj saved ₹1885 in the month of March.

$$\begin{array}{r}
 \text{Th H T O} \\
 \\
 7. \text{ The sum of two numbers} = 5 \ 00 \ 8 \ 9 \\
 \text{One number} = - 3 \ 2 \ 1 \ 5 \\
 \hline
 \text{The other number} = 1 \ 8 \ 7 \ 4 \\
 \hline
 \text{The other number is 1874.}
 \end{array}$$

$$\begin{array}{r}
 \text{Th H T O} \\
 \\
 8. \text{ Greater no.} = 9 \ 2 \ 08 \ 7 \\
 \text{Smaller no.} = - 7 \ 5 \ 9 \ 0 \\
 \hline
 \text{Difference} = 1 \ 6 \ 9 \ 7
 \end{array}$$

So, 9287 is greater than 7590 by 1697.

$$\begin{array}{r}
 \text{Th H T O} \\
 \\
 9 \\
 \text{Price of TV set} = \\
 \text{Price of washing machine} = \\
 \hline
 \text{Difference} =
 \end{array}$$

So, cost of TV set is ₹258 more than that of washing machine.

$$\begin{array}{r}
 \text{Th H T O} \\
 \\
 6 \\
 \text{The sum of numbers} = \\
 \text{One number} = \\
 \hline
 \text{The number to be added} =
 \end{array}$$

So, 1893 must be added to 5107 to make it equal to 7000.

Exercise 4.9

1. a.

Estimated difference	Actual difference
50	47
<u>-40</u>	<u>-36</u>
<u>10</u>	<u>11</u>

The estimate differs from the actual difference by 1.

c.

Estimated difference	Actual difference
70	73
<u>-60</u>	<u>-59</u>
<u>10</u>	<u>14</u>

The estimate differs from the actual difference by 4.

e.

Estimated difference	Actual difference
300	297
<u>-140</u>	<u>-142</u>
<u>160</u>	<u>155</u>

The estimate differs from the actual difference by 5.

g.

Estimated difference	Actual difference
830	825
<u>-660</u>	<u>-656</u>
<u>170</u>	<u>169</u>

The estimate differs from the actual difference by 1.

b.

Estimated difference	Actual difference
50	52
<u>-20</u>	<u>-17</u>
<u>30</u>	<u>35</u>

The estimate differs from the actual difference by 5.

d.

Estimated difference	Actual difference
90	92
<u>-80</u>	<u>-75</u>
<u>10</u>	<u>17</u>

The estimate differs from the actual difference by 7.

f.

Estimated difference	Actual difference
300	310
<u>-200</u>	<u>-212</u>
<u>100</u>	<u>98</u>

The estimate differs from the actual difference by 2.

h.

Estimated difference	Actual difference
970	973
<u>-460</u>	<u>-457</u>
<u>510</u>	<u>516</u>

The estimate differs from the actual difference by 6.

$$\begin{array}{r}
 \text{2. a. Estimated} \\
 \text{difference} \\
 400 \\
 -200 \\
 \hline
 200
 \end{array}$$

The estimate differs from the actual difference by 7.

$$\begin{array}{r}
 \text{c. Estimated} \\
 \text{difference} \\
 800 \\
 -400 \\
 \hline
 400
 \end{array}$$

The estimate differs from the actual difference by 36.

$$\begin{array}{r}
 \text{b. Estimated} \\
 \text{difference} \\
 700 \\
 -300 \\
 \hline
 400
 \end{array}$$

The estimate differs from the actual difference by 23.

$$\begin{array}{r}
 \text{d. Estimated} \\
 \text{difference} \\
 1000 \\
 -600 \\
 \hline
 400
 \end{array}$$

The estimate differs from the actual difference by 17.

Exercise 4.10

1. Any reasonable problems can be framed.

- Subtract 8 from 38.
- Hamid gave 45 stickers to his younger brother. Now he has only 25 stickers. How many stickers did Hamid have at first?
- Atul and Ravi have 80 books altogether. 49 of the books belong to Atul. How many books does Ravi have?
- Out of 125 marbles, 103 were of different colours and the rest are black. How many marbles are of black colour?
- Perry has ₹272 in his pocket. He buys a calculator worth ₹198. How much money does he have now?

Exercise 4.11

$$\begin{array}{r}
 \text{1. a.} \\
 \begin{array}{r}
 \text{Th H T O} \\
 8493 \\
 -2180 \\
 \hline
 6313
 \end{array}
 \end{array}$$

Check

Difference

Subtrahend

Minuend

$$\begin{array}{r}
 \text{b.} \\
 \begin{array}{r}
 \text{Th H T O} \\
 72700 \\
 -1042 \\
 \hline
 6228
 \end{array}
 \end{array}$$

$$\begin{array}{r}
 \text{d.} \\
 \begin{array}{r}
 \text{Th H T O} \\
 7805 \\
 -2318 \\
 \hline
 5497
 \end{array}
 \end{array}$$

$$\begin{array}{r}
 \text{f.} \\
 \begin{array}{r}
 \text{Th H T O} \\
 89056 \\
 -4860 \\
 \hline
 4196
 \end{array}
 \end{array}$$

$$\begin{array}{r}
 \text{c.} \\
 \begin{array}{r}
 \text{Th H T O} \\
 4002 \\
 -2935 \\
 \hline
 2195
 \end{array}
 \end{array}$$

$$\begin{array}{r}
 \text{e.} \\
 \begin{array}{r}
 \text{Th H T O} \\
 8188 \\
 -6183 \\
 \hline
 2005
 \end{array}
 \end{array}$$

2. a.
$$\begin{array}{r} \text{Th H T O} \\ 1 \text{ } 00 \\ 2 \text{ } \cancel{1} \text{ } 04 \text{ } 3 \\ -1 \text{ } 3 \text{ } 8 \text{ } 2 \\ \hline 7 \text{ } 6 \text{ } 1 \end{array} \rightarrow \begin{array}{r} \text{Th H T O} \\ 0 \text{ } 0 \\ 7 \text{ } 6 \text{ } 1 \\ +1 \text{ } 3 \text{ } 8 \text{ } 2 \\ \hline 2 \text{ } 1 \text{ } 4 \text{ } 3 \end{array}$$

c.
$$\begin{array}{r} \text{Th H T O} \\ 4 \text{ } \cancel{0} \text{ } 6 \\ 4 \text{ } \cancel{7} \text{ } 0 \text{ } 3 \\ -2 \text{ } 4 \text{ } 8 \text{ } 6 \\ \hline 2 \text{ } 0 \text{ } 8 \text{ } 7 \end{array} \rightarrow \begin{array}{r} \text{Th H T O} \\ 0 \text{ } 0 \\ 2 \text{ } 0 \text{ } 8 \text{ } 7 \\ +2 \text{ } 4 \text{ } 8 \text{ } 6 \\ \hline 4 \text{ } 5 \text{ } 7 \text{ } 3 \end{array}$$

b.
$$\begin{array}{r} \text{Th H T O} \\ 3 \text{ } 1 \text{ } 8 \text{ } 6 \\ -1 \text{ } 0 \text{ } 4 \text{ } 5 \\ \hline 2 \text{ } 1 \text{ } 4 \text{ } 1 \end{array} \rightarrow \begin{array}{r} \text{Th H T O} \\ 0 \text{ } 0 \\ 2 \text{ } 1 \text{ } 4 \text{ } 1 \\ +1 \text{ } 0 \text{ } 4 \text{ } 5 \\ \hline 3 \text{ } 1 \text{ } 8 \text{ } 6 \end{array}$$

d.
$$\begin{array}{r} \text{Th H T O} \\ 4 \text{ } \cancel{0} \text{ } 2 \\ 5 \text{ } \cancel{3} \text{ } 0 \text{ } 1 \text{ } 0 \\ -1 \text{ } 8 \text{ } 4 \text{ } 0 \\ \hline 3 \text{ } 4 \text{ } 7 \text{ } 0 \end{array} \rightarrow \begin{array}{r} \text{Th H T O} \\ 0 \text{ } 0 \\ 3 \text{ } 4 \text{ } 7 \text{ } 0 \\ +1 \text{ } 8 \text{ } 4 \text{ } 0 \\ \hline 5 \text{ } 3 \text{ } 1 \text{ } 0 \end{array}$$

Exercise 4.12

1. Refer answers at the end of the book.

2. a. *Step 1*

$$\begin{array}{r} \text{Th H T O} \\ 0 \text{ } 0 \text{ } 0 \\ 3 \text{ } 8 \text{ } 2 \text{ } 5 \\ +1 \text{ } 8 \text{ } 8 \text{ } 8 \\ \hline 5 \text{ } 7 \text{ } 1 \text{ } 3 \end{array}$$

Step 2

$$\begin{array}{r} \text{Th H T O} \\ 4 \text{ } \\ 5 \text{ } 7 \text{ } 1 \text{ } 3 \\ -9 \text{ } 0 \text{ } 0 \\ \hline 4 \text{ } 8 \text{ } 1 \text{ } 3 \end{array}$$

c. *Step 1*

$$\begin{array}{r} \text{Th H T O} \\ 6 \text{ } \\ 7 \text{ } 0 \text{ } 1 \text{ } \cancel{5} \text{ } 0 \text{ } 4 \\ -3 \text{ } 9 \text{ } 3 \text{ } 8 \\ \hline 3 \text{ } 2 \text{ } 1 \text{ } 6 \end{array}$$

Step 2

$$\begin{array}{r} \text{Th H T O} \\ 3 \text{ } 2 \text{ } 1 \text{ } 6 \\ +1 \text{ } 0 \text{ } 0 \text{ } 0 \\ \hline 4 \text{ } 2 \text{ } 1 \text{ } 6 \end{array}$$

3. a. *Step 1*

$$\begin{array}{r} \text{Th H T O} \\ 3 \text{ } 2 \text{ } 1 \text{ } 0 \\ +5 \text{ } 7 \text{ } 8 \text{ } 0 \\ \hline 8 \text{ } 9 \text{ } 9 \text{ } 0 \end{array}$$

Step 2

$$\begin{array}{r} \text{Th H T O} \\ 8 \text{ } 9 \text{ } 9 \text{ } 0 \\ -4 \text{ } 0 \text{ } 0 \text{ } 0 \\ \hline 4 \text{ } 9 \text{ } 9 \text{ } 0 \end{array}$$

b. Total educated people = $\begin{array}{r} 4 \text{ } 9 \text{ } 9 \\ 5 \text{ } 0 \text{ } 0 \text{ } 0 \end{array}$

No. of employed men and women = $\begin{array}{r} 2 \text{ } 1 \text{ } 5 \\ 4 \text{ } 0 \text{ } 0 \text{ } 0 \end{array}$ (2156 + 1844 = 4000)

No. of unemployed People = $\begin{array}{r} 1 \text{ } 0 \text{ } 0 \text{ } 0 \end{array}$

So, 1000 people in the village are unemployed.

c. Money saved in 1st month = ₹ $\begin{array}{r} 0 \\ 3 \text{ } 5 \text{ } 6 \text{ } 3 \end{array}$

Money saved in 2nd month = ₹ $\begin{array}{r} 4 \text{ } 2 \text{ } 1 \text{ } 8 \end{array}$

Total money saved = ₹ $\begin{array}{r} 7 \text{ } 7 \text{ } 8 \text{ } 1 \end{array}$

Now, Total money saved = ₹ $\begin{array}{r} 7 \text{ } 7 \text{ } 8 \text{ } 1 \end{array}$

Money spent = ₹ $\begin{array}{r} 6 \text{ } 0 \text{ } 1 \text{ } 0 \end{array}$

Money left = ₹ $\begin{array}{r} 1 \text{ } 7 \text{ } 7 \text{ } 1 \end{array}$

Vineet has ₹1771 left with him.

- d. Sweets the man have = 4000
 Sweets distributed in 1 village = 1356
 Sweets distributed in another village = 2000
 Total sweets distributed = $(1356 + 2000) = 3356$
 Sweets left with the man = $4000 - 3356 = 644$
 So, 644 sweets were left with the man.

Test Your Skills

Multiple Choice Questions

- 1.-5. Refer answers at the end of the book.

Mental Maths

- $78 + 30 = 70 + 8 - 30 = 70 - 30 + 8 = 40 + 8 = 48$
- No.
$$\begin{array}{r} 241 \\ + 343 \\ \hline 584 \end{array} \quad \begin{array}{r} 584 \\ - 343 \\ \hline 241 \end{array}$$
- Refer answers at the end of the book.
- $85 - 10 \rightarrow 75 - 10 \rightarrow 65 - 10 \rightarrow 55 - 1 = 54$
 $\Rightarrow 85 - 31 = \boxed{54}$
- Refer answers at the end of the book.

Apply Your Skills

Problem Solving Assessment

- Father's age in 2016 = 35 years
 Born in year = $2016 - 35 = 1981$

$$\begin{array}{r} \text{Th H T O} \\ 19016 \\ - 35 \\ \hline 1981 \end{array}$$

- | | |
|--|--|
| <p><i>Step 1</i></p> $\begin{array}{r} \text{Th H T O} \\ 3210 \\ + 5780 \\ \hline 8990 \end{array}$ | <p><i>Step 2</i></p> $\begin{array}{r} \text{Th H T O} \\ 8990 \\ - 4000 \\ \hline 4990 \end{array}$ |
|--|--|

- | | |
|---|---|
| <p><i>Step 1</i></p> $\begin{array}{r} \text{Th H T O} \\ 80315 \\ + 2400 \\ \hline 6915 \end{array}$ | <p><i>Step 2</i></p> $\begin{array}{r} \text{Th H T O} \\ 79000 \\ - 6915 \\ \hline 1085 \end{array}$ |
|---|---|

- The number which is 1350 greater than 3133 = $(3133 + 1350) = 4483$
 - The number which is 1350 smaller than 8133 = $(8133 - 1350) = 6783$

- $$\begin{array}{r} 7881 \\ - 6993 \\ \hline 1998 \end{array}$$

Value Based Questions

- | | |
|---|---------------|
| No. of people of India saw the cricket match | = 5621 |
| No. of people of NRI saw the cricket match | = +3246 |
| Total no. of people who saw the cricket match | = <u>8867</u> |

8867 people from India and abroad reached Australia to saw the cricket match.

Value: Patriotism

(i) **Multiplicand and Multiplier**

The number which is to be multiplied is called multiplicand and the number which multiplies is called multiplier.

Example: $8 \times 3 = 24$
multiplicand multiplier product

(ii) **Multiplication facts**

(a) The product of a number and 0 is always 0.

Example: $324 \times 0 = 0$

(b) The product of any number and 1 is the number itself.

(c) Order of the numbers does not matter in their multiplication.

Example: $8 \times 9 = 72$ and $9 \times 8 = 72$

(iii) **Multiplication of a 4-digit number by 1-digit number**

(a) **Without Carrying:**

Example: Multiply 4231 by 2.

	Th	H	T	O
	4	2	3	1
×				2
	8	4	6	2

(b) **With Carrying:** Multiplying 1280 by 3.

	Th	H	T	O
	1	2	8	0
		②		
×				3
	3	8	4	0

Recapitulation: The whole chapter will be revised thoroughly in the class by involving the students in simple examples.

Home Assignments

(A) From Textbook

- (i) Exercise 5.1 — Solve Q. No. 1 to 7 all parts
- (ii) Exercise 5.3 — Solve Q. No. 1 and 2 all parts
- (iii) Exercise 5.4 — Solve Q. No. 1 to 3 all parts
- (iv) Exercise 5.6 — Solve Q. 1 and 2
- (v) Exercise 5.9 — Solve Q. 1 all parts
- (vi) Exercise 5.10 — Solve Q. 3, 5 and 7

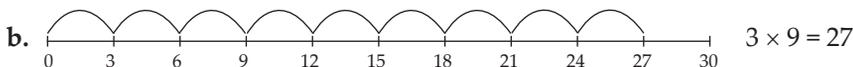
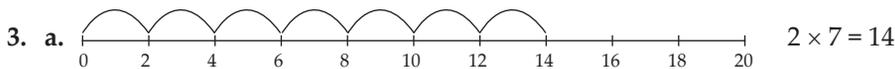
(B) Extra Questions

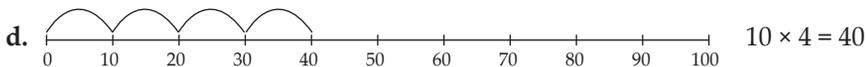
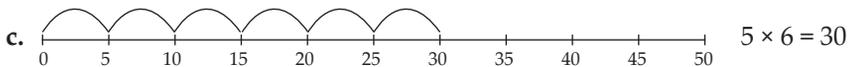
- (i) Find the value of : $3582 - 1208 + 3000$
- (ii) Multiply: 9990×3500

Textbook Solutions

Exercise 5.1

1.–2. Refer answers at the end of the book.





4. a. $9 \times 9 \bigcirc 8 \times 10$ b. $7 \times 9 \bigcirc 8 \times 8$ c. $4 \times 9 \bigcirc 8 \times 4$
 $\Rightarrow 81 > 80$ $\Rightarrow 63 < 64$ $\Rightarrow 36 > 32$

d. $6 \times 5 \bigcirc 3 \times 10$ e. $3 \times 4 \bigcirc 4 \times 3$ f. $8 \times 6 \bigcirc 6 \times 8$
 $\Rightarrow 30 = 30$ $\Rightarrow 12 = 12$ $\Rightarrow 48 = 48$

5. $\boxed{4 \times 4} \rightarrow \textcircled{16}$ $\boxed{8 \times 5} \rightarrow \textcircled{40}$ $\boxed{6 \times 3} \rightarrow \textcircled{18}$
 $\boxed{9 \times 3} \rightarrow \textcircled{27}$ $\boxed{7 \times 4} \rightarrow \textcircled{28}$ $\boxed{3 \times 5} \rightarrow \textcircled{15}$

6. a. $\begin{array}{r} \text{T O} \\ 5 \\ \times 3 \\ \hline 15 \end{array}$ b. $\begin{array}{r} \text{T O} \\ 6 \\ \times 4 \\ \hline 24 \end{array}$ c. $\begin{array}{r} \text{T O} \\ 7 \\ \times 2 \\ \hline 14 \end{array}$ d. $\begin{array}{r} \text{T O} \\ 8 \\ \times 6 \\ \hline 48 \end{array}$ e. $\begin{array}{r} \text{T O} \\ 3 \\ \times 7 \\ \hline 21 \end{array}$

f. $\begin{array}{r} \text{T O} \\ 8 \\ \times 4 \\ \hline 32 \end{array}$ g. $\begin{array}{r} \text{T O} \\ 2 \\ \times 9 \\ \hline 18 \end{array}$ h. $\begin{array}{r} \text{T O} \\ 5 \\ \times 5 \\ \hline 25 \end{array}$ i. $\begin{array}{r} \text{T O} \\ 4 \\ \times 9 \\ \hline 36 \end{array}$ j. $\begin{array}{r} \text{T O} \\ 6 \\ \times 7 \\ \hline 42 \end{array}$

7. a. $\begin{array}{r} \text{T O} \\ 12 \\ \times 3 \\ \hline 36 \end{array}$ b. $\begin{array}{r} \text{T O} \\ 44 \\ \times 2 \\ \hline 88 \end{array}$ c. $\begin{array}{r} \text{T O} \\ 43 \\ \times 2 \\ \hline 86 \end{array}$ d. $\begin{array}{r} \text{T O} \\ 13 \\ \times 3 \\ \hline 39 \end{array}$
e. $\begin{array}{r} \text{T O} \\ 22 \\ \times 3 \\ \hline 66 \end{array}$ f. $\begin{array}{r} \text{T O} \\ 12 \\ \times 4 \\ \hline 48 \end{array}$ g. $\begin{array}{r} \text{T O} \\ 11 \\ \times 5 \\ \hline 55 \end{array}$ h. $\begin{array}{r} \text{T O} \\ 22 \\ \times 4 \\ \hline 88 \end{array}$

Exercise 5.2

1. The double of:

a. $4 = 4 \times 2 = 8$

d. $23 \times 2 = 46$

b. $6 = 6 \times 2 = 12$

e. $50 = 50 \times 2 = 100$

c. $8 = 8 \times 2 = 16$

f. $61 = 61 \times 2 = 122$

Exercise 5.3

1. a. $\begin{array}{r} \text{H T O} \\ \textcircled{5} \\ 17 \\ \times 8 \\ \hline 136 \end{array}$ b. $\begin{array}{r} \text{H T O} \\ \textcircled{4} \\ 25 \\ \times 9 \\ \hline 225 \end{array}$ c. $\begin{array}{r} \text{H T O} \\ \textcircled{0} \\ 33 \\ \times 5 \\ \hline 165 \end{array}$ d. $\begin{array}{r} \text{H T O} \\ \textcircled{0} \\ 48 \\ \times 3 \\ \hline 144 \end{array}$

e. $\begin{array}{r} \text{H T O} \\ \textcircled{3} \\ 56 \\ \times 6 \\ \hline 336 \end{array}$ f. $\begin{array}{r} \text{H T O} \\ \textcircled{0} \\ 77 \\ \times 2 \\ \hline 154 \end{array}$ g. $\begin{array}{r} \text{H T O} \\ \textcircled{0} \\ 82 \\ \times 7 \\ \hline 574 \end{array}$ h. $\begin{array}{r} \text{H T O} \\ \textcircled{2} \\ 96 \\ \times 4 \\ \hline 384 \end{array}$

$$\begin{array}{r} 2. \text{ a. } \text{H T O} \\ \textcircled{0} \\ 13 \\ \times 9 \\ \hline 117 \end{array}$$

$$\begin{array}{r} \text{b. } \text{H T O} \\ \textcircled{0} \\ 24 \\ \times 7 \\ \hline 168 \end{array}$$

$$\begin{array}{r} \text{c. } \text{H T O} \\ \textcircled{0} \\ 37 \\ \times 3 \\ \hline 111 \end{array}$$

$$\begin{array}{r} \text{d. } \text{H T O} \\ \textcircled{0} \\ 48 \\ \times 8 \\ \hline 384 \end{array}$$

$$\begin{array}{r} \text{e. } \text{H T O} \\ \textcircled{0} \\ 59 \\ \times 6 \\ \hline 354 \end{array}$$

$$\begin{array}{r} \text{f. } \text{H T O} \\ \textcircled{0} \\ 66 \\ \times 5 \\ \hline 330 \end{array}$$

$$\begin{array}{r} \text{g. } \text{H T O} \\ \textcircled{0} \\ 89 \\ \times 2 \\ \hline 178 \end{array}$$

$$\begin{array}{r} \text{h. } \text{H T O} \\ \textcircled{0} \\ 92 \\ \times 7 \\ \hline 644 \end{array}$$

Exercise 5.4

1. Refer answers at the end of the book.

$$\begin{array}{r} 2. \text{ a. } \text{ThH T O} \\ \textcircled{0} \textcircled{0} \\ 127 \\ \times 4 \\ \hline 508 \end{array}$$

$$\begin{array}{r} \text{b. } \text{ThH T O} \\ \textcircled{0} \textcircled{0} \\ 264 \\ \times 3 \\ \hline 792 \end{array}$$

$$\begin{array}{r} \text{c. } \text{ThH T O} \\ \textcircled{0} \textcircled{0} \\ 347 \\ \times 6 \\ \hline 2082 \end{array}$$

$$\begin{array}{r} \text{d. } \text{ThH T O} \\ \textcircled{0} \textcircled{0} \\ 459 \\ \times 2 \\ \hline 918 \end{array}$$

$$\begin{array}{r} \text{e. } \text{ThH T O} \\ \textcircled{0} \textcircled{0} \\ 468 \\ \times 7 \\ \hline 3276 \end{array}$$

$$\begin{array}{r} \text{f. } \text{ThH T O} \\ \textcircled{0} \\ 619 \\ \times 4 \\ \hline 2476 \end{array}$$

$$\begin{array}{r} \text{g. } \text{ThH T O} \\ \textcircled{0} \textcircled{0} \\ 646 \\ \times 8 \\ \hline 5168 \end{array}$$

$$\begin{array}{r} \text{h. } \text{ThH T O} \\ \textcircled{0} \\ 916 \\ \times 5 \\ \hline 4580 \end{array}$$

$$\begin{array}{r} 3. \text{ a. } \text{H T O} \\ 101 \\ \times 5 \\ \hline 505 \end{array}$$

$$\begin{array}{r} \text{b. } \text{H T O} \\ 112 \\ \times 3 \\ \hline 336 \end{array}$$

$$\begin{array}{r} \text{c. } \text{H T O} \\ 223 \\ \times 3 \\ \hline 669 \end{array}$$

$$\begin{array}{r} \text{d. } \text{H T O} \\ 420 \\ \times 2 \\ \hline 840 \end{array}$$

$$\begin{array}{r} \text{e. } \text{H T O} \\ \textcircled{0} \textcircled{0} \\ 247 \\ \times 4 \\ \hline 988 \end{array}$$

$$\begin{array}{r} \text{f. } \text{H T O} \\ \textcircled{0} \\ 315 \\ \times 3 \\ \hline 945 \end{array}$$

$$\begin{array}{r} \text{g. } \text{H T O} \\ \textcircled{0} \textcircled{0} \\ 496 \\ \times 6 \\ \hline 2976 \end{array}$$

$$\begin{array}{r} \text{h. } \text{H T O} \\ \textcircled{0} \textcircled{0} \\ 554 \\ \times 7 \\ \hline 3878 \end{array}$$

Exercise 5.5

1.-2. Refer answers at the end of the book.

Exercise 5.6

$$\begin{array}{r} 1. \text{ a. } \text{ThH T O} \\ 3213 \\ \times 3 \\ \hline 9639 \end{array}$$

$$\begin{array}{r} \text{b. } \text{ThH T O} \\ 1022 \\ \times 3 \\ \hline 3066 \end{array}$$

$$\begin{array}{r} \text{c. } \text{ThH T O} \\ 2341 \\ \times 2 \\ \hline 4682 \end{array}$$

$$\begin{array}{r} \text{d. } \text{ThH T O} \\ 1233 \\ \times 2 \\ \hline 2466 \end{array}$$

$$\begin{array}{r} \text{e. } \text{ThH T O} \\ 2301 \\ \times 3 \\ \hline 6903 \end{array}$$

$$\begin{array}{r} \text{f. } \text{ThH T O} \\ 1002 \\ \times 4 \\ \hline 4008 \end{array}$$

$$\begin{array}{r} \text{2. a. ThH T O} \\ \textcircled{0} \textcircled{0} \\ 1 \ 0 \ 7 \ 9 \\ \times 2 \\ \hline 2 \ 1 \ 5 \ 8 \end{array}$$

$$\begin{array}{r} \text{b. ThH T O} \\ \textcircled{0} \textcircled{0} \textcircled{0} \\ 1 \ 7 \ 1 \ 6 \\ \times 3 \\ \hline 5 \ 1 \ 4 \ 8 \end{array}$$

$$\begin{array}{r} \text{c. ThH T O} \\ \textcircled{0} \textcircled{0} \textcircled{0} \\ 1 \ 2 \ 6 \ 8 \\ \times 4 \\ \hline 5 \ 0 \ 7 \ 2 \end{array}$$

$$\begin{array}{r} \text{d. ThH T O} \\ \textcircled{0} \textcircled{0} \textcircled{0} \\ 1 \ 5 \ 4 \ 7 \\ \times 6 \\ \hline 9 \ 2 \ 8 \ 2 \end{array}$$

$$\begin{array}{r} \text{e. ThH T O} \\ \textcircled{0} \textcircled{0} \textcircled{0} \\ 2 \ 4 \ 5 \ 6 \\ \times 3 \\ \hline 7 \ 3 \ 6 \ 8 \end{array}$$

$$\begin{array}{r} \text{f. ThH T O} \\ \textcircled{0} \textcircled{0} \\ 2 \ 1 \ 7 \ 8 \\ \times 4 \\ \hline 8 \ 7 \ 1 \ 2 \end{array}$$

$$\begin{array}{r} \text{3. a. ThH T O} \\ 1 \ 2 \ 2 \ 1 \\ \times 3 \\ \hline 3 \ 6 \ 6 \ 3 \end{array}$$

$$\begin{array}{r} \text{b. ThH T O} \\ 3 \ 2 \ 1 \ 4 \\ \times 2 \\ \hline 6 \ 4 \ 2 \ 8 \end{array}$$

$$\begin{array}{r} \text{c. ThH T O} \\ \textcircled{0} \textcircled{0} \\ 1 \ 0 \ 8 \ 7 \\ \times 6 \\ \hline 6 \ 5 \ 2 \ 2 \end{array}$$

$$\begin{array}{r} \text{d. ThH T O} \\ \textcircled{0} \textcircled{0} \\ 1 \ 7 \ 8 \ 2 \\ \times 4 \\ \hline 7 \ 1 \ 2 \ 8 \end{array}$$

$$\begin{array}{r} \text{e. ThH T O} \\ \textcircled{0} \textcircled{0} \textcircled{0} \\ 1 \ 5 \ 7 \ 2 \\ \times 5 \\ \hline 7 \ 8 \ 6 \ 0 \end{array}$$

$$\begin{array}{r} \text{f. ThH T O} \\ \textcircled{0} \\ 4 \ 0 \ 1 \ 8 \\ \times 2 \\ \hline 8 \ 0 \ 3 \ 6 \end{array}$$

Exercise 5.7

1. Refer answers at the end of the book.

2. a. $4 \times 20 = 4 \times 2 \times 10 = 80$

c. $12 \times 40 = 12 \times 4 \times 10 = 48 \times 10 = 480$

e. $45 \times 50 = 45 \times 5 \times 10 = 225 \times 10 = 2250$

3. a. $9 \times 900 = 9 \times 9 \times 100 = 81 \times 100 = 8100$

c. $11 \times 800 = 11 \times 8 \times 100 = 88 \times 100 = 8800$

e. $41 \times 200 = 41 \times 2 \times 100 = 82 \times 100 = 8200$

b. $5 \times 30 = 5 \times 3 \times 10 = 15 \times 10 = 150$

d. $25 \times 60 = 25 \times 6 \times 10 = 150 \times 10 = 1500$

f. $55 \times 70 = 55 \times 7 \times 10 = 385 \times 10 = 3850$

b. $12 \times 200 = 12 \times 2 \times 100 = 24 \times 100 = 2400$

d. $32 \times 300 = 32 \times 3 \times 100 = 96 \times 100 = 9600$

f. $68 \times 100 = 6800$

Exercise 5.8

$$\begin{array}{r} \text{1. a. H T O} \\ \textcircled{0} \\ 1 \ 3 \\ \times 1 \ 5 \\ \hline 6 \ 5 \\ +1 \ 3 \ 0 \\ \hline 1 \ 9 \ 5 \end{array}$$

$$\begin{array}{r} \text{b. H T O} \\ \textcircled{0} \\ 2 \ 5 \\ \times 1 \ 2 \\ \hline 5 \ 0 \\ +2 \ 5 \ 0 \\ \hline 3 \ 0 \ 0 \end{array}$$

$$\begin{array}{r} \text{c. H T O} \\ 5 \ 1 \\ \times 1 \ 2 \\ \hline 1 \ 0 \ 2 \\ +5 \ 1 \ 0 \\ \hline 6 \ 1 \ 2 \end{array}$$

$$\begin{array}{r} \text{d. H T O} \\ \textcircled{0} \\ 3 \ 8 \\ \times 2 \ 4 \\ \hline 1 \ 5 \ 2 \\ +7 \ 6 \\ \hline 9 \ 1 \ 2 \end{array}$$

$$\begin{array}{r} \text{e. H T O} \\ 4 \ 1 \\ \times 3 \ 2 \\ \hline 8 \ 2 \\ +1 \ 2 \ 3 \ 0 \\ \hline 1 \ 3 \ 1 \ 2 \end{array}$$

$$\begin{array}{r} \text{f. H T O} \\ \textcircled{0} \\ 7 \ 2 \\ \times 3 \ 6 \\ \hline 4 \ 3 \ 2 \\ +2 \ 1 \ 6 \ 0 \\ \hline 2 \ 5 \ 9 \ 2 \end{array}$$

$$\begin{array}{r} \text{g. H T O} \\ \textcircled{0} \textcircled{0} \\ 6 \ 9 \\ \times 5 \ 5 \\ \hline 3 \ 4 \ 5 \\ +3 \ 4 \ 5 \ 0 \\ \hline 3 \ 7 \ 9 \ 5 \end{array}$$

$$\begin{array}{r} 2. \text{ a.} \quad \overset{\textcircled{0}}{2} 7 \\ \quad \times 19 \\ \hline \textcircled{0} 243 \\ + 270 \\ \hline 513 \end{array}$$

$$\begin{array}{r} \text{b.} \quad \overset{\textcircled{0}}{8} 4 \\ \quad \times 17 \\ \hline \textcircled{0} 588 \\ + 840 \\ \hline 1428 \end{array}$$

$$\begin{array}{r} \text{c.} \quad \overset{\textcircled{0}\textcircled{0}}{6} 7 \\ \quad \times 25 \\ \hline 335 \\ + 1340 \\ \hline 1675 \end{array}$$

$$\begin{array}{r} \text{d.} \quad \overset{\textcircled{0}\textcircled{0}}{7} 5 \\ \quad \times 26 \\ \hline 450 \\ + 1500 \\ \hline 1950 \end{array}$$

$$\begin{array}{r} \text{e.} \quad \overset{\textcircled{0}}{9} 2 \\ \quad \times 28 \\ \hline \textcircled{0} 736 \\ + 1840 \\ \hline 2576 \end{array}$$

$$\begin{array}{r} \text{f.} \quad \overset{\textcircled{0}\textcircled{0}}{9} 5 \\ \quad \times 37 \\ \hline \textcircled{0} 665 \\ + 2850 \\ \hline 3515 \end{array}$$

$$\begin{array}{r} \text{g.} \quad \overset{\textcircled{0}\textcircled{0}}{7} 6 \\ \quad \times 58 \\ \hline \textcircled{0} 608 \\ + 3800 \\ \hline 4408 \end{array}$$

$$\begin{array}{r} \text{h.} \quad \overset{\textcircled{0}\textcircled{0}}{8} 7 \\ \quad \times 72 \\ \hline \textcircled{0} 174 \\ + 6090 \\ \hline 6264 \end{array}$$

Exercise 5.9

$$\begin{array}{r} \text{1. a.} \quad \overset{\textcircled{0}}{3} \overset{\textcircled{0}}{7} 5 \\ \quad \times 16 \\ \hline \textcircled{0} \overset{\textcircled{0}}{2} 2 5 0 \\ + 3750 \\ \hline 6000 \end{array}$$

$$\begin{array}{r} \text{b.} \quad \overset{\textcircled{0}}{2} \overset{\textcircled{0}\textcircled{0}}{1} 5 \\ \quad \times 29 \\ \hline \textcircled{0} 1935 \\ + 4300 \\ \hline 6235 \end{array}$$

$$\begin{array}{r} \text{c.} \quad \overset{\textcircled{0}}{4} \overset{\textcircled{0}}{5} 9 \\ \quad \times 15 \\ \hline \textcircled{0} 2295 \\ + 4590 \\ \hline 6885 \end{array}$$

$$\begin{array}{r} \text{d.} \quad \overset{\textcircled{0}\textcircled{0}}{2} 6 4 \\ \quad \times 36 \\ \hline 1584 \\ + 7920 \\ \hline 9504 \end{array}$$

$$\begin{array}{r} \text{e.} \quad \overset{\textcircled{0}\textcircled{0}}{1} 3 7 \\ \quad \times 48 \\ \hline \textcircled{0} 1096 \\ + 5480 \\ \hline 6576 \end{array}$$

$$\begin{array}{r} \text{f.} \quad \overset{\textcircled{0}\textcircled{0}\textcircled{0}}{1} 7 6 \\ \quad \times 52 \\ \hline \textcircled{0} 352 \\ + 8800 \\ \hline 9152 \end{array}$$

$$\begin{array}{r} \text{2. a.} \quad \overset{\textcircled{0}}{4} \overset{\textcircled{0}}{3} 4 \\ \quad \times 19 \\ \hline \textcircled{0} 3906 \\ + 4340 \\ \hline 8246 \end{array}$$

$$\begin{array}{r} \text{b.} \quad \overset{\textcircled{0}\textcircled{0}}{2} 7 2 \\ \quad \times 28 \\ \hline \textcircled{0} 2176 \\ + 5440 \\ \hline 7616 \end{array}$$

$$\begin{array}{r} \text{c.} \quad \overset{\textcircled{0}}{5} \overset{\textcircled{0}}{6} 3 \\ \quad \times 14 \\ \hline 2252 \\ + 5630 \\ \hline 7882 \end{array}$$

$$\begin{array}{r} \text{d.} \quad \overset{\textcircled{0}\textcircled{0}\textcircled{0}}{1} 8 4 \\ \quad \times 37 \\ \hline \textcircled{0} 1288 \\ + 5520 \\ \hline 6808 \end{array}$$

Exercise 5.10

- No. of students in 1 section = 35
No. of students in 9 sections = $35 \times 9 = 315$
There are 315 students in 9 sections of class III.
- Distance travelled in 1 hour = 50 km
Distance covered in 6 hours = (50×6) km = 300 km
The bus will cover 300 km in 6 hours.
- No. of books in a rack = 75
No. of books in 12 racks = $(75 \times 12) = 900$
So, 900 books are placed in 12 racks.
- Trees in 1 forest = 121
Chimps on each tree = 7

Total chimps on 121 trees = $121 \times 7 = 847$

\therefore 847 chimps are there in the forest.

5. Centimetres in 1 metre = 100

Centimetres in 32 metres = $32 \times 100 = 3200$

So, 32 metres have 3200 centimetres.

6. No. of strawberries in 1 box = 15

42 boxes will have = $42 \times 15 = 630$

So, 42 boxes will have 630 strawberries.

7. No. of people can sit in 1 bus = 48

No. of people can sit in 200 buses = $48 \times 200 = 48 \times 2 \times 100 = 96 \times 100 = 9600$

\therefore 9600 people can sit in 200 buses.

8. No. of balloons in 1 packet = 148

No. of balloons in 18 packets = $148 \times 18 = 2664$

So, 18 packets will have 2664 balloons.

9. Cost of 1 shirt = ₹345

Cost of 14 shirts = ₹ $(345 \times 14) = ₹4830$

So, 14 shirts will cost ₹4830.

10. No. of minutes in 1 hour = 60

No. of minutes in 24 hours (1 day = 24 hours) = $(24 \times 60) = 1440$ minutes

So, a day will have 1440 minutes.

11. Price of 1 circus ticket = ₹8

Total people saw the circus = 1001

Price of 1001 circus ticket = ₹ $8 \times 1001 = ₹8008$

Total money collected = ₹8008

12. Cost of 1 iron box = ₹1295

Cost of 7 iron boxes = ₹ $(1295 \times 7) = ₹9065$

\therefore 7 iron boxes will cost ₹9065.

Exercise 5.11

1. Any reasonable problems can be framed.

a. There are 6 chalks in a box. How many chalks are there in 9 such boxes?

b. A bottle can hold 10 litres of water. How much litres of water can 8 such bottles hold?

c. Each student of a class agreed to pay ₹5 to charity. If there are 30 students in the class, how much rupees would be collected?

d. Find the product of 50 and 10 mentally.

e. Anushka typed 33 words per minute. How many words can she be able to type in 14 minutes?

Exercise 5.12

1. a.

40	5	×
1200	150	30
160	20	4

Now, $45 \times 34 = 1200 + 150 + 160 + 20 = 1530$

b.-d. Similar working as above.

Test Your Skills

Multiple Choice Questions

1.-5. Refer answers at the end of the book.

Riddles

1. $\begin{array}{r} \text{Th H T O} \\ 1\ 3\ 5\ 7 \end{array}$

2. $\begin{array}{r} \text{H T O} \\ 9-8\ 9\ 6 \\ = 1 \end{array} \Rightarrow 196$

3. $\begin{array}{r} \text{TTh Th H T O} \\ 1\ 4\ 0\ 2\ 3 \end{array}$
 ↑ ↙
 1 is the smallest as we cannot put 0 at ten thousands place Given

4. $\begin{array}{r} \text{H T O} \\ 3\ 3\ 3 \\ \times 3 \\ \hline 9\ 9\ 9 \end{array}$ number

Mental Maths

1. $15 + 15 + 15 + 15 = 60 \square 15 \times 5 = 75$

2. $(200 + 50 + 8) \times 10 = 258 \times 10 = 2580$

3. $99 \times 99 = 9801$

4. Refer answers at the end of the book.

5.

Columns

	1	2	3
1			
2			
3			
4			
5			
6			

No. of rows = 6

No. of columns in each row = 3

\therefore No. of benches = $6 \times 3 = 18$

There are 2 students on each bench.

So, no. of students = $18 \times 2 = 36$

Apply Your Skills

Problem Solving Assessment

1. Refer answers at the end of the book.

2. $1 \times 24 \times 60 = 1440$ minutes

3. No. of kids mother goat gave birth = 2

No. of kids mother goats will give birth = $512 \times 2 = 1024$

So, 512 mother goats will give birth to 1024 kids.

4. Letters delivered in one day = 255

Letters delivered in 4 weeks (1 week = 7 days) = $255 \times 4 \times 7 = 7140$

So, 7140 letters were delivered in 4 weeks.

Value Based Questions

1. Number of days = $15 \times 365 = 5475$ days

Amount donated = $5475 \times 1000 = ₹54,75,000$; Value: Social welfare

2. Amount saved on 1st day = ₹2, 2nd day = ₹4, 3rd day = ₹8, 4th day = ₹16, 5th day = ₹32

6th day = ₹64, 7th day = ₹128, 8th day = ₹256, 9th day = ₹512, 10th day = ₹1024

Thus, the amount saved on 10th day = ₹1024; Value—Saving habits.

HOTS

1. Product = $\begin{array}{r} 9\ 9\ 9 \\ \times 1\ 0 \\ \hline 9\ 9\ 9\ 0 \end{array}$

2. Number of days in March, April and May = $31 + 30 + 31 = 92$

Number of newspapers sold by vendor = $92 \times 125 = 11500$

3. Refer answers at the end of the book.

OBJECTIVES

The students should know about

- (i) The terms associated with division (ii) Relation between multiplication and division
 (iii) Division without remainder (iv) Division with remainder
 (v) Framing word problems

Prerequisite Knowledge: The students should have the basic knowledge of simple division process as they have done in their previous classes.

Teaching Aids: Writing board, marker, chalks, charts, duster, geometrical box, smart-board/projector and pointer.

Method of Teaching: The following topics of this chapter will be taught in the class by taking simple examples.

(i) **Terms associated with division:**

- (a) **Divisor:** The number by which a number is to be divided is called divisor.
 (b) **Dividend:** The number which is to be divided is called dividend.
 (c) **Quotient:** The number of times that the divisor can go through dividend is called quotient.
 (d) **Remainder:** The number which is left over in the process of division is called remainder.

Division Algorithm: Dividend = Divisor \times Quotient + Remainder

$$\begin{array}{r} \text{Quotient} \\ \text{Divisor} \overline{) \text{Dividend}} \\ \hline \text{Remainder} \end{array}$$

(ii) **Division of 2-digit and 3-digit numbers by 1-digit number (with remainder)**

Example: Divide 23 by 4. $4 \overline{)23}5$ Here, Remainder = 3

$$\begin{array}{r} -20 \\ \hline 3 \end{array}$$

(iii) **Word Problems:**

Example: A week has 7 days. How many week are there in 56 days?

Number of weeks in 56 days = $56 \div 7$

So, 8 weeks are there in 56 days.

$$\begin{array}{r} 7 \overline{)56}8 \\ -56 \\ \hline 0 \end{array}$$

Recapitulation: The whole chapter will be revised in the class by taking some simple examples. If the students have any problem, that will be resolved immediately.

Home Assignments**(A) From Textbook**

- (i) Exercise 6.2 — Solve Q. No. 1 all parts (ii) Exercise 6.3 — Solve Q. No. 1 to 3 all parts
 (iii) Exercise 6.6 — Solve Q. No. 1 all parts (iv) Exercise 6.11 — Solve Q. No. 1 to 3 all parts

(B) Extra Questions

(i) Divide the following:

(a) $75 \div 5$

(b) $81 \div 3$

(c) $66 \div 6$

(d) $39 \div 3$

(ii) A pen costs ₹7.00. How many such pens can be bought for ₹84.00?

$$\begin{array}{r} 6 \overline{)600} \underline{100} \\ -6 \downarrow \\ \hline 000 \\ \hline \end{array}$$

$$600 \div 6 = 100$$

$$\begin{array}{r} 3 \overline{)660} \underline{220} \\ -6 \downarrow \\ \hline 06 \\ -6 \downarrow \\ \hline 00 \\ \hline \end{array}$$

$$660 \div 3 = 220$$

$$\begin{array}{r} 6 \overline{)666} \underline{111} \\ -6 \downarrow \\ \hline 06 \\ -6 \downarrow \\ \hline 06 \\ -6 \downarrow \\ \hline 0 \\ \hline \end{array}$$

$$666 \div 6 = 111$$

$$\begin{array}{r} 4 \overline{)804} \underline{201} \\ -8 \downarrow \\ \hline 00 \\ -0 \downarrow \\ \hline 04 \\ -4 \downarrow \\ \hline 0 \\ \hline \end{array}$$

$$804 \div 4 = 201$$

$$\begin{array}{r} 9 \overline{)909} \underline{101} \\ -9 \downarrow \\ \hline 009 \\ -9 \downarrow \\ \hline 0 \\ \hline \end{array}$$

$$909 \div 9 = 101$$

$$\begin{array}{r} 3 \overline{)999} \underline{333} \\ -9 \downarrow \\ \hline 09 \\ -9 \downarrow \\ \hline 09 \\ -9 \downarrow \\ \hline 0 \\ \hline \end{array}$$

$$999 \div 3 = 333$$

Exercise 6.7

$$\begin{array}{r} 1. \text{ a. } 4 \overline{)27} \underline{6} \\ -24 \\ \hline 03 \\ \hline \end{array}$$

$$Q = 6 \\ R = 3$$

Check:

$$\begin{aligned} \text{Div.} &= (D \times Q) + R \\ &= (4 \times 6) + 3 \\ &= 24 + 3 = 27 \end{aligned}$$

$$\begin{array}{r} \text{b. } 5 \overline{)46} \underline{9} \\ -45 \\ \hline 01 \\ \hline \end{array}$$

$$Q = 9 \\ R = 1$$

Check:

$$\begin{aligned} \text{Div.} &= (D \times Q) + R \\ &= (5 \times 9) + 1 \\ &= 45 + 1 = 46 \end{aligned}$$

$$\begin{array}{r} \text{c. } 7 \overline{)58} \underline{8} \\ -56 \\ \hline 02 \\ \hline \end{array}$$

$$Q = 8 \\ R = 2$$

Check:

$$\begin{aligned} \text{Div.} &= (D \times Q) + R \\ &= (7 \times 8) + 2 \\ &= 56 + 2 = 58 \end{aligned}$$

$$\begin{array}{r} \text{d. } 2 \overline{)87} \underline{43} \\ -8 \downarrow \\ \hline 07 \\ -6 \downarrow \\ \hline 1 \\ \hline \end{array}$$

$$Q = 43 \\ R = 1$$

Check:

$$\begin{aligned} \text{Div.} &= (D \times Q) + R \\ &= (2 \times 43) + 1 \\ &= 86 + 1 = 87 \end{aligned}$$

$$\begin{array}{r} \text{e. } 6 \overline{)69} \underline{11} \\ -6 \downarrow \\ \hline 09 \\ -6 \downarrow \\ \hline 3 \\ \hline \end{array}$$

$$Q = 11 \\ R = 3$$

Check:

$$\begin{aligned} \text{Div.} &= (D \times Q) + R \\ &= (6 \times 11) + 3 \\ &= 66 + 3 = 69 \end{aligned}$$

$$\begin{array}{r} \text{f. } 2 \overline{)483} \underline{241} \\ -4 \downarrow \\ \hline 08 \\ -8 \downarrow \\ \hline 03 \\ -2 \downarrow \\ \hline 1 \\ \hline \end{array}$$

$$Q = 241 \\ R = 1$$

Check:

$$\begin{aligned} \text{Div.} &= (D \times Q) + R \\ &= (241 \times 2) + 1 \\ &= 482 + 1 = 483 \end{aligned}$$

$$\begin{array}{r} \text{g. } 3 \overline{)334} \underline{111} \\ -3 \downarrow \\ \hline 03 \\ -3 \downarrow \\ \hline 04 \\ -3 \downarrow \\ \hline 1 \\ \hline \end{array}$$

$$Q = 111 \\ R = 1$$

Check:

$$\begin{aligned} \text{Div.} &= (D \times Q) + R \\ &= (3 \times 111) + 1 \\ &= 333 + 1 = 334 \end{aligned}$$

$$\begin{array}{r} \text{h. } 4 \overline{)405} \underline{101} \\ -4 \downarrow \\ \hline 005 \\ -4 \downarrow \\ \hline 1 \\ \hline \end{array}$$

$$Q = 101 \\ R = 1$$

Check:

$$\begin{aligned} \text{Div.} &= (D \times Q) + R \\ &= (4 \times 101) + 1 \\ &= 404 + 1 = 405 \end{aligned}$$

$$\begin{array}{r} 6 \overline{)607} \underline{101} \\ -6 \downarrow \\ 00 \\ -0 \downarrow \\ 07 \\ -6 \downarrow \\ 1 \end{array}$$

Check:

$$\begin{aligned} \text{Div.} &= (D \times Q) + R \\ &= (6 \times 101) + 1 \\ &= 606 + 1 = 607 \end{aligned}$$

$$Q = 101$$

$$R = 1$$

$$\begin{array}{r} 7 \overline{)779} \underline{111} \\ -7 \downarrow \\ 07 \\ -7 \downarrow \\ 09 \\ -7 \downarrow \\ 2 \end{array}$$

Check:

$$\begin{aligned} \text{Div.} &= (D \times Q) + R \\ &= (7 \times 111) + 2 \\ &= 777 + 2 = 779 \end{aligned}$$

$$Q = 111$$

$$R = 2$$

Exercise 6.8

$$\begin{array}{r} 3 \overline{)54} \underline{18} \\ -3 \downarrow \\ 24 \\ -24 \\ 0 \end{array}$$

$$54 \div 3 = 18$$

$$\begin{array}{r} 4 \overline{)56} \underline{14} \\ -4 \downarrow \\ 16 \\ -16 \\ 0 \end{array}$$

$$56 \div 4 = 14$$

$$\begin{array}{r} 3 \overline{)57} \underline{19} \\ -3 \downarrow \\ 27 \\ -27 \\ 0 \end{array}$$

$$57 \div 3 = 19$$

$$\begin{array}{r} 5 \overline{)65} \underline{13} \\ -5 \downarrow \\ 15 \\ -15 \\ 0 \end{array}$$

$$65 \div 5 = 13$$

$$\begin{array}{r} 6 \overline{)72} \underline{12} \\ -6 \downarrow \\ 12 \\ -12 \\ 0 \end{array}$$

$$72 \div 6 = 12$$

$$\begin{array}{r} 5 \overline{)80} \underline{16} \\ -5 \downarrow \\ 30 \\ -30 \\ 0 \end{array}$$

$$80 \div 5 = 16$$

$$\begin{array}{r} 4 \overline{)84} \underline{21} \\ -8 \downarrow \\ 04 \\ -4 \downarrow \\ 0 \end{array}$$

$$84 \div 4 = 21$$

$$\begin{array}{r} 2 \overline{)92} \underline{46} \\ -8 \downarrow \\ 12 \\ -12 \\ 0 \end{array}$$

$$92 \div 2 = 46$$

$$\begin{array}{r} 8 \overline{)96} \underline{12} \\ -8 \downarrow \\ 16 \\ -16 \\ 0 \end{array}$$

$$96 \div 8 = 12$$

$$\begin{array}{r} 7 \overline{)98} \underline{14} \\ -7 \downarrow \\ 28 \\ -28 \\ 0 \end{array}$$

$$98 \div 7 = 14$$

Exercise 6.9

$$\begin{array}{r} 2 \overline{)234} \underline{117} \\ -2 \downarrow \\ 03 \\ -2 \downarrow \\ 14 \\ -14 \\ 0 \end{array}$$

$$234 \div 2 = 117$$

$$\begin{array}{r} 3 \overline{)372} \underline{124} \\ -3 \downarrow \\ 07 \\ -6 \downarrow \\ 12 \\ -12 \\ 0 \end{array}$$

$$372 \div 3 = 124$$

$$\begin{array}{r} 4 \overline{)952} \underline{238} \\ -8 \downarrow \\ 15 \\ -12 \downarrow \\ 32 \\ -32 \\ 0 \end{array}$$

$$952 \div 4 = 238$$

$$\begin{array}{r} 5 \overline{)575} \underline{115} \\ -5 \downarrow \\ 07 \\ -5 \downarrow \\ 25 \\ -25 \\ 0 \end{array}$$

$$575 \div 5 = 115$$

$$\begin{array}{r} 6 \overline{)684} \underline{114} \\ -6 \downarrow \\ 08 \\ -6 \downarrow \\ 24 \\ -24 \\ 0 \end{array}$$

$$684 \div 6 = 114$$

$$\begin{array}{r} 7 \overline{)714} \underline{102} \\ -7 \downarrow \\ 14 \\ -14 \\ 0 \end{array}$$

$$714 \div 7 = 102$$

$$\begin{array}{r} 8 \overline{)984} \underline{123} \\ -8 \downarrow \\ 18 \\ -16 \downarrow \\ 24 \\ -24 \\ 0 \end{array}$$

$$984 \div 8 = 123$$

$$\begin{array}{r} 3 \overline{)918} \underline{306} \\ -9 \downarrow \downarrow \\ 018 \\ -18 \\ 0 \end{array}$$

$$918 \div 3 = 306$$

$$\begin{array}{r} 5 \overline{)680} \underline{136} \\ -5 \downarrow \\ 18 \\ -15 \downarrow \\ 30 \\ -30 \\ 0 \end{array}$$

$$680 \div 5 = 136$$

$$\begin{array}{r} 7 \overline{)805} \underline{115} \\ -7 \downarrow \\ 10 \\ -7 \downarrow \\ 35 \\ -35 \\ 0 \end{array}$$

$$805 \div 7 = 115$$

Exercise 6.10

1. Refer answers at the end of the book.

Exercise 6.11

1. a. $21 \div 3 = 7$

b. $50 \div 5 = 10$

c. $24 \div 8 = 3$ friends

d. $49 \div 7 = 7$ jugs

2. a. Tricycle made by 3 wheels = 1
 Tricycle made by 93 wheels = $93 \div 3 = 31$
 So, 31 tricycles can be made using 93 wheels.

$$\begin{array}{r} 3 \overline{)93} \underline{31} \\ -9 \downarrow \\ 03 \\ -3 \\ \hline 0 \end{array}$$

- b. No. of box needed for 5 candles = 1
 No. of boxes needed for 60 candles = $60 \div 5 = 12$
 So, 12 boxes will be needed to pack 60 candles.

$$\begin{array}{r} 5 \overline{)60} \underline{12} \\ -5 \downarrow \\ 10 \\ -10 \\ \hline 0 \end{array}$$

- c. Cost of 1 ruler = ₹6
 No. of rulers that can be bought for ₹84 = $(84 \div 6) = 14$
 So, 14 rulers can be bought for ₹84.

$$\begin{array}{r} 6 \overline{)84} \underline{14} \\ -6 \downarrow \\ 24 \\ -24 \\ \hline 00 \end{array}$$

- d. No. of sentences formed by 7 words = 1
 No. of sentences formed by 777 words = $777 \div 7$
 $= 111$
 So, 111 sentences will be formed by 777 words.

$$\begin{array}{r} 7 \overline{)777} \underline{111} \\ -7 \downarrow \\ 07 \\ -7 \downarrow \\ \hline 07 \\ -7 \\ \hline 0 \end{array}$$

- e. No. of boxes required for 672 oranges = 6
 No. of oranges in each box = $672 \div 6$
 $= 112$
 So, 112 oranges are there in each box.

$$\begin{array}{r} 6 \overline{)672} \underline{112} \\ -6 \downarrow \\ 07 \\ -6 \downarrow \\ 12 \\ -12 \\ \hline 00 \end{array}$$

- f. Product of two numbers = 576
 One number = 8
 The other number = $576 \div 8 = 72$

$$\begin{array}{r} 8 \overline{)576} \underline{72} \\ -56 \downarrow \\ 16 \\ -16 \\ \hline 0 \end{array}$$

- g. No. of exercise books = 812
 No. of racks = 7
 No. of books in each rack = $812 \div 7 = 116$
 Thus, 116 books are there in each rack.

$$\begin{array}{r} 7 \overline{)812} \underline{116} \\ -7 \downarrow \\ 11 \\ -7 \downarrow \\ 42 \\ -42 \\ \hline 0 \end{array}$$

- h. No. of players = 148
 No. of teams = 9
 No. of players in each team = $148 \div 9 = 16$
 So, 16 players are there in each team and 4 players will be left out.

$$\begin{array}{r} 9 \overline{)148} \underline{16} \\ -9 \downarrow \\ 58 \\ -54 \\ \hline 4 \end{array}$$

- i. Total earbuds = 232
 No. of earbuds in each bundle = 10
 Now, $232 \div 10$ gives Q = 23 and R = 2
 So, 23 bundles can be made and 2 earbuds will be left.

$$\begin{array}{r} 10 \overline{)232} \underline{23} \\ -20 \downarrow \\ 32 \\ -30 \\ \hline 2 \end{array}$$

3. a. To find the total money, we need to add.

$$₹1085 + ₹795 = ₹1880$$

- b. To find the total cost, we need to multiply 115 by ₹30.

$$115 \times ₹30 = ₹3450.$$

- c. To find the number of girls, we need to subtract.

$$4000 - 2458 = 1542 \text{ girls}$$

- d. To find the number of children, we divide $96 \div 8 = 12$. So 12 children are in each row.

- e. To find the number of sms received in two weeks (14 days), we multiply by 145.

$$14 \times 145 = 2030 \text{ sms}$$

- f. To find the number of packets with 6 pencils each, we need to divide 248 by 6.

$$248 \div 6 = 4 \text{ gives quotient } 41 \text{ and remainder } 2.$$

Hence, there are 41 packets and 2 pencils left.

$$\begin{array}{r} 6 \overline{)248} \underline{41} \\ -24 \downarrow \\ 08 \quad Q = 41, R = 2 \\ -6 \\ \hline 2 \end{array}$$

Exercise 6.12

1. a. Sudeep has to arrange 64 oranges in boxes. If there are 4 boxes, how many oranges does each box have?
- b. There are 90 seats in a bus with 5 seats in each row. How many rows are there in the bus?
- c. Divide 162 into three parts such that each part becomes equal.
- d. Four friends collected ₹340 for a movie show. How much money did each friend contribute?
- e. Is 584 divided by 8? If yes, find the quotient and remainder.

Test Your Skills

Multiple Choice Questions

- 1.–5. Refer answers at the end of the book.

Mental Maths

- 1.–5. Refer answers at the end of the book.

Apply Your Skills

Problem Solving Assessment

1.–2. Refer answers at the end of the book.

3. As 1 km = 1000 m

Since length of 1 railway track is 10 m,

So no. of railway tracks required for 1000 m railway line is $1000 \div 10 = 100$

4. Answer may vary. e.g., $9 \times 8 - 7 + 6 \times 5 + 4 \div 2 + 3 \times 1$

5. Given $\diamond \div \triangle = \circ$

a. Putting $\diamond = 8$ and $\triangle = 4$, we have $\circ = 8 \div 4 = 2$

So $\diamond \div \circ = 8 \div 2 = 4$

b. Putting $\triangle = 5$ and $\diamond = 35$, we have $\circ = 35 \div 5 = 7 \therefore \triangle \times \circ = 5 \times 7 = 35$

Value Based Questions

1. Quantity of collected water = 215 L

Quantity of water in 1 bottle = 10 L

To get the no. of bottles filled with this water, we divide as follows:

Here, Q = 21 and R = 5

Thus, 21 families will get 1 bottle of water and 5 L water will be left over.

Value: Social responsibility.

$$\begin{array}{r} 10 \overline{)215} \underline{21} \\ -20 \downarrow \\ 15 \\ -10 \\ \hline 5 \end{array}$$

2. The cost to be paid for 25 kg rice = ₹50

and the cost to be paid for 15 kg wheat = ₹45

So, the BPL Card holder has to paid ₹50 + ₹45 = ₹95 in total.

Further, the cost of 1 kg rice = ₹50 ÷ 25 = ₹2

and the cost of 1 kg wheat = ₹45 ÷ 15 = ₹3

Value: People welfare

HOTS

1. In 10 minutes, a boy chops 1 log of wood.

So in 150 minutes, he will chop $150 \div 10 = 15$ logs of wood.

2. Dharambir made 24 runs by hitting 4s only.

So no. of 4s in 24 runs = $24 \div 4 = 6$

That means he faced 6 balls.

Again Yograj made 24 runs by hitting 6s only

So no. of 6s in 24 runs = $24 \div 6 = 4$

Thus, Dharambir faced $6 - 4 = 2$ balls more than that Yograj faced.

2. The cost to be paid for 25 kg rice = ₹50
 and the cost to be paid for 15 kg wheat = ₹45
 So, the BPL Card holder has to paid ₹50 + ₹45 = ₹95 in total.
 Further, the cost of 1 kg rice = ₹50 ÷ 25 = ₹2
 and the cost of 1 kg wheat = ₹45 ÷ 15 = ₹3
 Value: People welfare

HOTS

1. In 10 minutes, a boy chops 1 log of wood.
 So in 150 minutes, he will chop $150 \div 10 = 15$ logs of wood.
2. Dharambir made 24 runs by hitting 4s only.
 So no. of 4s in 24 runs = $24 \div 4 = 6$
 That means he faced 6 balls.
 Again Yograj made 24 runs by hitting 6s only
 So no. of 6s in 24 runs = $24 \div 6 = 4$
 Thus, Dharambir faced $6 - 4 = 2$ balls more than that Yograj faced.

CHAPTER 7

Fractions

OBJECTIVES

The students should know about

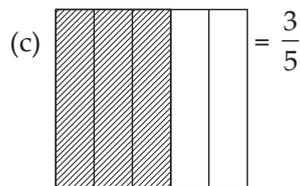
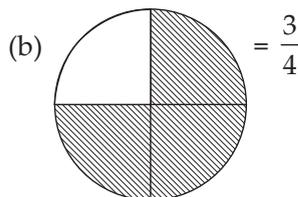
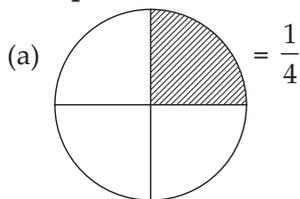
- (i) Numerator and denominator as a part of fraction
 (ii) Like and unlike fractions (iii) Equivalent fractions
 (iv) Comparison of fractions (v) Ascending and descending order of fractions

Prerequisite Knowledge: The students should have the basic knowledge of small fractions as they have studied in their previous classes.

Teaching Aids: Writing board, marker, chalks, charts, geometrical box, smart-board/projector and the pointer.

Method of Teaching: The following topics of this chapter will be taught in the class.

- (i) To represent the fractions of the shaded part:



(ii) **Numerator:** The upper part of a fraction is called numerator. E.g. in $\frac{3}{4}$, 3 is numerator.

(iii) **Denominator:** The lower part of a fraction is called denominator. E.g. in $\frac{5}{6}$, 6 is the denominator.

(iv) **Like fractions:** $\frac{1}{4}, \frac{2}{4}, \frac{3}{4}$ are all like fractions which have same denominator.

(v) **Unlike fraction:** $\frac{1}{9}, \frac{3}{5}, \frac{4}{6}$ are all unlike fractions have different denominators.

(vi) **Equivalent fraction:** $\frac{2}{3}, \frac{4}{6}, \frac{6}{9}$ are all equivalent fractions.

(vii) **Comparison of Fractions**

When numerators are same, the fractions with a smaller denominator is greater.

$$\frac{1}{2} > \frac{1}{3} \quad \text{and} \quad \frac{2}{5} > \frac{2}{6}$$

When denominators are same, the fraction with a bigger numerator is greater.

$$\frac{1}{5} > \frac{2}{5}, \quad \frac{4}{5} > \frac{5}{5}$$

(viii) **Ascending and descending order of fractions**

Ascending order: $\frac{4}{7}, \frac{5}{7}, \frac{6}{7}, \dots$

Descending order: $\frac{8}{9}, \frac{5}{9}, \frac{4}{9}, \frac{2}{9}, \dots$

Recapitulation: The whole chapter will be revised in the class by taking simple examples. If the students have any problem, that will be solved accordingly.

Home Assignments

(A) From Textbook

- (i) Exercise 7.1 — Solve Q. No. 1 to 5 all parts (ii) Exercise 7.2 — Solve Q. No. 1 to 3 all parts
(iii) Exercise 7.3 — Solve Q. No. 1 to 4 all parts (iv) Exercise 7.4 — Solve Q. No. 1 to 5 all parts
(v) Exercise 7.5 — Solve Q. No. 1 to 7 all parts

(B) Extra Questions

(i) Find the next three equivalent fractions for the following:

(a) $\frac{2}{3}$

(b) $\frac{1}{4}$

(c) $\frac{3}{7}$

(ii) Find how many are there in:

(a) $\frac{1}{3}$ of 36 = _____

(b) $\frac{1}{5}$ of 75 = _____

(c) $\frac{1}{6}$ of 72 = _____

Textbook Solutions

Exercise 7.1–7.2

Refer answers at the end of the book.

Exercise 7.3

1.–3. Refer answers at the end of the book.

4. a. Total shoes = $3 + 4 = 7$

No. of black shoes = 3

$$\therefore \text{Fraction of black shoes} = \frac{3}{7}$$

b. Total pencils = 10

Coloured pencils = 4

$$\therefore \text{Fraction of coloured pencils} = \frac{4}{10}$$

c. Total bangles = 12

No. of green and red bangles = $3 + 4 = 7$

No. of blue bangles = $12 - 7 = 5$

$$\therefore \text{Fraction of blue bangles} = \frac{5}{12}$$

Exercise 7.4

1. a. Total flowers = 12

$$\frac{1}{3} \text{ of 12 flowers} = \frac{1}{3} \text{ of 12 or } 12 \div 3 = 4$$

b. Total apples = 16

$$\frac{1}{4} \text{ of collection} = \frac{1}{4} \text{ of 16 or } 16 \div 4 = 4$$

2. a. Total vases = 30

Coloured vases = 6

$$\therefore \text{Fraction of coloured vases or shaded parts} = \frac{6}{30}$$

b. Total fishes = 25

Coloured fishes = 5

$$\therefore \text{Fraction of coloured fishes} = \frac{5}{25}$$

3. Refer answers at the end of the book.

4. a. $\frac{1}{3}$ of 24 = $24 \div 3 = 8$

b. $\frac{1}{5}$ of 30 = $30 \div 5 = 6$

c. $\frac{1}{6}$ of 42 = $42 \div 6 = 7$

d. $\frac{1}{2}$ of 50 = $50 \div 2 = 25$

e. $\frac{1}{7}$ of 49 = $49 \div 7 = 7$

f. $\frac{1}{4}$ of 48 = $48 \div 4 = 12$

5. a. Total coins = 18

$$\text{No. of black coins} = \frac{1}{2} \text{ of 18}$$

$$= 18 \div 2 = 9$$

$$\text{No. of white coins} = 18 - 9 = 9$$

b. Total birds = 60

$$\text{Birds in 1}^{\text{st}} \text{ flock} = \frac{3}{4} \text{ of } 60 = 3 \times (60 \div 4)$$

$$= 3 \times 15 = 45$$

$$\text{Birds in 2}^{\text{nd}} \text{ flock} = 60 - 45 = 15$$

Exercise 7.5

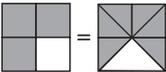
- Refer answers at the end of the book.
- Like fractions are those fractions which have the same denominator. For answers, refer at the end of the book.

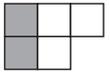
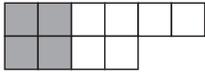
3. a. $\frac{1}{7}, \frac{2}{7}, \frac{3}{7}, \frac{4}{7}, \frac{5}{7}$ b. $\frac{2}{4}, \frac{4}{7}, \frac{6}{10}, \frac{8}{12}, \frac{10}{14}$

4. Refer answers at the end of the book.

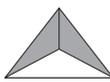
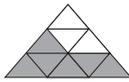
5. a. $\frac{1}{4} = \frac{1 \times 2}{4 \times 2} = \frac{2}{8}$ b. $\frac{1}{3} = \frac{1 \times 4}{3 \times 4} = \frac{4}{12}$ c. $\frac{3}{5} = \frac{3 \times 4}{5 \times 4} = \frac{12}{20}$

d. $\frac{1}{4} = \frac{1 \times 9}{4 \times 9} = \frac{9}{36}$ e. $\frac{3}{7} = \frac{3 \times 5}{7 \times 5} = \frac{15}{35}$

6. a.  = 
 $\frac{3}{4} = \frac{6}{8}$

b.  = 
 $\frac{2}{5} = \frac{4}{10}$

c.  = 
 $\frac{1}{3} = \frac{4}{12}$

d.  = 
 $\frac{2}{3} = \frac{6}{9}$

7. To find equivalent fractions, we either divide or multiply both the numerator and the denominator of the given fraction by the same number.

a. $\frac{1}{6} = \frac{1 \times 2}{6 \times 2} = \frac{2}{12}; \frac{1 \times 3}{6 \times 3} = \frac{3}{18}$

b. $\frac{2}{5} = \frac{2 \times 2}{5 \times 2} = \frac{4}{10}; \frac{2 \times 3}{5 \times 3} = \frac{6}{15}$

c. $\frac{3}{8} = \frac{3 \times 2}{8 \times 2} = \frac{6}{16}; \frac{3 \times 3}{8 \times 3} = \frac{9}{24}$

d. $\frac{4}{9} = \frac{4 \times 2}{9 \times 2} = \frac{8}{18}; \frac{4 \times 3}{9 \times 3} = \frac{12}{27}$

e. $\frac{1}{10} = \frac{1 \times 2}{10 \times 2} = \frac{2}{20}; \frac{1 \times 3}{10 \times 3} = \frac{3}{30}$

Exercise 7.6

1. When denominators are same, the fraction with a bigger numerator is greater.

a. $\frac{3}{9} < \frac{5}{9}$ b. $\frac{2}{5} < \frac{3}{5}$ e. $\frac{5}{6} > \frac{2}{6}$

When numerators are same, the fraction with smaller denominator is greater.

c. $\frac{1}{2} > \frac{1}{7}$ d. $\frac{9}{11} > \frac{9}{14}$ f. $\frac{4}{6} > \frac{4}{8}$

2. Refer answers at the end of the book.

3. In ascending order, we arrange the fractions from smallest to greatest.

a. $\frac{4}{12} < \frac{5}{12} < \frac{6}{12} < \frac{8}{12}$ b. $\frac{1}{5} < \frac{1}{4} < \frac{1}{3} < \frac{1}{2}$ c. $\frac{1}{5} < \frac{2}{5} < \frac{3}{5} < \frac{4}{5}$

4. For descending order, we arrange the fractions from greatest to smallest.

a. $\frac{2}{3} > \frac{2}{4} > \frac{2}{5} > \frac{2}{7}$ b. $\frac{1}{2} > \frac{1}{5} > \frac{1}{6} > \frac{1}{7}$ c. $\frac{11}{13} > \frac{10}{13} > \frac{8}{13} > \frac{6}{13}$

Test Your Skills

Multiple Choice Questions

1.-5. Refer answers at the end of the book.

Mental Maths

1. a. $\frac{3}{6} = \frac{3 \div 2}{6 \div 2} = \frac{1}{2}$

b. $\frac{5}{10} = \frac{5 \div 2}{6 \div 2} = \frac{1}{2}$

2. $\frac{4}{8} = \frac{4 \times 2}{8 \times 2} = \frac{8}{16} = \frac{4 \times 3}{8 \times 3} = \frac{12}{24} = \frac{4 \div 2}{8 \div 2} = \frac{2}{4} = \frac{4 \times 5}{8 \times 5} = \frac{20}{40}$

3. $\frac{2}{5} \times \overset{7}{35} = 2 \times 7 = 14$

4. $20 - 12 = 8 \quad \therefore \text{Fraction} = \frac{8}{20}$

5. $\text{Fraction} = \frac{3-2}{3+2} = \frac{1}{5}$

Apply Your Skills

Problem Solving Assessment

1. a. In a leap year (2016), February has 29 days and that month in the calendar has 5 Mondays.

$\therefore \text{Fraction} = \frac{5}{29}$

b. In a non-leap year (2017), February has 28 days and that month in the calendar has 4 Mondays.

$\therefore \text{Fraction} = \frac{4}{28}$

2. a. Since $8 > 5 \Rightarrow \frac{8}{6} > \frac{5}{6}$

b. Since $5 < 7$ in the denominator. $\therefore \frac{3}{5} > \frac{3}{7}$

3. Fraction of marbles of different colour = $\frac{20 - (4 + 6)}{20} = \frac{20 - 10}{20} = \frac{10}{20}$

4. a. $\frac{1}{2} \text{ kg} + \frac{1}{4} \text{ kg} = \frac{2}{4} \text{ kg}$ b. $\frac{1}{4} \text{ kg} + \frac{2}{4} \text{ kg} = \frac{3}{4} \text{ kg}$ c. $\frac{5}{8} \text{ kg} + \frac{1}{8} \text{ kg} = \frac{3}{4} \text{ kg}$

Value Based Questions

1. Bread piece Ishita ate = $1 - \frac{1}{3} = \frac{2}{3}$

$\Rightarrow \frac{2}{3} \times 3 = 2$ piece (Since the denominator is 3, we take the multiples of 3)

So, in all there are, 3 bread pieces \therefore Aparna ate = $\frac{1}{3} \times 3 = 1$ piece

Value: Sharing and caring.

2. No. of students who get concession = $\frac{1}{4} \times \frac{10}{40} = 10$

Value: Concern for poor

HOTS

1. $\frac{14}{216}$ (Take only the numbered pages)

2. Total amount = $\text{₹}2 + \frac{1}{2} \times \text{₹}1 + \frac{1}{4} \times \text{₹}1 = \text{₹}2 + 50 \text{ p} + 25 \text{ p} = \text{₹}2 \text{ and } 75 \text{ p}$ or $\text{₹}2.75$

Money reduced = $\text{₹}3.00 - \text{₹}2.75 = \text{₹}0.25$ or 25 p

No, Ravi should give 25 p more.

3. a.  $\frac{3}{4} \text{ L}$ $\frac{1}{4} \text{ L}$

b. Water in first bottle = $\frac{3}{4} \times 1000 = 750 \text{ mL}$

Water in second bottle = $\frac{1}{4} \times 1000 = 250 \text{ mL}$

OBJECTIVES

The students should know about

- | | |
|--|--|
| (i) Standard units of length | (ii) Addition by conversion into smaller units |
| (iii) Subtraction by conversion into smaller units | |
| (iv) Word problems | (v) Measurement of weight |
| (vi) Measurement of capacity | (vii) Word problems |

Prerequisite Knowledge: The students should have the basic knowledge of the measurement of small lengths as they have studied in their previous classes.

Teaching Aids: Writing board, marker, chalks, charts, geometrical box, smart-board/projector and the pointer.

Method of Teaching: The following topics of the chapter will be taught to the students taking very small problems.

(i) **Standard units of lengths**

Centimetre (cm), Metre (m), Kilometre (km) are the standard units of length.

(ii) **Conversion of units of length**

1 m = 100 cm, 1 km = 1000 m

(iii) **Addition by conversion into smaller units**

Example: Add 32 m 42 cm and 30 m 18 cm

32 m 42 cm = $32 \times 100 + 42 = 3200 + 42 = 3242$ cm

and 30 m 18 cm = $30 \times 100 + 18 = 3000 + 18 = 3018$ cm

$$\begin{array}{r} \therefore \quad 3 \quad 2 \quad \overset{0}{4} \quad 2 \\ + \quad 3 \quad 0 \quad 1 \quad 8 \\ \hline 6 \quad 2 \quad 6 \quad 0 \end{array} \text{ cm} = 62 \text{ m } 60 \text{ cm}$$

(iv) **Subtracting the Units of length**

Example: Subtract 5 km 526 m from 8 km 125 m

5 km 526 m = $5 \times 1000 \text{ m} + 526 \text{ m} = 5000 \text{ m} + 526 \text{ m} = 5526 \text{ m}$

and 8 km 125 m = $8 \times 1000 \text{ m} + 125 \text{ m} = 8000 \text{ m} + 125 \text{ m} = 8125 \text{ m}$

$$\begin{array}{r} \therefore \quad \overset{8}{8} \quad 1 \quad \overset{2}{2} \quad 5 \\ - \quad 5 \quad 5 \quad 2 \quad 6 \\ \hline 2 \quad 5 \quad 9 \quad 9 \end{array} \text{ m} = 2 \text{ km } 599 \text{ m}$$

Recapitulation: The whole chapter will be revised in the class by taking simple examples. If the students have any problem, that will be solved immediately.

Home Assignments

(A) **From Textbook**

- Exercise 8.2 — Solve Q. No. 1 to 6 all parts
- Exercise 8.3 — Solve Q. No. 1 to 5 all parts
- Exercise 8.4 — Solve Q. No. 1, 2, 3 all parts

- (iv) Exercise 8.5 — Solve Q. No. 1, 2 and 3 all parts
- (v) Exercise 8.6 — Solve Q. No. 1, 2 and 3 all parts
- (vi) Exercise 8.7 — Solve Q. No. 1, 2 and 3 all parts
- (vii) Exercise 8.9 — Solve Q. No. 1, 2 and 3 all parts

(B) Extra Questions

- (i) Anil weighed 65 kg 500 g. He fell ill and lost 3 kg 275 g. What is his weight now?
- (ii) Subtract 10 kg 520 g from 18 kg 320 g.
- (iii) Add 820 kL 320 L and 280 kL 530 L.

Textbook Solutions

Exercise 8.1

1. Refer answers at the end of the book.

Exercise 8.2

1. Refer answers at the end of the book.
2. To convert m into cm we multiply by 100, as 1 m = 100 cm.
 - a. $5 \text{ m} = (5 \times 100) \text{ cm} = 500 \text{ cm}$
 - b. $5 \text{ m } 16 \text{ cm} = (5 \times 100) \text{ cm} + 16 \text{ cm} = (500 + 16) \text{ cm} = 516 \text{ cm}$
 - c. $19 \text{ m } 86 \text{ cm} = (19 \times 100) \text{ cm} + 86 \text{ cm} = (1900 + 86) \text{ cm} = 1986 \text{ cm}$
 - d. $35 \text{ m } 40 \text{ cm} = (35 \times 100) \text{ cm} + 40 \text{ cm} = (3500 + 40) \text{ cm} = 3540 \text{ cm}$
3. To convert 'km' into 'm' we multiply by 1000, as 1 km = 1000 m.
 To convert 'cm' into 'm' we divide by 100, as $1 \text{ cm} = \frac{1}{100} \text{ m}$.
 - a. $5 \text{ km} = (5 \times 1000) \text{ m} = 5000 \text{ m}$
 - b. $3 \text{ km } 180 \text{ m} = (3 \times 1000) \text{ m} + 180 \text{ m} = (3000 + 180) \text{ m} = 3180 \text{ m}$
 - c. $2 \text{ km } 86 \text{ m} = (2 \times 1000) \text{ m} + 86 \text{ m} = (2000 + 86) \text{ m} = 2086 \text{ m}$
 - d. $500 \text{ cm} = (500 \div 100) \text{ m} = 5 \text{ m}$
 - e. $1800 \text{ cm} = (1800 \div 100) \text{ m} = 18 \text{ m}$
4. To convert cm into m and cm, we make the last two digits as cm and rest as m, if it is not multiple by 100. Otherwise we divide by 100.
 - a. $860 \text{ cm} = 8 \text{ m } 60 \text{ cm}$
 - b. $1290 \text{ cm} = 12 \text{ m } 90 \text{ cm}$
 - c. $3030 \text{ cm} = 30 \text{ m } 30 \text{ cm}$
 - d. $7065 \text{ cm} = 70 \text{ m } 65 \text{ cm}$
5. To convert m into km we divide it by 1000, as $1 \text{ m} = \frac{1}{1000} \text{ km}$.
 - a. $3000 \text{ m} = (3000 \div 1000) \text{ km} = 3 \text{ km}$
 - b. $5000 \text{ m} = (5000 \div 1000) \text{ km} = 5 \text{ km}$
 - c. $19000 \text{ m} = (19000 \div 1000) \text{ km} = 19 \text{ km}$
 - d. $22000 \text{ m} = (22000 \div 1000) \text{ km} = 22 \text{ km}$
6. To convert m into km, mark the last three digits as metres and the rest as kilometres.
 - a. $5859 \text{ m} = 5 \text{ km } 859 \text{ m}$
 - b. $9100 \text{ m} = 9 \text{ km } 100 \text{ m}$
 - c. $1030 \text{ m} = 1 \text{ km } 30 \text{ m}$
 - d. $7003 \text{ m} = 7 \text{ km } 3 \text{ m}$

Exercise 8.3

1. a.

m	cm
5 6	3 6
+ 2 3	3 7
7 9	7 3

Sum = 79 m 73 cm

b.

m	cm
0 0	8 5
+ 3 9	7 3
1 2 5	3 5

Sum = 125 m 35 cm

$$\begin{array}{r}
 \text{c. } 36 \text{ m } 18 \text{ cm} = (36 \times 100) \text{ cm} + 18 \text{ cm} = (3600 + 18) \text{ cm} = \begin{array}{r} 0000 \\ 3618 \text{ cm} \end{array} \\
 58 \text{ m } 83 \text{ cm} = (58 \times 100) \text{ cm} + 83 \text{ cm} \\
 \quad = (5800 + 83) \text{ cm} = \\
 40 \text{ m } 36 \text{ cm} = (40 \times 100) \text{ cm} + 36 \text{ cm} \quad 5883 \text{ cm} \\
 \quad = (4000 + 36) \text{ cm} = \\
 \therefore 13537 \text{ cm} = 135 \text{ m } 37 \text{ cm} \quad + \begin{array}{r} 4036 \text{ cm} \\ \hline 13537 \text{ cm} \end{array}
 \end{array}$$

$$\begin{array}{r}
 \text{d. } 108 \text{ m } 52 \text{ cm} = (108 \times 100) \text{ cm} + 52 \text{ cm} \quad \begin{array}{r} 000 \\ 10852 \text{ cm} \end{array} \\
 \quad = (10800 + 52) \text{ cm} = \\
 296 \text{ m } 86 \text{ cm} = (296 \times 100) \text{ cm} + 86 \text{ cm} \\
 \quad = (29600 + 86) \text{ cm} = \quad + \begin{array}{r} 29686 \text{ cm} \\ \hline 40538 \text{ cm} \end{array} \\
 \therefore 40538 \text{ cm} = 405 \text{ m } 38 \text{ cm}
 \end{array}$$

$$\begin{array}{r}
 \text{2. a. } 76 \text{ km } 142 \text{ m} = (76 \times 1000) \text{ m} + 142 \text{ m} \quad \begin{array}{r} 0 \\ 76142 \text{ m} \end{array} \\
 \quad = (76000 + 142) \text{ m} = \\
 93 \text{ km } 315 \text{ m} = (93 \times 1000) \text{ m} + 315 \text{ m} \\
 \quad = (93000 + 315) \text{ m} = \quad + \begin{array}{r} 93315 \text{ m} \\ \hline 169457 \text{ m} \end{array} \\
 \therefore 169457 \text{ m} = 169 \text{ km } 457 \text{ m}
 \end{array}$$

$$\begin{array}{r}
 \text{b. } 181 \text{ km } 350 \text{ m} = (181 \times 1000) \text{ m} + 350 \text{ m} \quad \begin{array}{r} 0 \\ 181350 \text{ m} \end{array} \\
 \quad = (181000 + 350) \text{ m} = \\
 200 \text{ km } 86 \text{ m} = (200 \times 1000) \text{ m} + 86 \text{ m} \\
 \quad = (200000 + 86) \text{ m} = \quad + \begin{array}{r} 200086 \text{ m} \\ \hline 381436 \text{ m} \end{array} \\
 \therefore 381436 \text{ m} = 381 \text{ km } 436 \text{ m}
 \end{array}$$

$$\begin{array}{r}
 \text{c. } 57 \text{ km } 675 \text{ m} = (57 \times 1000) \text{ m} + 675 \text{ m} \quad \begin{array}{r} 000 \\ 57675 \text{ m} \end{array} \\
 \quad = (57000 + 675) \text{ m} = \\
 318 \text{ km } 156 \text{ m} = (318 \times 1000) \text{ m} + 156 \text{ m} \\
 \quad = (318000 + 156) \text{ m} = \quad + \begin{array}{r} 318156 \text{ m} \\ \hline 375831 \text{ m} \end{array} \\
 \therefore 375831 \text{ m} = 375 \text{ km } 831 \text{ m}
 \end{array}$$

$$\begin{array}{r}
 \text{d. } 39 \text{ km } 186 \text{ m} = (39 \times 1000) \text{ m} + 186 \text{ m} \quad \begin{array}{r} 0000 \\ 39186 \text{ m} \end{array} \\
 \quad = (39000 + 186) \text{ m} = \\
 78 \text{ km } 276 \text{ m} = (78 \times 1000) \text{ m} + 276 \text{ m} \\
 \quad = (78000 + 276) \text{ m} = \quad 78276 \text{ m} \\
 108 \text{ km } 56 \text{ m} = (108 \times 1000) \text{ m} + 56 \text{ m} \\
 \quad = (108000 + 56) \text{ m} = \quad + \begin{array}{r} 108056 \text{ m} \\ \hline 225518 \text{ m} \end{array} \\
 \therefore 225518 \text{ m} = 225 \text{ km } 518 \text{ m}
 \end{array}$$

$$\begin{array}{r}
 \text{3. a. } \begin{array}{r} \text{m} \quad \text{cm} \\ ^2 \\ \cancel{38} \quad 85 \\ -19 \quad 60 \\ \hline 19 \quad 25 \end{array}
 \end{array}$$

Difference = 19 m 25 cm

$$\begin{array}{r}
 \text{b. } 86 \text{ m } 38 \text{ cm} = (86 \times 100) \text{ cm} + 38 \text{ cm} = (8600 + 38) \text{ cm} = \begin{array}{r} 705 \\ \cancel{86}038 \text{ cm} \end{array} \\
 18 \text{ m } 65 \text{ cm} = (18 \times 100) \text{ cm} + 65 \text{ cm} = (1800 + 65) \text{ cm} = \begin{array}{r} -1865 \text{ cm} \\ \hline 6773 \text{ cm} \end{array} \\
 \text{So, } 6773 \text{ cm} = 67 \text{ m } 73 \text{ cm}
 \end{array}$$

$$\begin{array}{r}
 \text{c. } \begin{array}{r} \text{m} \quad \text{cm} \\ ^2 ^6 \quad ^4 \\ \cancel{37}05 \quad \cancel{3}08 \\ -189 \quad 29 \\ \hline 186 \quad 29 \end{array}
 \end{array}$$

Difference = 186 m 29 cm

$$\begin{aligned}
 \text{d. } 365 \text{ m } 60 \text{ cm} &= (365 \times 100) \text{ cm} + 60 \text{ cm} && \begin{array}{r} 2 \text{ } 05 \text{ } 04 \text{ } 05 \\ \cancel{3} \cancel{6} \cancel{5} \cancel{0} \cancel{0} \end{array} \\
 &= (36500 + 60) \text{ cm} = \\
 185 \text{ m } 86 \text{ cm} &= (185 \times 100) \text{ cm} + 86 \text{ cm} \\
 &= (18500 + 86) \text{ cm} = && \begin{array}{r} -1 \ 8 \ 5 \ 8 \ 6 \ \text{cm} \\ \hline 1 \ 7 \ 9 \ 7 \ 4 \ \text{cm} \end{array} \\
 \text{So, } 17974 \text{ cm} &= 179 \text{ m } 74 \text{ cm}
 \end{aligned}$$

$$\begin{aligned}
 \text{4. a. } 19 \text{ km } 508 \text{ m} &= (19 \times 1000) \text{ m} + 508 \text{ m} && \begin{array}{r} 8 \text{ } 04 \\ 1 \cancel{9} \cancel{5} \cancel{0} \cancel{0} \end{array} \\
 &= (19000 + 508) \text{ m} = \\
 13 \text{ km } 850 \text{ m} &= (13 \times 1000) \text{ m} + 850 \text{ m} \\
 &= (13000 + 850) \text{ m} = && \begin{array}{r} -13 \ 8 \ 5 \ 0 \ \text{m} \\ \hline 5 \ 6 \ 5 \ 8 \ \text{m} \end{array} \\
 \text{So, } 5658 \text{ m} &= 5 \text{ km } 658 \text{ m}
 \end{aligned}$$

$$\begin{aligned}
 \text{b. } 863 \text{ km } 676 \text{ m} &= (863 \times 1000) \text{ m} + 676 \text{ m} && \begin{array}{r} 5 \\ 8 \cancel{6} \cancel{0} \cancel{3} \cancel{6} \cancel{7} \cancel{6} \end{array} \\
 &= (863000 + 676) \text{ m} = \\
 338 \text{ km } 100 \text{ m} &= (338 \times 1000) \text{ m} + 100 \text{ m} \\
 &= (338000 + 100) \text{ m} = && \begin{array}{r} -3 \ 3 \ 8 \ 100 \ \text{m} \\ \hline 5 \ 2 \ 5 \ 576 \ \text{m} \end{array} \\
 \text{So, } 525576 \text{ m} &= 525 \text{ km } 576 \text{ m}
 \end{aligned}$$

$$\begin{aligned}
 \text{c. } 423 \text{ km } 18 \text{ m} &= (423 \times 1000) \text{ m} + 18 \text{ m} && 423018 \text{ m} \\
 &= (423000 + 18) \text{ m} = \\
 275 \text{ km } 685 \text{ m} &= (275 \times 1000) \text{ m} + 685 \text{ m} \\
 &= (275000 + 685) \text{ m} = && \begin{array}{r} -275685 \ \text{m} \\ \hline 147333 \ \text{m} \end{array} \\
 \text{So, } 147333 \text{ m} &= 147 \text{ km } 333 \text{ m}
 \end{aligned}$$

$$\begin{aligned}
 \text{d. } 708 \text{ km } 696 \text{ m} &= (708 \times 1000) \text{ m} + 696 \text{ m} && \begin{array}{r} 6 \\ 7 \cancel{0} \cancel{0} \cancel{8} \cancel{6} \cancel{9} \cancel{6} \end{array} \\
 &= (708000 + 696) \text{ m} = \\
 530 \text{ km } 576 \text{ m} &= (530 \times 1000) \text{ m} + 576 \text{ m} \\
 &= (530000 + 576) \text{ m} = && \begin{array}{r} -5 \ 3 \ 0 \ 576 \ \text{m} \\ \hline 1 \ 7 \ 8 \ 120 \ \text{m} \end{array} \\
 \text{So, } 178120 \text{ m} &= 178 \text{ km } 120 \text{ m}
 \end{aligned}$$

$$\begin{array}{r} \text{m} \quad \text{cm} \\ \\ \text{5. a. Cotton cloth bought} = 8 \ 58 \\ \text{Silk cloth bought} = +7 \ 75 \\ \hline \text{Total cloth bought} = 16 \ 33 \end{array}$$

Raj bought 16 m 33 cm cloth altogether.

$$\begin{array}{r} \text{m} \quad \text{cm} \\ \\ \text{b. Red ribbon purchased} = 24 \ 40 \\ \text{Green ribbon purchased} = 32 \ 64 \\ \text{Yellow ribbon purchased} = +16 \ 39 \\ \hline \text{Total ribbon purchased} = 73 \ 43 \end{array}$$

The total length of ribbon purchased by Teena is 73 m 43 cm.

$$\begin{array}{r} \text{m} \quad \text{cm} \\ \\ \text{c. Total length of rope} = 3 \ 08 \ 05 \\ \text{Piece of rope cut-off} = -1 \ 9 \ 3 \ 6 \\ \hline \text{Length of remaining rope} = 1 \ 9 \ 2 \ 9 \end{array}$$

So, the length of remaining rope is 19 m 29 cm.

$$\begin{array}{r} \text{km} \quad \text{m} \\ \\ \text{d. Total distance} = 3 \ 06 \ 3 \ 01 \ 8 \ 0 \\ \text{Distance travelled} = -1 \ 8 \ 2 \ 7 \ 5 \ 0 \\ \hline \text{Distance left} = 1 \ 8 \ 2 \ 4 \ 3 \ 0 \end{array}$$

So, the distance of 182 km 430 m was left.

e. Number which exceeds

$$= 42 \text{ km } 525 \text{ m} - 15 \text{ km } 218 \text{ m}$$

$$= 27 \text{ km } 307 \text{ m}$$

$$\begin{array}{r} \text{km} \quad \text{m} \\ \textcircled{3} \quad \textcircled{1} \\ \begin{array}{r} 42 \ 525 \\ -15 \ 218 \\ \hline 27 \ 307 \end{array} \end{array}$$

So, 42 km 525 m exceeds 15 km 218 m by 27 km 307 m.

f. We first add 316 km 956 m and 326 km 600 m

$$\begin{array}{r} \text{km} \quad \text{m} \\ 316 \ 956 \\ +326 \ 600 \\ \hline 643 \ 556 \end{array}$$

Sum = 643 km 556 m

Now subtract 238 km 188 m from 643 km 556 m

$$\begin{array}{r} \text{km} \quad \text{m} \\ \textcircled{3} \quad \textcircled{4} \ \textcircled{0} \\ \begin{array}{r} 643 \ 556 \\ -238 \ 188 \\ \hline 405 \ 368 \end{array} \end{array}$$

Difference = 405 km 368 m

Exercise 8.4

1. a.
$$\begin{array}{r} \text{m} \quad \text{cm} \\ \textcircled{0} \quad \textcircled{0} \\ 6 \ 35 \\ \times 7 \\ \hline 44 \ 45 \end{array}$$

Product =
44 m 45 cm

b.
$$\begin{array}{r} \text{m} \quad \text{cm} \\ \textcircled{0} \\ 9 \ 60 \\ \times 2 \\ \hline 19 \ 20 \end{array}$$

Product =
19 m 20 cm

c.
$$\begin{array}{r} \text{km} \quad \text{m} \\ \textcircled{0} \quad \textcircled{0} \\ 18 \ 015 \\ \times 4 \\ \hline 72 \ 060 \end{array}$$

Product =
72 km 60 m

d.
$$\begin{array}{r} \text{km} \quad \text{m} \\ 13 \ 208 \\ \times 3 \\ \hline 39 \ 624 \end{array}$$

Product =
39 km 624 m

2. a.
$$\begin{array}{r} \text{km} \quad \text{m} \\ 5 \overline{) 3 \ 500} \\ \underline{-3 \ 5} \downarrow \downarrow \\ 000 \end{array}$$

$\therefore 3 \text{ km } 500 \text{ m} \div 5$
= 700 m

b.
$$\begin{array}{r} \text{m} \quad \text{cm} \\ 6 \overline{) 6 \ 54} \\ \underline{-6} \downarrow \downarrow \\ 0 \ 54 \\ \underline{-54} \\ 0 \end{array}$$

$\therefore 6 \text{ m } 54 \text{ cm} \div 6$
= 1 m 9 cm

c.
$$\begin{array}{r} \text{km} \quad \text{m} \\ 3 \overline{) 33 \ 063} \\ \underline{-3} \downarrow \downarrow \downarrow \\ 03 \downarrow \downarrow \downarrow \\ \underline{-3} \downarrow \downarrow \downarrow \\ 0 \ 06 \\ \underline{-6} \downarrow \\ 03 \\ \underline{-3} \\ 0 \end{array}$$

$\therefore 33 \text{ km } 63 \text{ m} \div 3$
= 11 km 21 m

d.
$$\begin{array}{r} \text{km} \quad \text{m} \\ 11 \overline{) 66 \ 110} \\ \underline{-66} \downarrow \downarrow \\ 00 \ 11 \\ \underline{-11} \downarrow \\ 00 \end{array}$$

$\therefore 66 \text{ km } 110 \text{ m} \div 11$
= 6 km 10 m

3. a.
$$\begin{array}{r} \text{m} \quad \text{cm} \\ \textcircled{0} \\ \text{Length of ribbons} = 2 \ 60 \\ \text{No. of ribbons} = \times 3 \\ \hline 7 \ 80 \end{array}$$

The girl used 7 m 80 cm ribbon in all.

b.
$$\begin{array}{r} \text{km} \quad \text{m} \\ \textcircled{0} \ \textcircled{0} \\ \text{Distance covered in 1 hour} = 4 \ 375 \\ \text{No. of hours} = \times 2 \\ \hline \text{Distance covered in 2 hours} = 8 \ 750 \end{array}$$

The man will walk 8 km 750 m in 2 hours.

$$\begin{array}{r} \text{m} \quad \text{cm} \\ 00 \quad 0 \\ \text{c. Length of wire} = 13 \quad 25 \\ \text{No. of wires} = \frac{\quad \times 6}{79 \quad 50} \end{array}$$

The electrician used 79 m 50 cm length of wire.

$$\begin{array}{r} \text{m} \quad \text{cm} \\ 2 \quad 16 \\ \text{d. Total piece} = 8 \text{ m } 64 \text{ cm} \\ \text{No. of strips} = 4 \\ \text{Length of each strip} = 8 \text{ m } 64 \text{ cm} \div 4 \\ = 2 \text{ m } 16 \text{ cm} \end{array}$$

$$\begin{array}{r} \text{m} \quad \text{cm} \\ 4 \overline{) 8 \quad 64} \\ \underline{-8 \quad} \downarrow \\ 0 \quad 6 \downarrow \\ \underline{-4 \quad} \downarrow \\ 24 \\ \underline{-24} \\ 0 \end{array}$$

So, the length of each strip is 2 m 16 cm.

$$\begin{array}{r} \text{km} \quad \text{m} \\ 1 \quad 100 \\ \text{e. Relay race track's length} = 4 \text{ km } 400 \text{ m} \\ \text{No. of athletes} = 4 \\ \text{Distance covered by each athlete} = 4 \text{ km } 400 \text{ m} \div 4 \\ = 1 \text{ km } 100 \text{ m} \end{array}$$

$$\begin{array}{r} \text{km} \quad \text{m} \\ 4 \overline{) 4 \quad 400} \\ \underline{-4 \quad} \downarrow \downarrow \downarrow \\ 0 \quad 4 \downarrow \downarrow \\ \underline{-4 \quad} \downarrow \downarrow \\ 000 \end{array}$$

Thus, each athlete will cover the distance of 1 km 100 m.

$$\text{f. Distance swam in 1 hour} = 12 \text{ km } 750 \text{ m} \div 3 = 4 \text{ km } 250 \text{ m}$$

$$\begin{array}{r} \text{km} \quad \text{m} \\ 4 \quad 250 \\ 3 \overline{) 12 \quad 750} \\ \underline{-12 \quad} \downarrow \downarrow \downarrow \\ 0 \quad 7 \downarrow \downarrow \\ \underline{-6 \quad} \downarrow \downarrow \\ 15 \downarrow \downarrow \\ \underline{-15 \quad} \downarrow \downarrow \\ 00 \end{array}$$

Jones swam 4 km 250 m in one hour.

Exercise 8.5

- Refer answers at the end of the book.
- To convert kilogram into gram, we multiply by 1000.
 - $6 \text{ kg} = (6 \times 1000) \text{ g} = 6000 \text{ g}$
 - $2 \text{ kg } 780 \text{ g} = (2 \times 1000) \text{ g} + 780 \text{ g} = 2000 \text{ g} + 780 \text{ g} = 2780 \text{ g}$
 - $18 \text{ kg } 25 \text{ g} = (18 \times 1000) \text{ g} + 25 \text{ g} = (18000 + 25) \text{ g} = 18025 \text{ g}$
 - $27 \text{ kg } 454 \text{ g} = (27 \times 1000) \text{ g} + 454 \text{ g} = 27000 \text{ g} + 454 \text{ g} = 27454 \text{ g}$
- To convert g into kg, we divide by 1000 and write the remainder in g. Or, simply we take the last three digits as g and rest of digits as kg as $1 \text{ g} = \frac{1}{1000} \text{ kg}$
 - $5000 \text{ g} = (5000 \div 1000) \text{ kg} = 5 \text{ kg}$
 - $6500 \text{ g} = 6 \text{ kg } 500 \text{ g}$
 - $7870 \text{ g} = 7 \text{ kg } 870 \text{ g}$
 - $1008 \text{ g} = 1 \text{ kg } 8 \text{ g}$
 - $6789 \text{ g} = 6 \text{ kg } 789 \text{ g}$

Exercise 8.6

$\begin{array}{r} \text{kg} \quad \text{g} \\ 6 \quad 540 \\ + 2 \quad 350 \\ \hline 8 \quad 890 \\ \text{Sum} = 8 \text{ kg } 890 \text{ g} \end{array}$	$\begin{array}{r} \text{kg} \quad \text{g} \\ 8 \quad 030 \\ + 7 \quad 670 \\ \hline 15 \quad 700 \\ \text{Sum} = 15 \text{ kg } 700 \text{ g} \end{array}$	$\begin{array}{r} \text{kg} \quad \text{g} \\ 22 \quad 567 \\ + 18 \quad 550 \\ \hline 41 \quad 117 \\ \text{Sum} = 41 \text{ kg } 117 \text{ g} \end{array}$
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d. $46 \text{ kg } 800 \text{ g} = (46 \times 1000) \text{ g} + 800 \text{ g} = 46000 \text{ g} + 800 \text{ g} =$
 $75 \text{ kg } 670 \text{ g} = (75 \times 1000) \text{ g} + 670 \text{ g} = 75000 \text{ g} + 670 \text{ g} =$

$$\begin{array}{r} \text{00} \\ 46800\text{g} \\ + 75670\text{g} \\ \hline 122470\text{g} \end{array}$$

$\therefore 122470 \text{ g} = 122 \text{ kg } 470 \text{ g}$

e.
$$\begin{array}{r} \text{kg} \quad \text{g} \\ 18 \quad 540 \\ 3 \quad 650 \\ + 8 \quad 040 \\ \hline 30 \quad 230 \end{array}$$

Sum = 30 kg 230 g

f. $40 \text{ kg } 455 \text{ g} = (40 \times 1000) \text{ g} + 455 \text{ g} = 40000 \text{ g} + 455 \text{ g} =$
 $27 \text{ kg } 667 \text{ g} = (27 \times 1000) \text{ g} + 667 \text{ g} = 27000 \text{ g} + 667 \text{ g} =$
 $32 \text{ kg } 575 \text{ g} = (32 \times 1000) \text{ g} + 575 \text{ g} = 32000 \text{ g} + 575 \text{ g} =$

$$\begin{array}{r} \text{0000} \\ 40455\text{g} \\ 27667\text{g} \\ + 32575\text{g} \\ \hline 100697\text{g} \end{array}$$

$\therefore 100697 \text{ g} = 100 \text{ kg } 697 \text{ g}$

$\begin{array}{r} \text{kg} \quad \text{g} \\ 8 \quad 567 \\ - 5 \quad 340 \\ \hline 3 \quad 227 \\ \text{Difference} = \\ 3 \text{ kg } 227 \text{ g} \end{array}$	$\begin{array}{r} \text{kg} \quad \text{g} \\ 32 \text{ kg } 4 \text{ g} \longrightarrow 2 \text{0199} \\ 17 \text{ kg } 607 \text{ g} \longrightarrow \text{320004g} \\ \hline -17607\text{g} \\ \hline 14397\text{g} \\ \text{Difference} = 14 \text{ kg } 397 \text{ g} \end{array}$	$\begin{array}{r} \text{kg} \quad \text{g} \\ 43 \quad 805 \\ - 23 \quad 876 \\ \hline 19 \quad 929 \\ \text{Difference} = \\ 19 \text{ kg } 929 \text{ g} \end{array}$
---	---	---

d.
$$\begin{array}{r} \text{kg} \quad \text{g} \\ 128 \quad 330 \\ - 125 \quad 075 \\ \hline 003 \quad 255 \\ \text{Difference} = \\ 3 \text{ kg } 255 \text{ g} \end{array}$$

e.
$$\begin{array}{r} \text{kg} \quad \text{g} \\ 23 \quad 0375 \\ - 15 \quad 940 \\ \hline 09 \quad 435 \\ \text{Difference} = \\ 9 \text{ kg } 435 \text{ g} \end{array}$$

f. $267 \text{ kg } 560 \text{ g} \longrightarrow 6 \text{04} \quad 267560\text{g}$
 $154 \text{ kg } 780 \text{ g} \longrightarrow -154780\text{g}$

$$\begin{array}{r} 6 \text{04} \\ 267560\text{g} \\ - 154780\text{g} \\ \hline 112780\text{g} \\ \text{or } 112 \text{ kg } 780 \text{ g} \end{array}$$

3. a.
$$\begin{array}{r} \text{kg} \quad \text{g} \\ 4 \quad 450 \\ + 6 \quad 600 \\ \hline 11 \quad 050 \end{array}$$

Weight of potatoes = 4 kg 450 g
 Weight of onions = 6 kg 600 g
 Total = 11 kg 050 g

The woman bought 11 kg 50 g of vegetables in all.

$$\begin{array}{r}
 \text{kg} \quad \text{g} \\
 \textcircled{0} \textcircled{0} \quad \textcircled{0} \\
 \text{b. Weight of Apples} = 19 \ 670 \\
 \text{Weight of Oranges} = 5 \ 710 \\
 \text{Weight of Watermelons} = +24 \ 330 \\
 \hline
 49 \ 710
 \end{array}$$

The fruit seller sold 49 kg 710 g of fruits.

$$\begin{array}{r}
 \text{kg} \quad \text{g} \\
 \textcircled{8} \quad \textcircled{9} \\
 \text{c. Weight of Amit} = 89 \ 0010 \\
 \text{Weight of Akhil} = -76 \ 450 \\
 \hline
 \text{Difference of weights} = 12 \ 560
 \end{array}$$

So, Amit weighs 12 kg 560 g more than Akhil.

$$\begin{array}{r}
 \text{kg} \quad \text{g} \\
 \textcircled{1} \\
 \text{d. Weight of total flour} = 1206 \ 320 \\
 \text{Weight of flour sold} = -87 \ 120 \\
 \hline
 \text{Weight of flour left} = 39 \ 200
 \end{array}$$

39 kg 200 g of flour was left with the shopkeeper.

$$\begin{array}{r}
 \text{kg} \quad \text{g} \\
 \textcircled{5} \textcircled{0} \textcircled{1} \quad \textcircled{0} \textcircled{7} \textcircled{0} \textcircled{3} \\
 \text{e. Anil's actual weight} = 52 \ 840 \\
 \text{Weight loss} = 0 \\
 \hline
 \text{Present weight} = -3 \ 975 \\
 \hline
 58 \ 865
 \end{array}$$

So, Anil's weight now is 58 kg 865 g.

$$\begin{array}{r}
 \text{kg} \quad \text{g} \\
 \textcircled{0} \quad \textcircled{0} \\
 \text{f. Weight of sugar sold to one customer} = 15 \ 475 \\
 \text{Weight of sugar sold to another customer} = +12 \ 605 \\
 \hline
 28 \ 080
 \end{array}$$

$$\begin{array}{r}
 \text{kg} \quad \text{g} \\
 \textcircled{4} \textcircled{9} \quad \textcircled{9} \\
 \text{Now, Total sugar} = 50 \ 000 \\
 \text{Sugar sold} = -28 \ 080 \\
 \hline
 \text{Sugar left} = 21 \ 920
 \end{array}$$

Thus, 21 kg 920 g of sugar is left with the grocer.

Exercise 8.7

$$\begin{array}{r}
 \text{1. a. } 240 \text{ g} \\
 \times 3 \\
 \hline
 720 \text{ g}
 \end{array}$$

Product = 720 g

$$\begin{array}{r}
 \text{b. } 360 \text{ g} \\
 \times 4 \\
 \hline
 1440 \text{ g}
 \end{array}$$

Product = 1 kg 440 g

$$\begin{array}{r}
 \text{c. } \text{kg} \quad \text{g} \\
 \textcircled{0} \quad \textcircled{0} \\
 3 \ 560 \\
 \times 8 \\
 \hline
 28 \ 480
 \end{array}$$

Product = 28 kg 480 g

$$\begin{array}{r} \text{kg} \quad \text{g} \\ \textcircled{0} \quad \textcircled{0} \\ \text{d. } 8 \quad 450 \\ \times 6 \\ \hline 50700 \end{array}$$

Product = 50 kg 700 g

$$\begin{array}{r} \text{kg} \quad \text{g} \\ \textcircled{0} \\ \text{e. } 6 \quad 900 \\ \times 5 \\ \hline 34500 \end{array}$$

Product = 34 kg 500 g

$$\begin{array}{r} 2 \overline{)90} \\ \underline{-8} \downarrow \\ 10 \\ \underline{-10} \\ 0 \end{array}$$

90 g ÷ 2 = 45 g

$$\begin{array}{r} 6 \overline{)540} \\ \underline{-54} \downarrow \\ 00 \end{array}$$

540 g ÷ 6 = 90 g

$$\begin{array}{r} \text{kg} \quad \text{g} \\ 4 \overline{)1224} \\ \underline{-12} \downarrow \downarrow \\ 0024 \\ \underline{-24} \\ 0 \end{array}$$

1 kg 224 g ÷ 4 = 306 g

$$\begin{array}{r} \text{kg} \quad \text{g} \\ 4 \overline{)5644} \\ \underline{-4} \downarrow \downarrow \downarrow \\ 16 \\ \underline{-16} \downarrow \downarrow \\ 4 \\ \underline{-4} \downarrow \\ 04 \\ \underline{-4} \\ 0 \end{array}$$

5 kg 644 g ÷ 4 = 1 kg 411 g

$$\begin{array}{r} \text{kg} \quad \text{g} \\ 3 \overline{)8049} \\ \underline{-6} \downarrow \downarrow \downarrow \\ 20 \\ \underline{-18} \downarrow \downarrow \\ 24 \\ \underline{-24} \downarrow \\ 09 \\ \underline{-9} \\ 0 \end{array}$$

8 kg 49 g ÷ 3 = 2 kg 683 g

$$\begin{array}{r} \text{kg} \quad \text{g} \\ \text{a. } \text{Weight of a toffee packet} = 275 \text{ g} \\ \text{No. of packets} = 5 \\ \text{Total weight} = 1375 \text{ g} \end{array}$$

The weight of 5 toffee packets = 1 kg 375 g

$$\begin{array}{r} \text{kg} \quad \text{g} \\ \text{b. } \text{Weight of 1 basket of orange} = 1960 \text{ g} \\ \text{No. of baskets of orange} = 8 \\ \text{Weight of 8 baskets of orange} = 15680 \text{ g} \\ = 15 \text{ kg } 680 \text{ g} \end{array}$$

$$\begin{array}{r} \text{kg} \quad \text{g} \\ \text{c. } \text{Flour used in a day} = 3750 \\ \text{No. of days} = 7 \\ \text{Total flour used} = 26250 \end{array}$$

The baker used 26 kg 250 g of flour in a week.

$$\begin{array}{r} \text{g} \\ 4 \overline{)840} \\ \underline{-8} \downarrow \downarrow \\ 04 \\ \underline{-4} \downarrow \\ 00 \end{array}$$

Each person will get 210 g of potato chips.

- e. Weight of cake = 4 kg 400 g
 No. of pieces = 4
 Each piece of cake will weigh = $4 \text{ kg } 400 \text{ g} \div 4$
 $= 1 \text{ kg } 100 \text{ g}$
 The weight of each piece of cake is 1 kg 100 g.

$$\begin{array}{r} \text{kg} \quad \text{g} \\ \underline{1 \quad 100} \\ 4 \overline{) 4 \quad 400} \\ \underline{-4 \quad 0} \\ 0 \quad 4 \\ \underline{-4 \quad 0} \\ 000 \end{array}$$

- f. Total weight of bricks = 6 kg 170 g
 No. of bricks = 5
 Weight of 1 brick = $6 \text{ kg } 170 \text{ g} \div 5$
 $= 1 \text{ kg } 234 \text{ g}$
 The weight of 1 brick is 1 kg 234 g.

$$\begin{array}{r} \text{kg} \quad \text{g} \\ \underline{1 \quad 234} \\ 5 \overline{) 6 \quad 170} \\ \underline{-5 \quad 0} \\ 11 \\ \underline{-10 \quad 0} \\ 17 \\ \underline{-15 \quad 0} \\ 20 \\ \underline{-20} \\ 0 \end{array}$$

Exercise 8.8

- To convert L into mL, we multiply by 1000.
 - $7 \text{ L} = (7 \times 1000) \text{ mL} = 7000 \text{ mL}$
 - $2 \text{ L } 440 \text{ mL} = (2 \times 1000) \text{ mL} + 440 \text{ mL} = 2000 \text{ mL} + 440 \text{ mL} = 2440 \text{ mL}$
 - $9 \text{ L } 4 \text{ mL} = (9 \times 1000) \text{ mL} + 4 \text{ mL} = (9000 + 4) \text{ mL} = 9004 \text{ mL}$
 - $5 \text{ L } 675 \text{ mL} = (5 \times 1000) \text{ mL} + 675 \text{ mL} = (5000 + 675) \text{ mL} = 5675 \text{ mL}$
- To convert mL into L, we divide it by 1000 or we separate last three digits as mL and take rest of digits as 'L', as $1 \text{ mL} = \frac{1}{1000} \text{ L}$.
 - $4000 \text{ mL} = (4000 \div 1000) \text{ L} = 4 \text{ L}$
 - $2343 \text{ mL} = 2 \text{ L } 343 \text{ mL}$
 - $7004 \text{ mL} = 7 \text{ L } 4 \text{ mL}$
 - $8765 \text{ mL} = 8 \text{ L } 765 \text{ mL}$

Exercise 8.9

1. a. $2 \text{ L } 825 \text{ mL} \longrightarrow \begin{array}{r} \textcircled{0} \textcircled{0} \\ 2825 \text{ mL} \end{array}$
 $3 \text{ L } 455 \text{ mL} \longrightarrow \begin{array}{r} +3455 \text{ mL} \\ \hline 6280 \text{ mL} \end{array}$
 or 6 L 280 mL

- b. $\begin{array}{r} \text{L} \quad \text{mL} \\ \textcircled{0} \textcircled{0} \\ 13 \quad 500 \\ +16 \quad 750 \\ \hline 30 \quad 250 \end{array}$
 Sum = 30 L 250 mL

c. $\begin{array}{r} \text{L} \quad \text{mL} \\ 25 \quad 235 \\ +34 \quad 500 \\ \hline 59 \quad 735 \end{array}$

- d. $\begin{array}{r} \text{L} \quad \text{mL} \\ \textcircled{0} \textcircled{0} \quad \textcircled{0} \textcircled{0} \\ 18 \quad 865 \\ 19 \quad 535 \\ +22 \quad 765 \\ \hline 61 \quad 165 \end{array}$
 Sum = 61 L 165 mL

Sum = 59 L 735 mL

e. $\begin{array}{r} \text{L} \quad \text{mL} \\ \textcircled{0} \textcircled{0} \quad \textcircled{0} \textcircled{0} \\ 45 \quad 115 \\ 27 \quad 075 \\ +17 \quad 875 \\ \hline 90 \quad 065 \end{array}$

Sum = 90 L 65 mL

$$\begin{array}{r}
 \text{L} \quad \text{mL} \\
 1110 \\
 2. \text{ a. } \quad 5 \quad 200 \\
 \quad \quad -4 \quad 650 \\
 \hline
 \quad \quad 0 \quad 550
 \end{array}$$

Difference =
550 mL

$$\begin{array}{r}
 \text{L} \quad \text{mL} \\
 8 \\
 \text{b. } \quad 36 \quad 9000 \\
 \quad \quad -22 \quad 350 \\
 \hline
 \quad \quad 14 \quad 550
 \end{array}$$

Difference =
14 L 550 mL

$$\begin{array}{r}
 \text{L} \quad \text{mL} \\
 7 \quad 0 \quad 00 \\
 \text{c. } \quad 80 \quad 1030 \\
 \quad \quad -75 \quad 880 \\
 \hline
 \quad \quad 4 \quad 250
 \end{array}$$

Difference =
4 L 250 mL

$$\begin{array}{r}
 \text{L} \quad \text{mL} \\
 03 \quad 6 \\
 \text{d. } \quad 84 \quad 08700 \\
 \quad \quad -55 \quad 934 \\
 \hline
 \quad \quad 28 \quad 936
 \end{array}$$

Difference =
28 L 936 mL

$$\begin{array}{r}
 \text{L} \quad \text{mL} \\
 \text{e. } \quad 248 \quad 785 \\
 \quad \quad -132 \quad 640 \\
 \hline
 \quad \quad 116 \quad 145
 \end{array}$$

Difference =
116 L 145 mL

$$\begin{array}{r}
 \text{L} \quad \text{mL} \\
 \text{f. } \quad 255 \quad 200 \\
 \quad \quad -75 \quad 250 \\
 \hline
 \quad \quad 179 \quad 950
 \end{array}$$

Difference =
179 L 950 mL

$$\begin{array}{r}
 \text{L} \quad \text{mL} \\
 0 \quad 0 \\
 3. \text{ a. } \text{ Milk used in morning} = 1 \quad 350 \\
 \text{Milk used in afternoon} = 2 \quad 500 \\
 \text{Milk used in evening} = +2 \quad 750 \\
 \hline
 \text{Total milk used} = 6 \quad 600
 \end{array}$$

or 6 L 600 mL

So, 6 L 600 mL of milk is brought in all.

$$\begin{array}{r}
 \text{L} \quad \text{mL} \\
 \text{b. } \text{Quantity of water in a drum} = 56 \quad 750 \\
 \text{Quantity of water added} = +43 \quad 220 \\
 \hline
 \text{Total quantity of water} = 99 \quad 970
 \end{array}$$

So, the total quantity of water in the drum is 99 L 970 mL.

$$\begin{array}{r}
 \text{L} \quad \text{mL} \\
 \text{c. } \text{Quantity of paint bought} = 105 \quad 560 \\
 \text{Quantity of paint used} = -7 \quad 450 \\
 \hline
 \text{Quantity of paint left} = 8 \quad 110
 \end{array}$$

8 L 110 mL of paint was left.

$$\begin{array}{r}
 \text{L} \quad \text{mL} \\
 1 \quad 9 \quad 00 \\
 \text{d. } \text{Total petrol in the car} = 200 \quad 3000 \\
 \text{Petrol used in journey} = -14 \quad 850 \\
 \hline
 \text{Petrol left} = 05 \quad 450
 \end{array}$$

So, 5 L 450 mL of petrol is left in the car.

$$\begin{array}{r}
 \text{L} \quad \text{mL} \\
 4 \\
 \text{e. } \text{Water Saroj can drink in 1 go} = 1 \quad 0800 \\
 \text{Water Anup can drink in 1 go} = -725 \\
 \hline
 \text{Difference} = 325
 \end{array}$$

Saroj can drink 325 mL more water than Anup.

$$\begin{array}{r}
 \text{mL} \\
 \text{f. Vasu drank water before lunch} = 250 \\
 \text{Vasu drank water during lunch} = 180 \\
 \text{Vasu drank water while returning home} = +190 \\
 \hline
 \text{Total water drank} = \underline{620} \text{ mL}
 \end{array}$$

Now,

$$\begin{array}{r}
 \text{L} \quad \text{mL} \\
 \text{Water in the bottle} = 2 \quad 0000 \\
 \text{Quantity of water drank} = - \quad 620 \\
 \hline
 \text{Water left} = \underline{1 \quad 380}
 \end{array}$$

So, 1 L 380 mL of water is left in the bottle.

Exercise 8.10

$$\begin{array}{r}
 \text{1. a. } \begin{array}{r} \text{00} \\ 174 \text{ mL} \\ \times 5 \\ \hline 870 \text{ mL} \end{array}
 \end{array}$$

Product = 870 mL

$$\begin{array}{r}
 \text{L} \quad \text{mL} \\
 \text{d. } \begin{array}{r} \text{0} \\ 9 \quad 205 \\ \times 6 \\ \hline 55 \quad 230 \end{array}
 \end{array}$$

Product = 55 L 230 mL

$$\begin{array}{r}
 \text{L} \quad \text{mL} \\
 \text{2. a. } \begin{array}{r} 1 \quad 540 \\ 3 \overline{) 4 \quad 620} \\ \underline{-3 \quad \downarrow} \\ 1 \quad 6 \\ \underline{-1 \quad 5 \downarrow} \\ 12 \\ \underline{-12 \downarrow} \\ 00 \end{array}
 \end{array}$$

4 L 620 mL \div 3
= 1 L 540 mL

$$\begin{array}{r}
 \text{L} \quad \text{mL} \\
 \text{d. } \begin{array}{r} 5 \quad 101 \\ 7 \overline{) 35 \quad 707} \\ \underline{-35 \quad \downarrow} \\ 0 \quad 7 \\ \underline{-7 \downarrow} \\ 007 \\ \underline{-7} \\ 0 \end{array}
 \end{array}$$

35 L 707 mL \div 7 = 5 L 101 mL

$$\begin{array}{r}
 \text{L} \quad \text{mL} \\
 \text{b. } \begin{array}{r} \text{0} \\ 3 \quad 125 \\ \times 3 \\ \hline 9 \quad 375 \end{array}
 \end{array}$$

Product = 9 L 375 mL

$$\begin{array}{r}
 \text{L} \quad \text{mL} \\
 \text{e. } \begin{array}{r} \text{0} \\ 8 \quad 600 \\ \times 8 \\ \hline 68 \quad 800 \end{array}
 \end{array}$$

Product = 68 L 800 mL

$$\begin{array}{r}
 \text{L} \quad \text{mL} \\
 \text{b. } \begin{array}{r} 2 \quad 109 \\ 5 \overline{) 10 \quad 545} \\ \underline{-10 \quad \downarrow} \\ 0 \quad 5 \\ \underline{-5 \downarrow} \\ 045 \\ \underline{-45} \\ 0 \end{array}
 \end{array}$$

10 L 545 mL \div 5
= 2 L 109 mL

$$\begin{array}{r}
 \text{L} \quad \text{mL} \\
 \text{c. } \begin{array}{r} \text{0} \\ 5 \quad 240 \\ \times 4 \\ \hline 20 \quad 960 \end{array}
 \end{array}$$

Product = 20 L 960 mL

$$\begin{array}{r}
 \text{L} \quad \text{mL} \\
 \text{c. } \begin{array}{r} 2 \quad 080 \\ 6 \overline{) 12 \quad 480} \\ \underline{-12 \quad \downarrow} \\ 0 \quad 48 \\ \underline{-48 \downarrow} \\ 00 \end{array}
 \end{array}$$

12 L 480 mL \div 6
= 2 L 80 mL

$$\begin{array}{r}
 \text{L} \quad \text{mL} \\
 \text{e. } \begin{array}{r} 6 \quad 64 \\ 8 \overline{) 48 \quad 512} \\ \underline{-48 \quad \downarrow} \\ 0 \quad 51 \\ \underline{-48 \downarrow} \\ 032 \\ \underline{-32} \\ 0 \end{array}
 \end{array}$$

48 L 512 mL \div 8 = 6 L 64 mL

$$\begin{array}{r}
 \text{3. a. Capacity of a glass} = 350 \text{ mL} \\
 \text{No. of glasses} = \frac{\quad}{\times 8} \\
 \text{Total capacity} = \underline{2800} \text{ mL} \\
 \text{or } 2 \text{ L } 800 \text{ mL}
 \end{array}$$

8 glasses can hold up to 2 L 800 mL of water.

$$\begin{array}{r}
 \text{L} \quad \text{mL} \\
 \text{b. Oil in 1 can} = 5 \quad 250 \\
 \text{No. of oil cans} = \frac{\quad}{\times 3} \\
 \underline{15 \quad 750}
 \end{array}$$

15 L 750 mL of oil is used at a wedding party.

$$\begin{array}{r}
 \text{c. Quantity to be shared} = 780 \text{ mL} \\
 \text{No. of friends} = 4 \\
 \text{Share of each friend} = 780 \text{ mL} \div 4 \\
 = 195 \text{ mL}
 \end{array}
 \quad
 \begin{array}{r}
 195 \\
 4 \overline{) 780} \\
 \underline{-4} \downarrow \\
 38 \\
 \underline{-36} \downarrow \\
 20 \\
 \underline{-20} \\
 0
 \end{array}$$

Each friend will get 195 mL of soft drink.

$$\begin{array}{r}
 \text{L} \quad \text{mL} \\
 \text{d. Quantity of oil} = 5 \text{ L } 750 \text{ mL} \\
 \text{No. of lamps} = 5 \\
 \text{Oil in each lamp} = 5 \text{ L } 750 \text{ mL} \div 5 \\
 = 1 \text{ L } 150 \text{ mL}
 \end{array}
 \quad
 \begin{array}{r}
 1 \quad 150 \\
 5 \overline{) 5 \quad 750} \\
 \underline{-5} \downarrow \\
 0 \quad 7 \\
 \underline{-5} \downarrow \\
 25 \\
 \underline{-25} \\
 00
 \end{array}$$

\therefore 1 L 150 mL of oil will be poured in each lamp.

$$\begin{array}{l}
 \text{e. Capacity of water tank} = 100 \text{ L} \\
 \text{Capacity of drum} = 10 \text{ L} \\
 \text{No. of drums that can be filled} = 100 \text{ L} \div 10 \text{ L} = 10 \\
 10 \text{ drums can be filled from the water tank.}
 \end{array}$$

$$\begin{array}{r}
 \text{L} \quad \text{mL} \\
 \text{f. Petrol filled in 1 taxi} = 10 \quad 825 \\
 \text{No. of taxis} = \frac{\quad}{\times 2} \\
 \underline{21 \quad 650}
 \end{array}$$

So, 21 L 650 mL of petrol can be filled in two taxis.

Test Your Skills

Multiple Choice Questions

1.-5. Refer answers at the end of the book.

Value Based Questions

1. In 7 days Anita sends 10 L 500 mL to an orphanage.

In 1 day Anita send $10\text{ L } 500\text{ mL} \div 7 = 1\text{ L } 500\text{ mL}$

In 31 days Anita sends $1\text{ L } 500\text{ mL} \times 31 = 46\text{ L } 500\text{ mL}$

Anita sends 46 L 500 mL of milk in the in the month of December.

Value: Humanity

L mL

1 500

× 31

1 500

2. Total cloth woven = 8 m 18 cm + 4 m 56 cm = 12 m 74 cm

Value: Hardwork

45 00

46 500

HOTS

1. Length of each cloth piece = $540\text{ m} \div 6 = 90\text{ m}$

Cost of a cloth piece = $90\text{ m} \times 50 = ₹4500$

2. Cost of 1 kg rice = ₹35

∴ Cost of 8 kg rice = $8 \times ₹35 = ₹280$

Again, cost of 2 kg wheat = ₹60

∴ Cost of 1 kg wheat = $₹60 \div 2 = ₹30$

∴ Cost of 13 kg wheat = $13 \times ₹30 = ₹390$

Cost of 3 kg dal = ₹240

∴ Cost of 1 kg dal = $₹240 \div 3 = ₹80$

∴ Cost of 2 kg dal = $80 \times 2 = ₹160$

Total cost = $₹280 + ₹390 + ₹160 = ₹830$

Thus, Ruksana will pay ₹830.

CHAPTER 9

Geometrical Shapes

OBJECTIVES

The students should know about

- Plane geometrical figures or 2-dimensional figures
- Straight and curved lines
- Types of straight lines
- 2-D shapes
- Three-dimensional (3-D) shapes
- To find the number of edges, faces and vertices of 3-D shapes
- Properties of 3-D figures
- Tiling and Tangrams

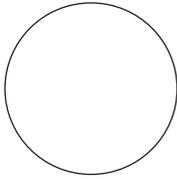
Prerequisite Knowledge: The students should have the basic knowledge of simple geometrical figures as they have studied it in their previous classes.

Teaching Aids: Writing board, marker, chalks, charts, graph-paper, duster, geometrical box, smart-board/projector and the pointer.

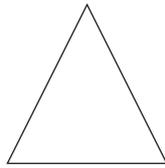
Method of Teaching: The following topics and subtopics of this chapter will be taught in the class.

(i) **2-dimensional Figures:**

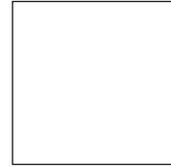
(a) Circle



(b) Triangle

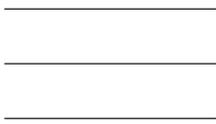


(c) Rectangle



(ii) **Straight lines:**

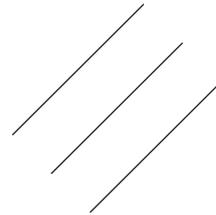
(a) Horizontal lines



(b) Vertical lines

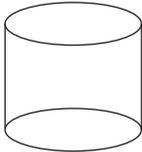


(c) Slant lines

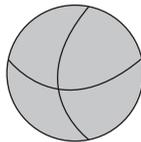


(iii) **Three dimensional (3-D) shapes**

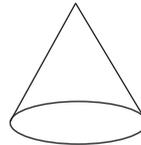
(a) Cylinder



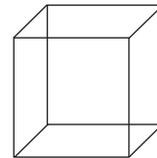
(b) Sphere



(c) Cone



(d) Cube



(iv) **Edges, Faces and Vertices of 3-D Shapes**

Shapes	Faces	Edges	Vertices
Cube/Cuboid	6	12	8
Cone	2	1	1
Cylinder	3	2	0

Recapitulation: The whole chapter will be revised in the class by taking some simple examples and the problem of the students if any, will be solved accordingly.

Home Assignments

(A) From Textbook

- (i) Exercise 9.1 — Solve Q. No. 1 to 5
- (ii) Exercise 9.2 — Solve Q. No. 1 to 4
- (iii) Exercise 9.3 — Solve Q. No. 1 to 4
- (iv) Exercise 9.5 — Solve Q. No. 1 to 3

(B) Extra Questions

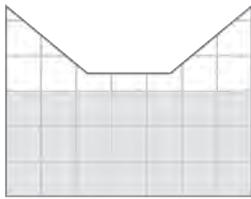
- (i) Give four examples of 3-D shapes.
- (ii) Write down the number of edges, faces and vertices of the following shapes.
 - (a) Cuboid
 - (b) Cone
 - (c) Cylinder
 - (d) Sphere

Textbook Solutions

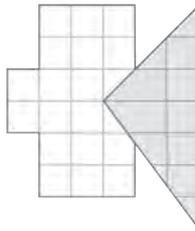
Exercise 9.1

1.–4. Refer answers at the end of the book. (4. d. Note that there are 13 triangles in the given figure.)

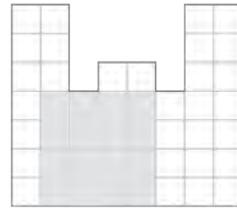
5. a.



b.



c.



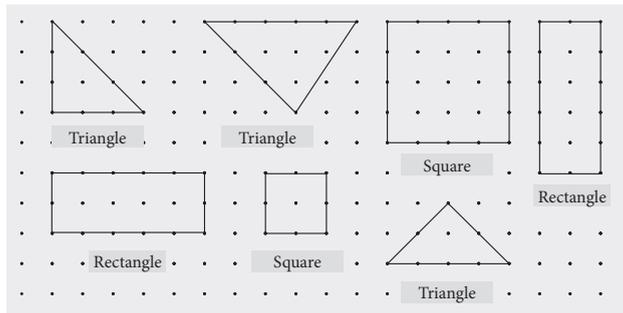
Exercise 9.2

- 1.–3. Refer answers at the end of the book.
4. a. triangle, square, rectangle
b. circle, oval, edges of rubber band

Exercise 9.3

1. Refer answers at the end of the book.
2. Straight lines—Post box, scale, envelope, butter
Curved lines—Bun, Watermelon
- 3.–5. Refer answers at the end of the book.

Exercise 9.4



Exercise 9.5

1. Drum – Cylinder, Joker’s cap – Cone, Book – Cuboid, Globe – Sphere, Dice – Cube
- 2-3. Refer answers at the end of the book.

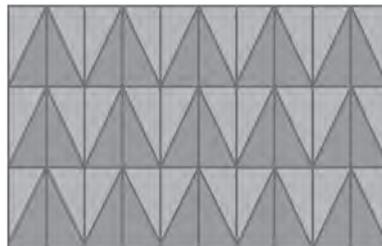
Exercise 9.6

1. Try yourself.

2. a.



b.



3. Refer answers at the end of the book.

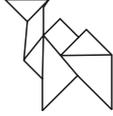
Exercise 9.7

1. Try yourself.

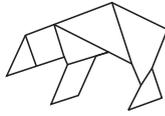
2. a. Swan



b. Camel



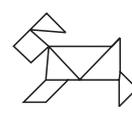
c. Polar Bear



d. Goat



e. Dog



f. Giraffe



Test Your Skills

Multiple Choice Questions

1.-5. Refer answers at the end of the book.

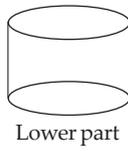
Apply Your Skills

Problem Solving Assessment

1.



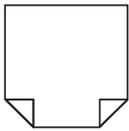
Faces - 2
Edge - 1
Vertex - 1



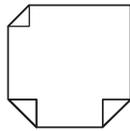
Faces - 2
Edges - 2
Vertex - 0

2. Refer answers at the end of the book.

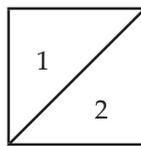
3. a. 6



b. 7

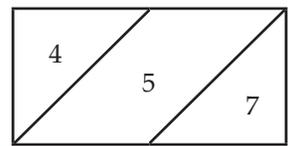


4. a.



Square

b.



Rectangle

Value Based Questions

1. Refer figures on p-153 of Exercise 9.7 (2).

2. Refer answer at the end of book.

HOTS

1. Refer answer at the end of the book.

Mental Maths

1-3. Refer answers at the end of the book.

4. a. Mathchbox, Book

b. Chalk box, Dice

c. Ball, Globe

d. Chalk, Softdrink can

e. Joker's caps, Ice cream cone

5. Try yourself.

CHAPTER 10

Time

OBJECTIVES

The students should know about

- (i) Face of the clock
- (ii) Long hand and short hand of the clock
- (iii) Reading the time
- (iv) am and pm
- (v) Time conversion
- (vi) Days, weeks, months and years
- (vii) Time line

Prerequisite Knowledge: The students should have the basic knowledge of seconds, minutes and hours as they are not in their family and society.

Teaching Aids: Writing board, markers, chalks, charts, duster, geometrical box, smart-board/projector, clock and stopwatch.

Method of Teaching: The following topics of this chapter will be taught in the class by taking some simple examples.

- (i) Face of the clock is called 'dial'
- (ii) Long hand is called the minute hand.
- (iii) Short hand is called the hour hand.
- (iv) Relation between hours, minutes and seconds
1 hour = 60 minutes and 1 minute = 60 seconds
- (v) 12 o'clock in night is called 'midnight'
12 o'clock in day is called 'noon'
ante meridiem (am)—time between midnight and noon.
post meridiem (pm)—time between noon and midnight.

(vi) **Time Conversion**

Example

- (a) Convert $4\frac{1}{2}$ hours into minutes.

$$4\frac{1}{2} \text{ hrs} = (4 \times 60) \text{ min} + 30 \text{ min} \\ = (240 + 30) = 270 \text{ min}$$

- (b) Convert 8 minutes into seconds

$$8 \text{ min} = (8 \times 60) \text{ sec} = 480 \text{ seconds}$$

- (vii) 1 day = 24 hours
7 days = 1 week
365 days = 1 year

Recapitulation: The whole chapter will be revised in the class by taking simple examples. If the students have any problem, that will be removed immediately.

Home Assignments

(A) From Textbook

- (i) Exercise 10.2 — Solve Q. No. 1 to 6 all parts
- (ii) Exercise 10.4 — Solve Q. No. 1 to 3 all parts
- (iii) Exercise 10.5 — Solve Q. No. 1 and 2 all parts

(B) Extra Questions

Example:

- (i) Convert the following into seconds.
 - (a) 2 hours
 - (b) 12 minutes
- (ii) Convert into days.
 - (a) 4 week 7 days
 - (b) 10 weeks 9 days

Textbook Solutions

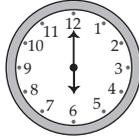
Exercise 10.1

1. a.



8:15

b.



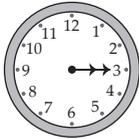
6 o'clock

c.



4:30

d.



3:15

e.



9 o'clock

f.



Half past 1

2. Refer answers at the end of the book.

Exercise 10.2

1. Refer answers at the end of the book.

2. a.



7:10

b.



12:15

c.



8:45

d.



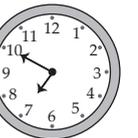
6:50

3. b.



12 o'clock

c.



7:50

d.



12 o'clock

4. a. 2 to 6 = No. of big divisions = $6 - 2 = 4$
 1 division = 5 min \therefore 4 divisions = $5 \times 4 = 20$ min
 No. of minutes passed = 20 minutes.
- b. 4 to 9 $\Rightarrow 9 - 4 = 5$ divisions
 1 division = 5 min \therefore 5 divisions = $5 \times 5 = 25$ min
 No. of minutes passed = 25 minutes.
- c. 3 to 11 $\Rightarrow 11 - 3 = 8$ divisions
 No. of minutes passed = $8 \times 5 = 40$ min
- d. 5 to 11 $\Rightarrow 11 - 5 = 6$ divisions
 No. of minutes passed = $6 \times 5 = 30$ min
- e. 6 to 10 $\Rightarrow 10 - 6 = 4$ divisions
 No. of minutes passed = $4 \times 5 = 20$ min
- f. 7 to 12 $\Rightarrow 12 - 7 = 5$ divisions
 No. of minutes passed = $5 \times 5 = 25$ min
- g. 1 to 12 $\Rightarrow 12 - 1 = 11$ divisions
 No. of minutes passed = $11 \times 5 = 55$ min
- h. 3 to 7 $\Rightarrow 7 - 3 = 4$ divisions
 No. of minutes passed = $4 \times 5 = 20$ min

5.-6. Refer answers at the end of the book.

Exercise 10.3

1.-2. Refer answers at the end of the book.

Exercise 10.4

- To convert hours into minutes, we multiply them by 60 and add extra minute to the result.
 - $5 \text{ h} = (5 \times 60) \text{ min} = 300 \text{ minutes}$
 - $19 \text{ h} = (19 \times 60) \text{ min} = 1140 \text{ minutes}$
 - $3 \text{ h } 15 \text{ min} = (3 \times 60) \text{ min} + 15 \text{ min} = (180 + 15) \text{ min} = 195 \text{ minutes}$
 - $7 \text{ h } 20 \text{ min} = (7 \times 60) \text{ min} + 20 \text{ min} = (420 + 20) \text{ min} = 440 \text{ minutes}$
 - $12 \text{ h } 10 \text{ min} = (12 \times 60) \text{ min} + 10 \text{ min} = (720 + 10) \text{ min} = 730 \text{ minutes}$
 - $6 \text{ h } 30 \text{ min} = (6 \times 60) \text{ min} + 30 \text{ min} = (360 + 30) \text{ min} = 390 \text{ minutes}$

Exercise 10.4

- $8 \text{ min} = 8 \times 60 = 480 \text{ seconds}$
 - $10 \frac{1}{2} \text{ min} = \frac{21}{2} \times 60 = 630 \text{ seconds}$
 - $3 \text{ min } 45 \text{ sec} = 3 \times 60 + 45 = 180 + 45 = 225 \text{ seconds}$
 - $24 \text{ m } 18 \text{ s} = 24 \times 60 + 18 = 1440 + 18 = 1458 \text{ Seconds}$
 - $35 \frac{1}{4} \text{ min} = 35 \times 60 + \frac{1}{4} \times 60 = 2100 + 15 = 2115 \text{ seconds}$
 - $3 \text{ hours} = 3 \times 60 \times 60 = 10800 \text{ Seconds}$
 - $15 \text{ min} = 15 \times 60 = 900 \text{ seconds}$
 - $10 \text{ hours} = 10 \times 60 \times 60 = 36000 \text{ seconds}$
- Duration of movie = 1 h 15 min
Duration of movie (in min) = $(1 \times 60) \text{ min} + 15 \text{ min} = (60 + 15) \text{ min} = 75 \text{ min}$
 - $\frac{1}{2}$ of 1 hour = $\frac{1}{2}$ of 60 min = $60 \div 2 = 30 \text{ min}$
He was late by 30 minutes.
The match started at $6:45 \text{ pm} - 30 \text{ min} = 6:15 \text{ pm}$

6:45 pm
- 30 min
<u>6:15 pm</u>

So, the match started at 6:15 pm.
 - Time taken by athlete to complete marathon = 5 min 26 s
No. of seconds in 5 min 26 s = $(5 \times 60) \text{ s} + 26 \text{ s}$
 $= (300 + 26) \text{ s} = 326 \text{ seconds}$
 - $3 \frac{1}{2} \text{ h} = (3 \times 60) \text{ min} + \left(\frac{1}{2} \text{ of } 60\right) \text{ min}$
 $= 180 \text{ min} + (60 \div 2) \text{ min} = (180 + 30) \text{ min} = 210 \text{ minutes}$

Exercise 10.5

- The children should themselves solve the questions using calendar of present year.
- If a year is divisible by 4, then it is a leap year. With the help of division, we can find which of the year is leap year or not. Here, 1996, 2004, 2012, and 2016 are leap years.

Exercise 10.6

- 1 month = 30 days and 1 week = 7 days
 - 9 months = $(9 \times 30) \text{ days} = 270 \text{ days}$
 - 5 weeks = $(5 \times 7) \text{ days} = 35 \text{ days}$
 - April + 9 days = $(30 + 9) \text{ days} = 39 \text{ days}$

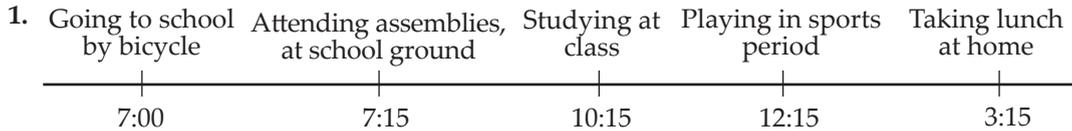
- d. February + March + October = $(28 + 31 + 31)$ days = 90 days
 e. 3 weeks + 4 days = (3×7) days + 4 days = $(21 + 4)$ days = 25 days
 f. June + 3 weeks + 20 days = 31 days + (3×7) days + 20 days
 = $(30 + 21 + 20)$ days = 71 days

2. 1 day = 24 hours.

So to convert days into hours, we multiply it by 24.

- a. 2 days = (2×24) h = 48 hours
 b. 15 days = (15×24) h = 360 hours
 c. 1 week = (1×7) days = 7 days = 7×24 h = 168 hours
 d. 3 days and half a day = (3×24) h + 12 h = 72 h + 12 h = 84 hours
 e. 5 days + 1 h = (5×24) h + 1 h = 120 h + 1 h = 121 hours
 f. 10 days + 10 h = (10×24) h + 10 h = 240 h + 10 h = 250 hours
3. a. Total days = May + June + 1st week of July = $(31 + 30 + 7)$ days = 68 days
 b. We convert half a day and 2 hours into hours.
 Half a day + 2 h = 12 h + 2 h = 14 h
 The lift was stopped for 14 hours.
 c. Duration of hiking trip = 2 days and $3\frac{1}{2}$ h
 Total no. of hours = (2×24) h + $3\frac{1}{2}$ h = 48 h + $3\frac{1}{2}$ h = $51\frac{1}{2}$ h

Exercise 10.7



Test Your Skills

Multiple Choice Questions

- 1.-5. Refer answers at the end the book.

Apply Your Skills

Problem Solving Assessment

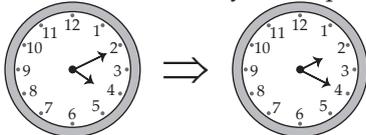
- 1.-2. Refer answers at the end the book.
 3. Time by which we were late = $12:30 - 12:15 = 15$ minutes
 4. Year in which Smita was born = $2003 + 6 = 2009$ 5. Try yourself.

Value Based Questions

1. Time for returning to the class = $11:15 + 45$ min = 12 o'clock, Value: Care for nature
 2. a. Time spent for playing = $\frac{1}{2} \times 7 = 3\frac{1}{2}$ hours
 b. Time spent to complete homework = $1\frac{1}{2} \times 7 = \frac{3}{2} \times 7 = \frac{21}{2} = 10\frac{1}{2}$ hours
 Value: Discipline

HOTS

1. Actual time of the day = 2:20 pm 2. Try yourself.



Mental Maths

1. No. of weeks = $\frac{365}{7} = 52$ weeks and 2 day
2. Try yourself.
3. Age of Sahil's father = $3 \times$ Sahil's age
 $30 = 3 \times$ Sahil's age
Sahil's age = $\frac{30}{3} = 10$ years
4. No, there can be a maximum of 5 Sundays in a month.
5. a. $30 + 31 + 14 = 75$ days
b. $5 \times 24 + \frac{1}{4} \times 24 + \frac{1}{2} = 120 + 6 + \frac{1}{2} = 126\frac{1}{2}$ hours

CHAPTER 11

Money

OBJECTIVES

The students should know about

- (i) Currency
- (ii) Rupees, paise and coins
- (iii) Conversion of money
- (iv) Addition of money
- (v) Subtraction of money
- (vi) Making bills, buying the tickets in Bus.

Prerequisite Knowledge: The students should have the basic knowledge of the currency that they are using in their daily routine.

Teaching Aids: Writing board, marker, chalks, charts, geometrical box, smart-board/projector, pointer and play money.

Method of Teaching: The following topics of this chapter will be taught in the class.

- (i) **Currency:** Different countries have their own currency. Our currency is 'Rupees'. ₹ is the symbol of rupee. ₹1 = 100 paise or 100 p
- (ii) **Conversion of Money (Rupees into paise)**
Example: Convert ₹18 into paise.
₹18 = $18 \times 100 = 1800$ paise
- (iii) **Addition of money**
Example: Add ₹3215.75 and ₹625.15.

$$\begin{array}{r} \\ 3 \ 2 \ 1 \ 5 \ . \ 7 \ 5 \\ + \ 6 \ 2 \ 5 \ . \ 1 \ 5 \\ \hline 3 \ 8 \ 4 \ 0 \ . \ 9 \ 0 \end{array}$$

(iv) **Subtraction of money**

Example: Subtract ₹375.85 from ₹625.05.

$$\begin{array}{r} \overset{5}{\cancel{6}} \overset{11}{\cancel{2}} \overset{14}{\cancel{5}} \cdot \overset{0}{0} \overset{5}{5} \\ - \quad 3 \quad 7 \quad 5 \cdot 8 \quad 5 \\ \hline \quad 2 \quad 4 \quad 9 \cdot 2 \quad 0 \end{array}$$

(v) Examples of making bills in stores and buying the cinema or bus tickets will be given in the class.

Recapitulation: The whole chapter will be revised in the class. If the students have some problems, they will be satisfied accordingly.

Home Assignments

(A) From Textbook

- (i) Exercise 11.1 — Solve Q. No. 1 to 4 all parts
- (ii) Exercise 11.2 — Solve Q. No. 1 and 2 all parts
- (iii) Exercise 11.3 — Solve Q. No. 1 to 4 all parts
- (iv) Exercise 11.4 — Solve Q. No. 1 to 6

(B) Extra Questions

- (i) Convert ₹225.65 into paise.
- (ii) Solve: ₹352.75 + ₹52.05 – ₹100.25
- (iii) Subtract: ₹370.95 from ₹567.15

Textbook Solutions

Exercise 11.1

1.–4. Refer answers at the end of the book.

Exercise 11.2

1. Since ₹1 = 100 p ∴ To convert rupees into paise, we multiply by 100. And to convert rupees and paise into paise, we simply remove the point (.)
 - a. ₹1 = 1 × 100 = 100 p
 - b. ₹4 = 4 × 100 = 400 p
 - c. ₹10 = 10 × 100 = 1000 p
 - d. ₹7.50 = 750 p or ₹7.50 = ₹7 + 50 p = 7 × 100 p + 50 p = 750 p
 - e. ₹18.40 = 1840 p or ₹18.40 = ₹18 + 40 p = 18 × 100 p + 40 p = 1840 p
 - f. ₹36.50 = 3650 p or ₹36.50 = ₹36 + 50 p = 36 × 100 p + 50 p = 3600 p + 50 p = 3650 p
 - g. ₹53.30 = 5330 p or ₹53.30 = ₹53 + 30 p = 53 × 100 p + 30 p = 5330 p
 - h. ₹60.10 = 6010 p or ₹60.10 = ₹60 + 10 p = 60 × 100 p + 10 p = 6000 p + 10 p = 6010 p
2. Refer answers at the end of the book.

Exercise 11.3

- | | | | |
|--|---|--|--|
| 1. a. $\begin{array}{r} ₹23.40 \\ + ₹45.20 \\ \hline ₹68.60 \end{array}$ | b. $\begin{array}{r} ₹112.64 \\ + ₹81.32 \\ \hline ₹193.96 \end{array}$ | c. $\begin{array}{r} ₹320.60 \\ + ₹234.35 \\ \hline ₹554.95 \end{array}$ | d. $\begin{array}{r} ₹136.50 \\ + ₹613.40 \\ \hline ₹749.90 \end{array}$ |
|--|---|--|--|

2. a.	$\begin{array}{r} ₹78.85 \\ -₹30.35 \\ \hline ₹48.50 \end{array}$	b.	$\begin{array}{r} ₹196.60 \\ -₹ 34.10 \\ \hline ₹162.50 \end{array}$	c.	$\begin{array}{r} ₹229.70 \\ -₹114.10 \\ \hline ₹115.60 \end{array}$	d.	$\begin{array}{r} ₹744.80 \\ -₹323.30 \\ \hline ₹421.50 \end{array}$
3. a.	$\begin{array}{r} 00 \\ ₹45.16 \\ +₹23.89 \\ \hline ₹69.05 \end{array}$	b.	$\begin{array}{r} 50602 \\ ₹67.300 \\ -₹48.85 \\ \hline ₹18.45 \end{array}$	c.	$\begin{array}{r} ₹254.000 \\ -₹ 39.89 \\ \hline ₹214.11 \end{array}$	d.	$\begin{array}{r} 00 \\ ₹192.10 \\ +₹ 78.98 \\ \hline ₹271.08 \end{array}$
e.	$\begin{array}{r} 00 \\ ₹236.70 \\ +₹448.85 \\ \hline ₹685.55 \end{array}$	f.	$\begin{array}{r} 00 \\ ₹465.70 \\ +₹478.50 \\ \hline ₹944.20 \end{array}$	g.	$\begin{array}{r} 60301 \\ ₹374.200 \\ -₹129.65 \\ \hline ₹244.55 \end{array}$	h.	$\begin{array}{r} 0 \\ ₹600.95 \\ -₹403.55 \\ \hline ₹197.40 \end{array}$

4. First we find the sum of ₹10.95 and ₹11.50.

$$\begin{array}{r} 0 \\ ₹10.95 \\ +₹11.50 \\ \hline ₹22.45 \end{array}$$

Now, we subtract the sum from ₹70.50.

$$\begin{array}{r} 64 \\ ₹70.500 \\ -₹22.45 \\ \hline ₹48.05 \end{array}$$

Exercise 11.4

1. Money needed for a pencil packet = ₹18.50
 Money needed for a pen packet = +₹ 7.75
 Total money needed = ₹26.25

Kiran needed ₹26.25 to buy packets of pen and pencil.

2. Money in piggy bank = ₹50.80
 Money given by father = +₹37.25
 Total money = ₹88.05

Lakshita now have ₹88.05 with her.

3. Cost of potato chips = ₹10.00
 Cost of soft drink bottle = ₹22.65
 Cost of biscuit packet = +₹14.50
 Total cost = ₹47.15

∴ The total cost of all three items is ₹47.15.

4. Total money = ₹588.80
 Money spent = -₹317.75
 Money left = ₹271.05

Money left with Krish is ₹271.05.

$$\begin{array}{r}
 \text{5. Money spent on cake} \\
 \text{Money spent on stickers} \\
 \text{Money spent on balloons} \\
 \text{Total money spent}
 \end{array}
 = \begin{array}{r}
 \text{₹ } 105.88 \\
 \text{₹ } 78.50 \\
 \text{+ ₹ } 55.50 \\
 \hline
 \text{₹ } 239.88
 \end{array}$$

Kini spent ₹239.88 in all.

$$\begin{array}{r}
 \text{6. Cost of Dress} \\
 \text{Money Juhi had} \\
 \text{Money she need to pay more} \\
 \text{Juhi need to pay ₹378.90 more.}
 \end{array}
 = \begin{array}{r}
 \text{₹ } 888.085 \\
 \text{= -₹ } 476.95 \\
 \hline
 \text{₹ } 378.90
 \end{array}$$

Exercise 11.5

1. a.

Arjun's Bill				Total Price	
S. No.	Items	Quantity	Price	₹	p
1.	Balls	3	₹8	24	00
2.	Toy Car	1	₹65	65	00
3.	Balloons	3	₹3	9	00
Grand Total				98	00

b.

Seema's Bill				Total Price	
S. No.	Items	Quantity	Price	₹	p
1.	Teddy Bear	1	₹70	70	00
2.	Balls	10	₹8	80	00
Grand Total				150	00

c.

Ajay's Bill				Total Price	
S. No.	Items	Quantity	Price	₹	p
1.	Guitar	1	₹97.50	97	50
2.	Colour pencils	10	₹6	60	00
Grand Total				157	50

d.

Pankaj's Bill				Total Price	
S. No.	Items	Quantity	Price	₹	p
1.	Toy rocket	1	₹45.50	45	50
2.	Balls	4	₹8	32	00
3.	Colour pencils	5	₹6	30	00
4.	Toy ship	1	₹108.25	108	25
Grand Total				215	75

2. a.

Mr. Aggarwal's Bill			Total Price	
S. No.	Items	Price	₹	p
1.	Vegetables	₹45	45	00
2.	Fruits	₹78.50	78	50
3.	Juice Packet	₹56.50	56	50
Grand Total			180	00

b.

Pratik's Bill				Total Price	
S. No.	Items	Quantity	Price	₹	p
1.	Pencils	6	₹5	30	00
2.	Erasers	4	₹3	12	00
3.	Sharpeners	4	₹8	32	00
4.	Colour box	1	₹12.50	12	50
Grand Total				86	50

$$\begin{array}{r}
 \text{Pratik gave} = \text{₹ } 100.00 \\
 \text{Total cost} = \text{₹ } 86.50 \\
 \hline
 \text{Balance} = \text{₹ } 13.50
 \end{array}$$

Pratik will get back ₹13.50.

c.

Arpit's Bill				Total Price	
S. No.	Items	Quantity	Price	₹	p
1.	Flour	2 kg	₹23.50 per kg	47	00
2.	Rice	3 kg	₹20.50 per kg	61	50
3.	Salt	1 pkt	₹8.25	8	25
4.	Tea bag	1	₹110.50	110	50
Grand Total				227	25

d. Refer answers at the end of the book.

Exercise 11.6

1.-3. Refer answers at the end of the book.

Test Your Skills

Multiple Choice Questions

1.-5. Refer answers at the end of the book.

Mental Maths

- ₹25 - ₹16.32 = ₹8.68
- 4005 p = ₹4005 ÷ 100 = ₹40.05
- ₹500 - ₹375.50 = ₹124.50
- ₹100 - ₹(35.50 + 18.75) = ₹45.75
- Money Anu will earn = ₹130 × 10 = ₹1300

Apply Your Skills

Problem Solving Assessment

- $\text{₹}3.85 = 3.85 \times 100 \text{ p} = 385 \text{ p}$, $\text{₹}9.85 = 9.85 \times 100 \text{ p} = 985 \text{ p}$
and $\text{₹}9 = 9 \times 100 \text{ p} = 900 \text{ p}$
 $\therefore 50 \text{ p} < 105 \text{ p} < 385 \text{ p} < 786 \text{ p} < 900 \text{ p} < 985 \text{ p}$
So, $50 \text{ p} < 105 \text{ p} < \text{₹}3.85 < \text{₹}7.86 < \text{₹}9 < \text{₹}9.85$
- $\text{₹}500 - \text{₹}125 = \text{₹}375$, $\text{₹}375$ to be added.
- Total amount = $100 \times \text{₹}10 + 1000 \times \text{₹}5 + 100 \times \text{₹}2 = \text{₹}6200$
- a. Amount = $\text{₹}150 + \text{₹}359 + 4 \times \text{₹}45 = \text{₹}150 + \text{₹}359 + \text{₹}180 = \text{₹}689$
b. Amount returned = $\text{₹}1000 - \text{₹}689 = \text{₹}311$
- Money short of = $\text{₹}200 - \text{₹}(89.70 + 56.50 + 40.50) = \text{₹}13.30$

Value Based Questions

- Amount spent by Sanya = $\text{₹}(91.55 + 80.25 + 125.75) = \text{₹}297.55$; Value: Friendship
- Money needed = $\text{₹}(9500 - 4180) = \text{₹}5320$; Value: Hardwork

HOTS

- Refer answers at the end of the book.

CHAPTER 12

Symmetry and Patterns

OBJECTIVES

The students should know about

- Symmetry and Symmetrical figures
- Pattern of alphabets
- Patterns in design
- Rules for even and odd numbers

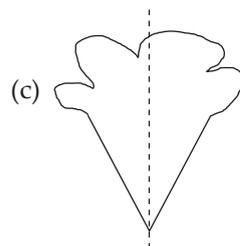
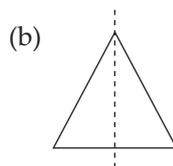
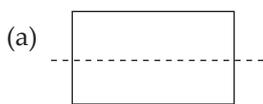
Prerequisite Knowledge: The students should have the basic knowledge of symmetrical figures and some patterns as they have studied in their previous classes.

Teaching Aids: Writing board, marker, chalks, charts, geometrical box, smart-board/projector and the pointer.

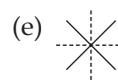
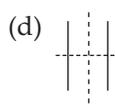
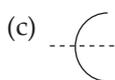
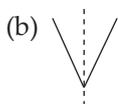
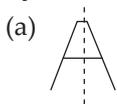
Method of Teaching: The following topics of this chapter will be taught in the class.

- Symmetry:** When one half of a shape is exactly like the other half.

Examples:



(ii) **Symmetry in alphabets**



(iii) **Odd and Even number patterns**

Addition

$$4 + 2 = 6$$

(even) (even) even

$$4 + 5 = 9$$

(even) (odd) (odd)

$$5 + 7 = 12$$

(odd) (odd) (even)

Subtraction

$$4 - 2 = 2$$

(even) (even) (even)

$$4 - 3 = 1$$

(even) (odd) (odd)

$$7 - 3 = 4$$

(odd) (odd) (even)

Recapitulation: The whole chapter will be revised in the class by taking simple examples and the problems of the students will be solved immediately.

Home Assignments

(A) From Textbooks

- (i) Exercise 12.1 — Solve Q. No. 1, 2, 3 all parts
- (ii) Exercise 12.2 — Solve Q. No. 1 and 2 all parts
- (iii) Exercise 12.3 — Solve Q. No. 1 and 2 all parts
- (iv) Exercise 12.4 — Solve Q. No. 1 to 8 all parts

(B) Extra Questions

- (i) Write all the even numbers between 15 and 31.
- (ii) Write all the odd numbers between 16 and 42.
- (iii) Fill in the blanks.
 - (a) Even number + Even number = _____
 - (b) Even number + Odd number = _____
 - (c) Odd number + Odd number = _____

Textbook Solutions

Exercises 12.1 – 12.2

1.–3. Refer answers at the end of the book.

Exercise 12.3

1.
 - a. Again repeat from triangle.
 - b. Arrows are reversed.
 - c. Repeat from second figure.
- d. $21 + 6 = 27$, $27 + 6 = 33$, $33 + 6 = 39$
- e. First letter changes to D, E and F.
- f. $8 \times 5 = 40$, $6 \times 8 = 48$, $8 \times 7 = 56$

g. Arrows are reversed.

h. Steps increased by 1.

2. Refer answers at the end of the book.

Exercise 12.4

1.-4. Refer answers at the end of the book.

5. a. $\begin{array}{r} 2 \\ +4 \\ \hline 6 \text{ (even)} \end{array}$	b. $\begin{array}{r} 8 \\ +6 \\ \hline 14 \text{ (even)} \end{array}$	c. $\begin{array}{r} 12 \\ +4 \\ \hline 16 \text{ (even)} \end{array}$	d. $\begin{array}{r} 26 \\ +8 \\ \hline 34 \text{ (even)} \end{array}$	e. $\begin{array}{r} 42 \\ +14 \\ \hline 56 \text{ (even)} \end{array}$
6. a. $\begin{array}{r} 7 \\ +3 \\ \hline 10 \text{ (even)} \end{array}$	b. $\begin{array}{r} 9 \\ +5 \\ \hline 14 \text{ (even)} \end{array}$	c. $\begin{array}{r} 11 \\ +7 \\ \hline 18 \text{ (even)} \end{array}$	d. $\begin{array}{r} 17 \\ +9 \\ \hline 26 \text{ (even)} \end{array}$	e. $\begin{array}{r} 23 \\ +15 \\ \hline 38 \text{ (even)} \end{array}$
7. a. $\begin{array}{r} 77 \\ -35 \\ \hline 42 \end{array}$	b. $\begin{array}{r} 89 \\ -41 \\ \hline 48 \end{array}$	c. $\begin{array}{r} 49 \\ -21 \\ \hline 28 \end{array}$		
d. $\begin{array}{r} 613 \\ -213 \\ \hline 400 \end{array}$	e. $\begin{array}{r} 117 \\ -105 \\ \hline 12 \end{array}$	f. $\begin{array}{r} 55 \\ -11 \\ \hline 44 \end{array}$		

When two odd numbers are subtracted, the answer is always even.

8. Refer answers at the end of the book.

Test Your Skills

Multiple Choice Questions

1.-5. Refer answers at the end of the book.

Mental Maths

1.-4. Refer answers at the end of the book.

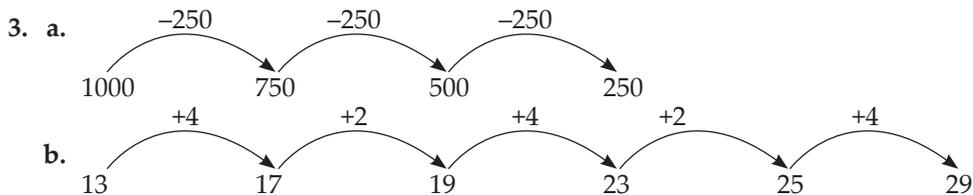
5. F I G H E A D
6 9 7 8 5 1 4

Apply Your Skills

Problem Solving Assessment

1. Refer answers at the end of the book.

2. a. $\begin{array}{r} 7 \\ +4 \\ \hline 11 \text{ (odd)} \end{array}$	b. $\begin{array}{r} 9 \\ -6 \\ \hline 03 \text{ (odd)} \end{array}$	c. $\begin{array}{r} 8 \\ +4 \\ \hline 12 \text{ (even)} \end{array}$	d. $\begin{array}{r} 13 \\ -7 \\ \hline 6 \text{ (even)} \end{array}$	e. $\begin{array}{r} 23 \\ \times 4 \\ \hline 92 \text{ (even)} \end{array}$
---	--	---	---	--



c. New alphabets come on both sides.

C B A A B C, D C B A A B C D

4. $56 < 98 < 128 < 182 < 196 < 294 < 326 < 448 < 788$

Value Based Questions

1. Rohit would have asked to put the amount in front of the mirror so that it would look double. Yes; value: Tit for tat

2. 1st day = ₹1

2nd day = ₹2

3rd day = ₹4

4th day = ₹8

5th day = ₹16

6th day = ₹32

7th day = ₹64

8th day = ₹128

9th day = ₹256

10th day = ₹512

a. 5th day = ₹16

b. 10th day = ₹512

No, Pampering by giving money to children is not good.

HOTS

1. a. Lines are increased by 1 both horizontally and vertically

b. Rotate the figure by 90° anticlockwise

c. $16 \times 2 = 32$, $32 \times 2 = 64$

2. Try yourself.

CHAPTER 13

Data Handling

OBJECTIVES

The students should know about

- (i) Representation of data by Pictograph
- (ii) Representation of data by Bar Graph
- (iii) Comparison of Bar graphs

Prerequisite Knowledge: The students should have the basic knowledge of the data and their arrangement and way of their presentation.

Teaching Aids: Writing board, marker, chalks, charts, geometrical box, smart-board/projector and the pointer.

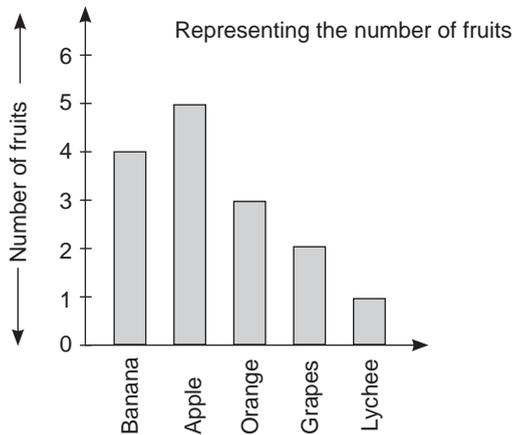
Method of Teaching: The following topics of this chapter will be taught in the class by taking some simple data.

- (i) **Pictograph:** The information representation represented in the form of pictures or symbols is called pictograph.

Example:

	Number of Pencils
A	
B	
C	
D	

(ii) **Bar Graph:** Representation of data in the form of bars or rectangles is called Bar Graph.



Recapitulation: The whole chapter will be revised in the class by giving different simple examples of pictograph and bar graph and the students have any problem, that will be solved immediately.

Home Assignments

(A) From Textbook

- Exercise 13.1 — Solve Q. No. 1 to 3 all parts
- Exercise 13.2 — Solve Q. No. 1 to 3 all parts

(B) Extra Questions

Represent the given data on a bar graph.

Games	Hockey	Cricket	Volleyball	Kho-kho	Kabaddi
Number of Students	15	20	25	30	10

Textbook Solutions

Exercise 13.1

- Since 1 symbol represents 4 biscuits.
 \therefore Rohan ate = $4 \times 4 = 16$ biscuits
 - Aruna ate = $5 \times 4 = 20$ biscuits
 - Rajiv and Mala each ate = $3 \times 4 = 12$ biscuits
 - Anuj ate = $2 \times 4 = 8$ biscuits

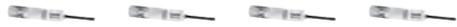
- e. Total symbols for Rajiv and Mala = $3 + 3 = 6$
 \therefore Biscuits they ate together = $6 \times 4 = 24$ biscuits

2.

Vehicles	Numbers
Bus	$1 \times 10 = 10$
Green car	$5 \times 10 = 50$
Ambulance	$2 \times 10 = 20$
Yellow car	$4 \times 10 = 40$
Blue car	$3 \times 10 = 30$

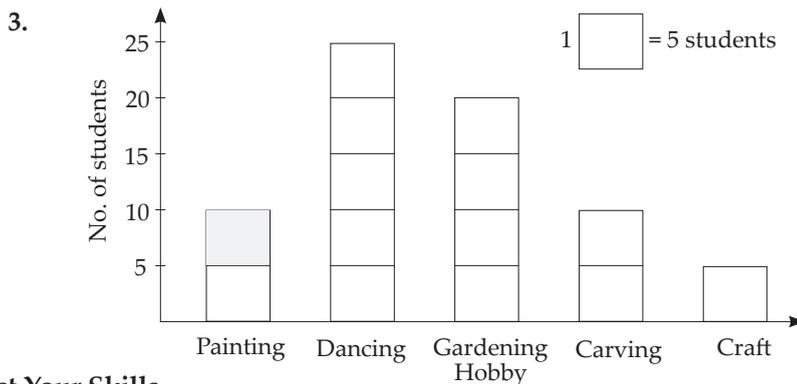
- a. Green cars
 b. Bus
 c. No
 d. 20
 e. Total vehicles = $50 + 30 + 40 + 20 + 10 = 150$

3.

Sports	No. of Students participating
Cricket	
Hockey	
Football	
Badminton	
Chess	
Table Tennis	

Exercise 13.2

1. a. Banana, since yellow boxes represent $10 \times 3 = 30$ students
 b. Lychee, since pink boxes represent $10 \times 2 = 6$ students
 c. $8 \times 3 = 24$ students
 d. Orange and grapes, $5 \times 3 = 15$ students
2. Total number of boxes = 14
 a. No. of Banyan saplings = $14 \times 10 = 140$
 b. Yes, $18 \times 10 = 180$ saplings
 c. Peepal, $4 \times 10 = 40$ saplings
 d. $10 \times 10 = 100$ saplings



Test Your Skills

Multiple Choice Questions

- 1-5. Refer answers at the end of the book.

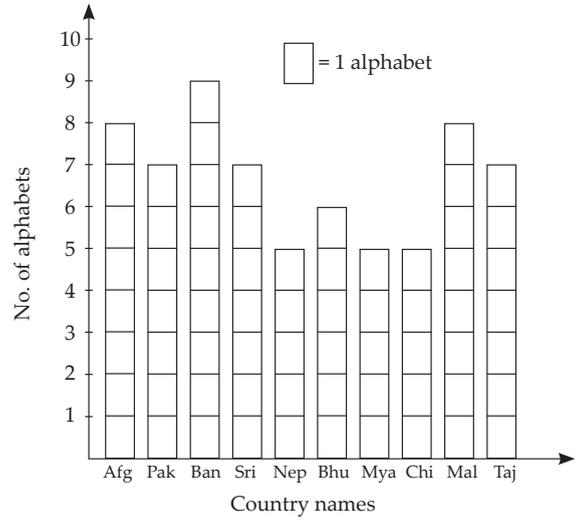
Apply Your Skills

Problem Solving Assessment

1. Refer answers at the end of the book.

2.

Countries	Alphabets with the name
Afghanistan	8
Pakistan	7
Bangladesh	9
Sri Lanka	7
Nepal	5
Bhutan	6
Myanmar	5
China	5
Maldives	8
Tajikistan	7



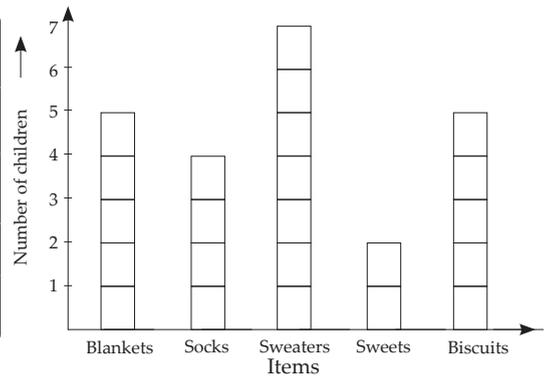
Note: Repeated letters are ignored.

3.-4. Try yourself.

Value Based Questions

1.

Blankets	
Socks	
Sweaters	
Sweets	
Biscuits	



Drawing of bar graph is easier than that of pictograph.

Value: Care for poor.

Mental Maths

- 12
- 11
- False
- 11
- 8

Sum of the numbers on the face of the die		Number of times
2	III	3
3	II	2
4	IIII	6
5	IIII	4
6	IIII	8
7	II	2
8	IIII	5
9	III	3
10	IIII	7
11	I	1
12	IIII	10
	Total	51

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 **E** DUCATION
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U NDERSTANDING

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