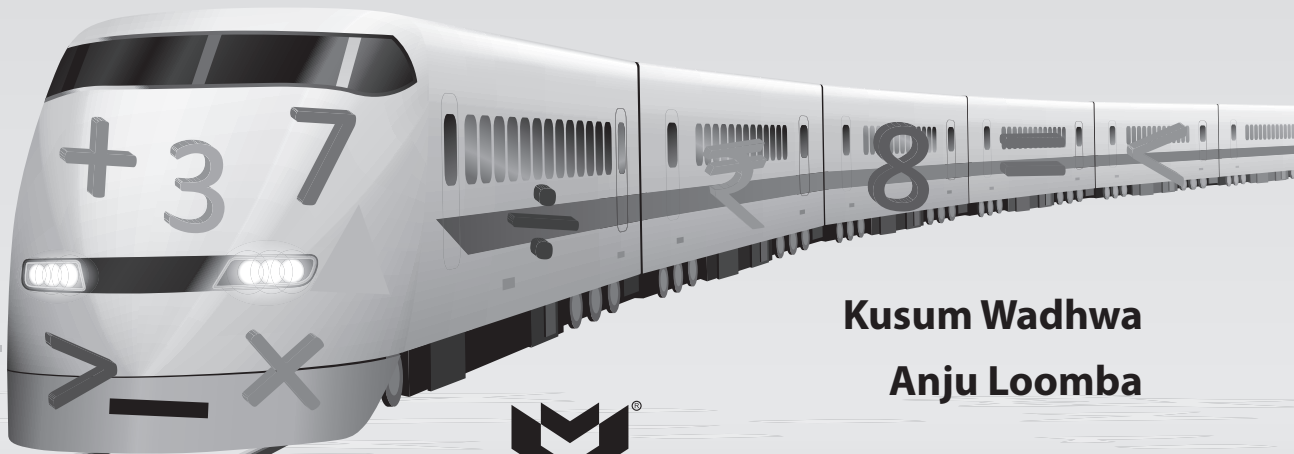


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# Destination Maths

## TEACHER'S MANUAL



**Kusum Wadhwa**  
**Anju Loomba**



(An imprint of New Saraswati House (India) Pvt. Ltd.)  
New Delhi-110002 (INDIA)



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# Preface

The **Destination Maths** Teacher's Resource Pack is based on guidelines and aids to support and supplement classroom teaching. The aim of this pack is to empower teachers so that the process of teaching and learning becomes interesting and interactive. The tools and techniques provided will ensure a seamless flow of knowledge so that the students take an inherent interest in the subject. The main purpose of the pack is to allay the fear of Maths from the minds of the students such that they develop an inherent liking for the subject and become curious to know more. A wide array of resources are included in the Teacher's Resource Pack to provide maximum support to teachers.

The main components of the Teacher's Resource Pack are as follows.

## Teacher's Manual

Teacher's Manual has been developed to provide teaching guidelines to teachers so that they are prepared to teach a topic in the best possible manner. The manual comprises detailed **lesson plans**, which are supported by ample **practice material** in the form of **Worksheets** and **Model Test Papers** and their answers. There is a Teacher's CD as a digital support so that students are familiarised with the modern ways of teaching.

## Lesson plans

Each lesson plan explains each topic in detail. Its components are as follows.

- **Learning objectives** list out the measurable aims of each chapter, which should be achieved after teaching the chapter.
- **Concept building** gives a detailed method of explaining the important concepts of the chapter using various teaching aids.
- **Reinforce** puts emphasis on important points that should not be missed while teaching.

## Practice material

Worksheets and Model Test Papers along with their answers form the part of the practice material. These ensure that the students learn to solve the questions based on the concepts taught. This will help students have a good base right from the beginning on tackling tricky questions.

## Teacher's CD

Teacher's CD comprises flip book, animated concepts, interactive activities, lesson plans, along with solved worksheets and Model Test Papers.

## Web Support

The web support consists of worksheets, model test papers, and answers to worksheets and Model Test Papers. These would help teachers in assessing students on the concepts taught in the class.

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# Numbers and Numeration



## Learning Objectives

### Students will be able to

- ✦ revise the place value system with the 4-digit numbers
- ✦ understand 5- and 6-digit numbers
- ✦ compare and order 5- and 6-digit numbers
- ✦ form 5- and 6-digit numbers with the given digits
- ✦ round off numbers to the nearest 10, 100 and 1000
- ✦ read and form Roman numerals

## Concept Building

- Students have already learnt numbers up to 9999. Recall the numbers up to 9999 using the **Roll Back** section given in the textbook.
- Review the successor and predecessor of a 4-digit number, comparing and ordering of 4-digit numbers and formation of 4-digit numbers with the given digits.

### 5- and 6-digit numbers

- To introduce 5-digit numbers, use the example given in the textbook.
- Start with the recapitulation that the greatest 1-digit number is 9 and its successor  $9 + 1 = 10$  is the smallest 2-digit number.

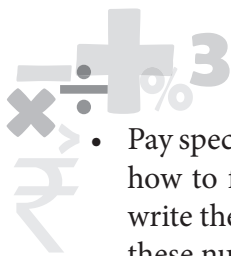
Greatest 2-digit number is 99 and its successor  $99 + 1 = 100$  is the smallest 3-digit number.

Greatest 3-digit number is 999 and its successor  $999 + 1 = 1000$  is the smallest 4-digit number.

Following the above pattern:

Greatest 4-digit number is 9999 and its successor  $9999 + 1 = 10,000$  is the smallest 5-digit number.

- Introduce the students to a new place in the place value chart called the 'ten thousands' place.
- Write 5-digit numbers and their expanded forms on the black/whiteboard and let the students read these.



- Pay special attention to numbers with zeros in them. Once, the students have understood how to form and read these numbers, call out some numbers and ask the students to write these. Now write some numbers on the black/whiteboard and let the students read these numbers aloud.
- In the same manner, introduce 6-digit numbers.

### Place value chart

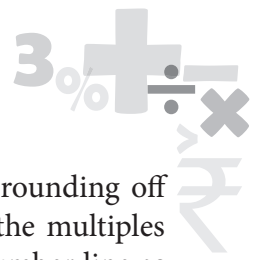
- Introduce the concept of face value of a digit. Also make students understand the relation between face value and the place value of a digit.
- To reinforce the concept, ask them to do **Let's Link** section from the textbook and explain to them what is PIN code.
- For more practice, ask them to do **Exercise 1.1** from their textbooks.
- To reinforce, students can be asked to look for large numbers in the newspaper and old magazines that they can read. Make a collage and bring it in to the class. Ask the students to read these numbers aloud.

### Comparison of numbers

- The teacher uses the students, previous knowledge of comparing and arranging the numbers in ascending and descending orders.
- To reinforce the concept, ask them to do **Exercise 1.2**.
- To further reinforce, ask them to collect information like number of days in a month and in a year, height of the Qutub Minar and height of the tallest building in their city, etc. Compare these and write their answers using the symbols  $>$ ,  $=$ ,  $<$ .

### To form number using given digits

- Draw a 6-spike abacus on the black/whiteboard. Form a number using the given digits. Students can be divided into groups of 5. Now tell them that each one should make a different number using the given digits. Then they can be asked to compare the numbers and arrange the numbers in ascending order or descending order.
- Once again the teacher explains that when digits are put in different places, they form different numbers. Explain the method of forming the greatest number and the smallest number by using a given set of digits using several examples.
- Thereafter, explain the method of forming numbers by repeating digits with special attention to number with zero.
- To reinforce the concept, students are made to practice solving several examples and then they should do **Exercise 1.3** from their textbooks.



### Rounding off numbers or estimation

- Before starting the topic of rounding off numbers, discuss the need for rounding off numbers. Then for rounding off numbers to the nearest 10, first revise the multiples of 10 with them. Now, introduce rounding off to the nearest 10 using a number line as explained in the textbook.
- Now, tell them that even 3-digit numbers can also be rounded off to nearest 10. Again explain this using a number line.
- Stress upon the fact the number exactly midway is rounded up. Similarly rounding off to the nearest 100 and nearest 1000 can be explained.
- To reinforce, ask them to do the **Values and Attitudes** section from their textbooks and explain in the class what is mid-day meal scheme.
- Ask them to do **Exercise 1.4** from their textbooks.
- To further reinforce, children can be asked to read newspapers for rounded off numbers and asked to write the largest number and the smallest number that can be rounded off to that number.

For example, for the number 6000, the smallest number could be 5,551 and the largest number could be 6,449.

- To reinforce the concept, ask them to do **Exercise 1.4** from the textbook.

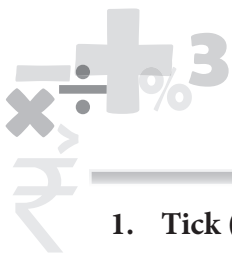
### Roman Numerals

The students are already familiar with Roman numerals as they have learnt these in class 3.

- Recall the rules of forming Roman numerals.
- To reinforce the concept, ask them to do **Exercise 1.5** from their textbooks.
- To further reinforce, ask them to solve puzzle given in the **Fun Time** section and **Maths Lab Activity** from the textbook.

To recapitulate the concepts learnt in the chapter, students should do **Let's Revise** section from their textbooks.

Use **Let's Recap** to revise the key points of the lesson.



## Worksheet 1

**1. Tick (✓) is correct options.**

- (a) The place value of 3 in 49,307 is  
(i) 3                                      (ii) 30                                      (iii) 300
- (b) The smallest 6-digit number is  
(i) 100000                                      (ii) 999999                                      (iii) 111111
- (c) How many different 3-digit numbers can be formed using the digits 0, 4 and 5?  
(i) 9                                      (ii) 2                                      (iii) 4
- (d) 273506 is \_\_\_\_\_ 272560.  
(i) greater than                                      (ii) less than                                      (iii) equal to

**2. Write 9,03,340 in words: \_\_\_\_\_.**

**3. Build the smallest 5-digit number using 8, 0, 5, 1, 7: \_\_\_\_\_.**

**4. Round off 581 to the nearest 10 \_\_\_\_\_ and the nearest 100 \_\_\_\_\_**

**5. Write the following in Roman numerals.**

- (a) 43 \_\_\_\_\_                      (b) 16 \_\_\_\_\_                      (c) 29 \_\_\_\_\_  
(d) 13 \_\_\_\_\_                      (e) 30 \_\_\_\_\_                      (f) 37 \_\_\_\_\_

**6. Write in ascending order XXIX, X, XL, XXV, XXX, C.**

\_\_\_\_\_

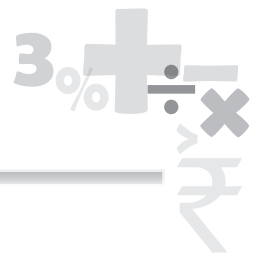
**7. Write the following in Hindu-Arabic numerals.**

- (a) XVI \_\_\_\_\_                      (b) IX \_\_\_\_\_                      (c) XXVIII \_\_\_\_\_  
(d) VII \_\_\_\_\_                      (e) XXIX \_\_\_\_\_                      (f) XLI \_\_\_\_\_  
(g) XL \_\_\_\_\_                      (h) D \_\_\_\_\_                      (h) M \_\_\_\_\_

**8. Find the error and make the following statements true by changing the place of one matchstick only.**

- (a)  $\text{VI} + \text{III} = \text{VII}$  \_\_\_\_\_                      (b)  $\text{XII} + \text{IV} = \text{XVIII}$  \_\_\_\_\_  
(c)  $\text{VIII} - \text{II} = \text{IV}$  \_\_\_\_\_                      (d)  $\text{XXIX} - \text{IV} = \text{XXVII}$  \_\_\_\_\_





## Worksheet 2

---

**1. Count in thousands.**

32,043 \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

**2. Write the standard numeral for**

$70000 + 6000 + 80 + 1$  \_\_\_\_\_

**3. Write in expanded form.**

2,10,830 \_\_\_\_\_

4. (a) The largest 4-digit even number: \_\_\_\_\_.

(b) The smallest 3-digit odd number: \_\_\_\_\_.

**5. Rewrite the numbers in ascending order.**

3412, 34012, 32041, 32400

---

**6. Round off the following numbers to the nearest**

(a) 10:        15256    \_\_\_\_\_        (b) 100:        30550    \_\_\_\_\_

(c) 1000:        92509    \_\_\_\_\_

**7. Write in words**

(a) 79346 \_\_\_\_\_

(b) 51867 \_\_\_\_\_

8. (a) Predecessor of 80001 is \_\_\_\_\_.

(b) Successor of 986050 is \_\_\_\_\_.

**9. Rewrite in descending order.**

6840, 3949, 35427, 53256

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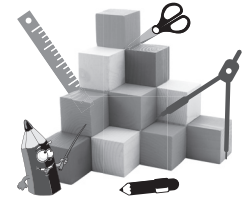
**10. Write in descending order.**

XXIV, XIV, L, XXXIX, XXVIII, C

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# Addition and Subtraction



## Learning Objectives

### Students will be able to

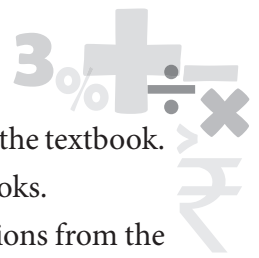
- ✦ recapitulate addition and subtraction of 3-digit numbers
- ✦ revise properties of addition
- ✦ add 4-digit numbers with regrouping
- ✦ add 5- and 6-digit numbers without regrouping and with regrouping
- ✦ check addition
- ✦ estimate sum
- ✦ subtract 4-digit numbers with regrouping
- ✦ subtract 5- and 6-digit numbers without regrouping and with regrouping
- ✦ add and subtract together
- ✦ estimate the difference
- ✦ learn about number patterns
- ✦ solve problems by drawing diagrams

## Concept Building

- Students have already learnt addition and subtraction of 3-digit numbers. Recall the concept using the **Roll Back** section given in the textbook.
- Revise the concept of regrouping by taking an example, for example, 17. Explain to the students with the help of straws the different ways in which they can form 17. When straws are loose, we refer to these as 17 ones. When 10 straws are tied together and 7 are loose, tell them that the bundle of 10 is referred to as 1 ten and 7 loose straws are 7 ones. So, we have 1 ten and 7 ones. Demonstrate by taking few more examples.
- In the similar manner, explain the method of regrouping of hundreds.

## Addition of 4-digit numbers with regrouping

- Explain the addition of 4-digit numbers with regrouping using related examples given in the textbook. Ask students to do several questions.
- Now move on to addition of 5- and 6-digit numbers without regrouping. Explain to the students that it is similar to the addition of 4-digit numbers except for the fact that now we have 5-digit or 6-digit numbers.



- Explain the method of addition with regrouping using the example given in the textbook.
- Ask them to do **Exercise 2.1** and related **word problems** from their textbooks.
- To further reinforce, ask them to do **Fun Time** and **Math Lab Activity** sections from the textbook.

### Checking addition

- Explain to them that we can check addition by changing the order of the addends.
- To reinforce, ask them to do the related **Try These** and the **Values and Attitudes** sections from the textbook.

### Estimating the sum

- To explain the estimation of the sum, revise the estimation of numbers and explain to them that first they should estimate the numbers and then find the sum.
- To reinforce, ask them to do the related **Try These** section from the textbook.

### Subtraction of 4-digit numbers with regrouping

- Ask them to recall the subtraction facts. A quick revision of subtraction facts will be very helpful. Then write some subtraction problems involving 4-digit numbers on the black/whiteboard and students should be called one by one to do one step each and keep explaining the method. Any errors made by the students are pointed out by the teacher and explained.
- To reinforce, ask them to do the related **Try These** section from the textbook.

### Subtraction of 5- and 6-digits numbers

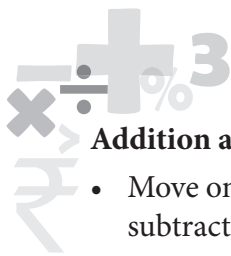
- Explain the subtraction of 5- and 6-digits numbers with the help of examples given in the textbook and tell them that it is the same as that of small numbers such as 3- and 4-digit numbers.
- To reinforce, ask them to do the related **Try These** section and **word problems** from the textbook.

### Checking subtraction

- Explain to them the method of checking the answer of subtraction using addition.

### Zeros in subtraction

- Special attention should be paid to the problems with zeros. Discuss the shortcut method given in the textbook.
- Further, explain statement-based problems like “What should be subtracted to get a particular number?” or “What should be added to get a particular number?”
- To reinforce, ask them to do **Exercise 2.2** from the textbook.



### **Addition and subtraction together**

- Move on to the word problems and discuss a word problem involving both addition and subtraction on the black/whiteboard.
- To reinforce the concept, ask them to do the **Try These** section from the textbook.
- For further reinforcement, ask them to do the **Let's Links** section from the textbook.
- Doing **Exercise 2.3** will further strengthen their addition and subtraction skills.

### **Estimate the difference**

- Students have already done questions on estimating sums. Tell them that the method of estimating the difference is similar. Ask them to first estimate the numbers and then find their difference.
- To reinforce, ask them to do the **Try These** section from the textbook.

### **Number patterns**

Students are already familiar with number patterns.

- Discuss some addition patterns given in the textbook.
- To reinforce the concept, ask them to do the **Try These** section from the textbook.
- To further reinforce, ask them to do **Exercise 2.4** from the textbook.

### **Steps to problem solving**

- Discuss the important steps to be followed while solving a word problem.
- Further explain that sometime to understand the problem better they can draw diagrams. Drawing diagram makes it easier.
- For enhancing their skills of problem solving, the teacher can take up some examples along with some more questions.
- For further reinforcement of the concept, ask them to do **Exercise 2.5** from the textbook.

To recapitulate the concepts learnt in the chapter, students should do the **Let's Revise** section from their textbooks.

Use the **Let's Recap** section to revise the key points of the lesson.



## Worksheet 1

### 1. Add.

$$\begin{array}{r} (a) \quad 1 \ 5 \ 3 \ 6 \\ + 1 \ 8 \ 8 \ 4 \\ \hline \hline \end{array}$$

$$\begin{array}{r} (b) \quad 2 \ 0 \ 8 \ 2 \\ + 4 \ 9 \ 1 \ 9 \\ \hline \hline \end{array}$$

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

$$\begin{array}{r} (d) \quad 6 \ 6 \ 3 \ 0 \ 5 \\ + 1 \ 2 \ 0 \ 4 \ 4 \\ \hline \hline \end{array}$$

$$\begin{array}{r} (e) \quad 4 \ 5 \ 6 \ 6 \ 8 \\ + 2 \ 3 \ 2 \ 1 \ 9 \\ \hline \hline \end{array}$$

$$\begin{array}{r} (f) \quad 3 \ 4 \ 1 \ 3 \ 5 \\ + 6 \ 2 \ 7 \ 8 \ 6 \\ \hline \hline \end{array}$$

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

$$\begin{array}{r} (h) \quad 3 \ 2 \ 3 \ 8 \ 6 \\ + 5 \ 8 \ 8 \ 9 \ 5 \\ \hline \hline \end{array}$$

$$\begin{array}{r} (i) \quad 8 \ 4 \ 5 \ 6 \ 5 \ 2 \\ + 1 \ 2 \ 3 \ 0 \ 3 \ 5 \\ \hline \hline \end{array}$$

$$\begin{array}{r} (j) \quad 1 \ 3 \ 2 \ 4 \ 3 \ 4 \\ + 4 \ 2 \ 3 \ 1 \ 8 \ 6 \\ \hline \hline \end{array}$$

$$\begin{array}{r} (k) \quad 5 \ 5 \ 8 \ 8 \ 3 \ 8 \\ + 1 \ 2 \ 5 \ 3 \ 8 \ 7 \\ \hline \hline \end{array}$$

$$\begin{array}{r} (l) \quad 3 \ 9 \ 9 \ 9 \ 9 \ 9 \\ + 4 \ 9 \ 9 \ 9 \ 9 \ 9 \\ \hline \hline \end{array}$$

### 2. Subtract.

$$\begin{array}{r} (a) \quad 4 \ 6 \ 6 \ 9 \ 9 \\ - 3 \ 0 \ 4 \ 5 \ 9 \\ \hline \hline \end{array}$$

$$\begin{array}{r} (b) \quad 6 \ 9 \ 6 \ 2 \ 0 \\ - 6 \ 2 \ 0 \ 1 \ 5 \\ \hline \hline \end{array}$$

$$\begin{array}{r} (c) \quad 8 \ 4 \ 6 \ 2 \ 0 \\ - 3 \ 1 \ 0 \ 2 \ 9 \\ \hline \hline \end{array}$$

$$\begin{array}{r} (d) \quad 6 \ 9 \ 2 \ 1 \ 4 \\ - 5 \ 4 \ 2 \ 1 \ 8 \\ \hline \hline \end{array}$$

$$\begin{array}{r} (e) \quad 9 \ 6 \ 3 \ 6 \ 3 \\ - 6 \ 2 \ 3 \ 6 \ 7 \\ \hline \hline \end{array}$$

$$\begin{array}{r} (f) \quad 6 \ 9 \ 3 \ 2 \ 4 \\ - 5 \ 4 \ 2 \ 1 \ 8 \\ \hline \hline \end{array}$$

### 3. Solve the following and also check your answer.

$$\begin{array}{r} (a) \quad 8 \ 9 \ 5 \ 2 \\ - 5 \ 6 \ 2 \ 1 \\ \hline \hline \end{array}$$

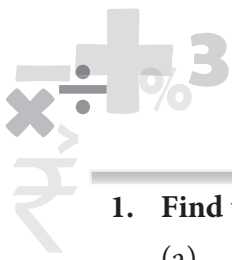
$$\begin{array}{r} (b) \quad 7 \ 4 \ 0 \ 8 \\ - 5 \ 9 \ 5 \ 9 \\ \hline \hline \end{array}$$

$$\begin{array}{r} (c) \quad 1 \ 3 \ 2 \ 4 \ 3 \ 4 \\ + 4 \ 2 \ 3 \ 1 \ 8 \ 5 \\ \hline \hline \end{array}$$

### 4. Look for a pattern and complete.

(a) 11, 22, 32, 41, 49, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

(b) 1000, 950, 900, 850, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_



## Worksheet 2

### 1. Find the missing digits.

$$\begin{array}{r} 6 \square 2 3 \\ - 1 3 \square 8 \\ \hline \square 1 6 \square \end{array}$$

$$\begin{array}{r} \square 7 \square 2 \square \\ + 6 \square 7 \square 2 \\ \hline 9 3 2 1 5 \end{array}$$

### 2. Solve the following word problems.

- (a) 1584 people attended seminar on Monday 1399 people on Tuesday. On which day was the attendance more? How many extra people were there on that day?

- (b) Mr. Rala spent ₹68935 during the year on food and clothing. He paid ₹2480 as tent for the house in that year. He saved ₹53500. How much did he earn during the year?

### 3. Tick (✓) the correct options.

(a) \_\_\_\_\_ + 499 = 600

- (i) 1                      (ii) 101                      (iii) 0

- (b) When zero is subtracted from any number, the difference is always

- (i) 1                      (ii) 0                      (iii) the number itself

(c)  $896 - 896 =$  \_\_\_\_\_

- (i) 10                      (ii) 100                      (iii) 0

4. (a) What should be subtracted from 3327 to get 1203.

- (b) What should be added to 299 to get 9999?

5. The difference between two numbers is 1111. If the greater number is 7755, find the smaller number.

# Chapter 3 Multiplication



## Learning Objectives

### Students will be able to

- ✦ recapitulate the meaning of multiplication, factor and product
- ✦ understand the multiplication facts, i.e., properties of multiplication
- ✦ multiply by splitting up numbers
- ✦ understand the use of doubles
- ✦ do multiplication of a 4-digit number by a single digit number
- ✦ multiply by a 2-digit number
- ✦ multiply by a 3-digit number
- ✦ estimate product
- ✦ understand the patterns in multiplication
- ✦ know the different ways of solving a problem

## Concept Building

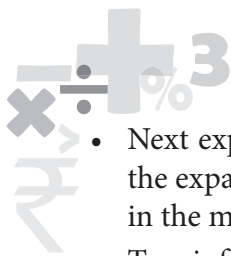
- Start the topic with the recapitulation of multiplication tables by asking products at random. For example,  $6 \times 7 = 42$ ,  $8 \times 9 = 72$ , etc.
- This is to be followed by doing some practice questions given in the **Roll Back** section in the textbook.

## More about multiplication

- Encourage students to learn different ways of multiplying like splitting up of one of the factors or use of doubles.
- The objective behind teaching different ways of multiplication is to equip the students with skills for doing mental calculations and help them in working out strategies to solve the sum. Different students will find different methods easier. Encourage them to use what they prefer.
- To reinforce the concept, ask them to do **Exercise 3.1** and **Exercise 3.2** from the textbook.

## Multiplication of 4-digit numbers

- Explain the method of multiplying a 4-digit number by a 1-digit number horizontally. Once students learn horizontal method, introduce them to the vertical method.



- Next explain multiplication of 4-digit number using the expanded notation, i.e., using the expanded form of a 4-digit number and then proceed in the same manner as taught in the method of splitting the number.
- To reinforce, ask them to do **Exercise 3.3** from the textbook.

### Multiplication by a 2-digit number

- Before starting the concept of multiplication of a 2-digit number, ask the students to recite the table of 10 and write the same on the black/whiteboard, highlighting the zero in the product and drawing their attention to the pattern of that product.  $10 \times 1$  is 10,  $10 \times 2$  is 20; ask them to focus on the tens digit.
- Now develop the table of 20 and highlight the fact that ones digit is always 0 and tens digit is double the number by which we are multiplying.  
i.e.  $20 \times 1 = 20$  2 is double of 1,  $20 \times 2 = 40$  4 is double of 2,  
 $20 \times 3 = 60$  6 is double of 3, etc.
- Now pose some questions about multiplying numbers by tens with emphasis on the fact that the students need to multiply by digit in the tens place and write a '0' at the ones place. The teacher solves several more examples on the black/whiteboard.
- To reinforce the concept, ask them to do the related **Try these** section from the textbook.
- For further reinforcement and developing the sense of social responsibility, helping others and team work, ask them to do the **Values and Attitudes** section from the textbook.
- Once the students are through with this, use the knowledge of multiples of ten and explain multiplication by a 2-digit number. Explain this slowly, so as the students understand it properly. Teacher takes up several examples from the textbook.
- To reinforce and to link the knowledge of multiplication by a 2-digit number with science, ask them to do **Let's Link** section from the textbook.
- For further reinforcement, ask them to do **Exercise 3.4** from the textbook.

### Multiplying by a 3-digit number

- Explain multiplication by 100 by introducing the concept as done earlier for multiplying with 10. Emphasise on the fact that multiplying by 100 means just putting two zeroes at the end of the number.

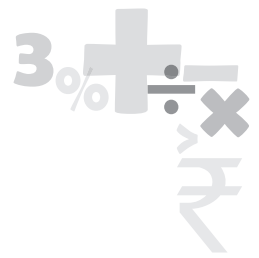
For example:

$$73 \times 100 = 7300 \quad (\text{Product is 73 followed by 2 zeroes})$$

$$189 \times 100 = 18900 \quad (189 \text{ followed by 2 zeroes})$$

- Next explain multiplication by the multiples of 100. The concept is explained in the same manner as done in the case of multiples of 10 earlier with special emphasis on the fact that multiplication it simply means multiplying and putting two zeroes at the end.





First give them oral practice with small numbers like

$$3 \times 300 = 900 \quad (3 \times 3 = 9 \text{ followed by 2 zeroes})$$

$$15 \times 300 = 4500 \quad (15 \times 3 = 45 \text{ followed by 2 zeroes})$$

- To reinforce the concept, ask them to do the **Math Lab activity** from their textbook.
- Demonstrate the method of multiplying by a 3-digit number by expanding the multiplier and then multiplying by ones, tens and hundreds. In the end, add the products.
- For better understanding of the concept, call students one by one and ask them to do one step each on the board as done earlier in the case of multiplication by a 2-digit number.
- To reinforce, ask them to do **Exercise 3.5** and word problems from the textbook.

### Estimating products

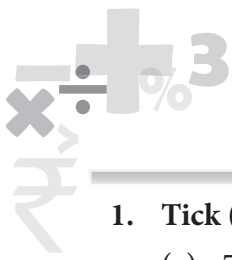
- Demonstrate that estimation helps in getting an idea of the actual product. Explain to them that to find the estimated product, first we round up the numbers as per the rules and then find the product of the rounded off numbers.
- To reinforce, ask them to do **Exercise 3.6** from the textbook.

### Patterns in multiplication

- Teacher explains that observing pattern, and understanding their rule helps us in writing the product without actual multiplication.

### Enhancing skills

- Explain to the students that actual challenge of solving the word problem lies in understanding it and deciding which operation to be used in order to solve it. In fact, not the numbers but the information in the problem tells us what we have to do. Ask the students to read the examples given in the textbook, where the numbers are hidden in the problem. So the problem cannot be solved as we can't perform the calculations. Make them to understand that we can only decide the operation we will apply to solve it.
- To reinforce the concept, ask them to do **Exercise 3.7** and **Mixed bag** from the textbook.
- To reinforce the concept, ask them to do **Exercise 3.8** from the textbook.
- Before explaining the strategy of using models, use squared grid and colour the blocks to demonstrate simple addition and subtraction problems.
- To reinforce the concept, ask them to do **Exercise 3.9** from the textbook.
- Students should not be assessed on the basis of the diagram. Here the diagram has been used only as a tool to solve the problem.



## Worksheet 1

**1. Tick ( $\checkmark$ ) the correct options.**

(a)  $7562 \times 1 =$  \_\_\_\_\_

(i) 1

(ii) 7562

(iii) 0

(b)  $25 \times 36 =$  \_\_\_\_\_  $\times 25$

(i) 25

(ii) 360

(iii) 36

(c)  $235 \times$  \_\_\_\_\_  $= 0$

(i) 1

(ii) 235

(iii) 0

**2. Multiply by splitting the bigger factor (i.e. using its expanded form).**

(a)  $512 \times 27$  \_\_\_\_\_

(b)  $489 \times 63$  \_\_\_\_\_

**3. Fill in the blanks.**

(a)  $54 \times$  \_\_\_\_\_  $= 540$

(b)  $4 \times$  \_\_\_\_\_  $= 400$

(c) \_\_\_\_\_  $\times 10 = 7000$

(d)  $480 \times 1000 =$  \_\_\_\_\_

**4. Find the products.**

(a)  $14 \times 20 =$  \_\_\_\_\_

(b)  $12 \times 800 =$  \_\_\_\_\_

(c)  $20 \times 90 =$  \_\_\_\_\_

(d)  $15 \times 3000 =$  \_\_\_\_\_

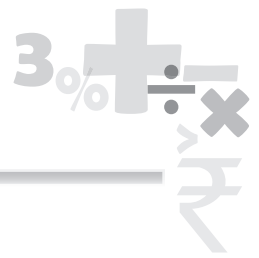
**5. Encircle those with the same value.**

(a)  $70 \times 90 = 700 \times 90$      $700 \times 9$      $900 \times 700$      $900 \times 70$

(b)  $40 \times 50 = 500 \times 40$      $500 \times 4$      $400 \times 50$      $400 \times 500$

**6. How many seconds are there in 251 minutes?**

**7. Each plant yields 125 lemons. How many lemons will a farm with 58 such plants yield?**



## Worksheet 2

### 1. Tick (✓) the correct options.

(a) The number with which we multiply is called

(i) Multiplicand                      (ii) Multiplier                      (iii) Product

(b)  $13 \times 9 = 13 \times \underline{\hspace{2cm}} + 13 \times 4$

(i) 5                                      (ii) 4                                      (iii) 9

### 2. Find the products.

$$\begin{array}{r} 67 \\ \times 54 \\ \hline \end{array}$$

$$\begin{array}{r} 786 \\ \times 78 \\ \hline \end{array}$$

$$\begin{array}{r} 4769 \\ \times 20 \\ \hline \end{array}$$

$$\begin{array}{r} 325 \\ \times 105 \\ \hline \end{array}$$

### 3. Solve with the help of bar diagram.

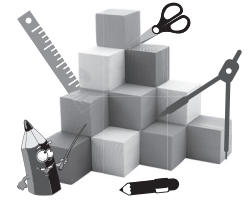
There are 7 days in a week. How many days are then in 52 weeks?

### 4. Solve working backwards.

Robert bought 1 red fish for ₹30, 1 yellow fish for ₹75 and 1 blue fish for ₹169. He gave the pet store owner ₹300. How much money did he get back?

### 5. For staying active, Jyoti runs in the park for 26 minutes every day. How many minutes does she run in 4 weeks?

# Chapter 4 Division



## Learning Objectives

### Students will be able to

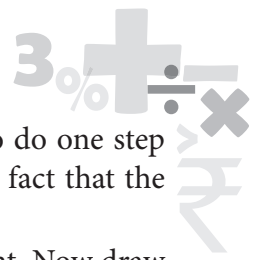
- ✦ recapitulate division of 2-digit and 3-digit numbers by a single digit number
- ✦ learn to divide a 4-digit number by a single digit number, with zeroes in the quotients and with remainder
- ✦ learn the technique of checking the answer
- ✦ understand division by 10, 100 and 1000 and acquire the skill of dividing mentally
- ✦ learn to estimate the quotient
- ✦ learn to divide by a 2-digit number up to 20
- ✦ learn to divide by greater 2-digit numbers
- ✦ apply the knowledge of division in solving word problems
- ✦ understand the meaning of remainder in a problem
- ✦ observe patterns in division
- ✦ select appropriate questions based on the facts given in a word problem

## Concept Building

- Use beads, marbles, seeds, or counters to construct different situations where we need to use division such as equal grouping, equal sharing and repeated subtraction. Once this is done, represent these as division facts on the black/whiteboard and draw students' attention towards the different terms of division, i.e., dividend, divisor, quotient, remainder, etc.
- Recall the division facts with the help of several examples in the class.
- Revise the steps of long division.
- Revise the verification of division using remainder and multiplication.
- To reinforce, students can be asked to do the related **Try These** section from the **Roll Back** given in the book.
- The teacher can use the **Math Lab Activity** from the textbook to reinforce the concept.

## Dividing a 4-digit number by a single-digit number

- Explain the method of dividing a 4-digit number by a single-digit number. Solve a few



questions on the black/whiteboard. Now call the students to the board to do one step each. Point out the errors, if any, and also draw students' attention to the fact that the remainder is always less than the divisor.

- Ask them to pay attention to the questions where zeroes are in the quotient. Now draw their attention to the questions with non-zero remainder and make them check their answer by using the division algorithm  
quotient  $\times$  divisor + remainder = dividend.
- To reinforce the concept, ask them to do **Exercise 4.1** from the textbook.
- Use the **Common Error** section to make them understand the common mistakes they do while dividing the numbers.

### **Division by tens, hundreds and thousands**

- Explain to them division by tens, hundreds and thousands by solving few questions on the black/whiteboard. Draw students' attention to the quick method explained in Examples 10 and 11.
- To further reinforce, ask them to do **Exercise 4.2** from the textbook.

### **Estimating quotients**

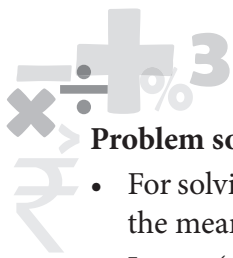
- Revise rounding off numbers and use the students' acquired knowledge of estimation. Students master the skill and use it for division by 2-digit divisors. The teacher shows them the steps involved.
- For reinforcement, students practice the skill and do **Exercise 4.3** from their textbooks.

### **Division by a 2-digit number up to 20**

- To introduce division by a 2-digit number up to 20, encourage the students to not to write the entire table. Instead ask them to use their skill of rounding off to estimate the quotient.
- To reinforce the concept, ask them to do **Exercise 4.4** from the textbook.

### **Dividing by greater than 2-digit divisors**

- Ask students to work with divisors from 21 to 99. Explain that this can be done easily using rounding off and estimation skills. Best way is to round off the dividend and the divisor. For practice, ask them to tell the steps and the teacher does accordingly on the board. Pay special attention to the questions with a zero in the quotient.
- To reinforce, ask them to do **Exercise 4.5** from the textbook.
- For making the students aware of their social responsibility and further reinforcement, ask them to do the **Values and Attitudes** section from the textbook.



### Problem solving with division

- For solving problems using division, it is very important that students should understand the meaning of quotient and remainder. Let us take example 16.
- In part(a) the quotient in this shows the number of necklaces and the remainder shows beads leftover. Since a necklace can't be made with the remaining 6 beads. So the remainder is to be ignored in this case as for making 1 necklace 19 beads are required. So the correct answer is the quotient 52.
- In part (b), this question asks for the number of boxes needed to pack all the cup cakes. So the quotient is to be increased by 1 as the quotient 8 means  $8 \times 12 = 96$  cup cakes are packed and 4 cakes are left unpacked. So, we need 1 more box to pack all the cupcakes.
- In part (c), it is clear that the remainder directly forms a part of the solution.
- To reinforce, ask them to do **Exercise 4.6** from the textbook.

### Division patterns

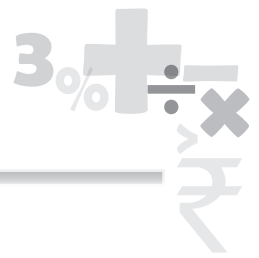
- Discuss patterns and explain that patterns can be formed using division.
- To reinforce, ask students to do the **Try These** and **Fun Time** sections from their textbooks.
- For further reinforcement, ask them to do **Exercise 4.7** from the textbook.

### Enhancing skills

- Discuss examples to make students understand the facts needed to solve a word problem.
- To reinforce the concept, ask them to do **Exercise 4.8** and questions under the heading **mixed bag**.

To recapitulate the concepts learnt in the chapter, students should do the **Let's Revise** section from their textbooks.

Use the **Let's Recap** section to revise the key points of the lesson.



## Worksheet 1

### 1. Tick (✓) the correct options.

(a)  $29 \div 1 =$  \_\_\_\_\_

(i) 29

(ii) 1

(iii) 0

(b)  $18 \div 0 =$  \_\_\_\_\_

(i) 0

(ii) 18

(iii) not possible

(c) \_\_\_\_\_  $\div 24 = 0$

(i) 24

(ii) 0

(iii) 1

(d)  $37 \div 37 =$  \_\_\_\_\_

(i) 1

(ii) 0

(iii) 37

### 2. Find the quotients using the multiplication tables.

(a)  $48 \div 6 =$  \_\_\_\_\_

(b)  $64 \div 8 =$  \_\_\_\_\_

(c)  $36 \div 4 =$  \_\_\_\_\_

### 3. Find the quotient and the remainder.

(a)  $89 \div 23$       Q = \_\_\_\_\_      R = \_\_\_\_\_

(b)  $108 \div 9$       Q = \_\_\_\_\_      R = \_\_\_\_\_

### 4. Solve.

(a) 9 pairs of shoes cost ₹5607. How much does a pair cost?

(b) 5 bags contain 425 kg of rice. How much rice is there in 1 bag?

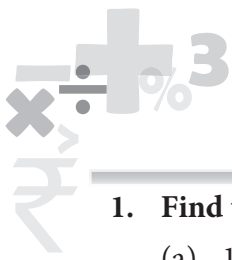
### 5. Tick (✓) the question that can be solved using the given fact and then solve and check your answer.

6 water tanks of equal capacity hold 468 litres of water. What is the

(a) cost of each tank?

(b) number of bottles that can filled from tank?

(c) capacity of each tank?



## Worksheet 2

### 1. Find the quotient.

(a)  $100 \div 10 = \underline{\hspace{2cm}}$

(b)  $8000 \div 200 = \underline{\hspace{2cm}}$

(c)  $630 \div 9 = \underline{\hspace{2cm}}$

(d)  $5100 \div 17 = \underline{\hspace{2cm}}$

### 2. Fill in the blanks.

(a)  $275 \div \underline{\hspace{2cm}} = 1$

(b)  $\underline{\hspace{2cm}} \div 35 = 100$

(c) 800 is  $\underline{\hspace{2cm}}$  times 80.

(d)  $0 \div 79 = \underline{\hspace{2cm}}$

### 3. A theatre has 6360 seats. Find the number of rows if each row has 6 seats.

### 4. Dennis works as a volunteer in a public library. He always works for a total of 3 hours each time he goes there. Last week, he worked for 12 hours. How many days did he volunteer at the library?

### 5. Find the quotient and write the multiplication fact.

(a) 
$$\begin{array}{r} \square \\ 8 \overline{) 84} \\ \underline{-\square} \\ \square \end{array} \longrightarrow \square \times \square + \square = 84$$

(b) 
$$\begin{array}{r} \square \\ 16 \overline{) 90} \\ \underline{-\square} \\ \square \\ \underline{-10} \end{array} \longrightarrow \square \times \square + \square = 90$$

### 6. Identify the pattern and write the quotient.

(a) (i)  $444 \div 12 = 37$

(b) (i)  $(9 - 1) \div 8 = 1$

(ii)  $555 \div 15 = 37$

(ii)  $(98 - 2) \div 8 = 12$

(iii)  $666 \div 18 = \underline{\hspace{2cm}}$

(iii)  $(987 - 3) \div 8 = 123$

(iv)  $777 \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

(iv)  $(9876 - 4) \div 8 = \underline{\hspace{2cm}}$

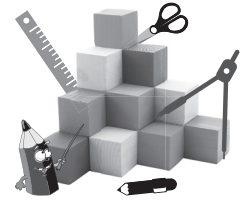
(v)  $\underline{\hspace{2cm}} \div 24 = \underline{\hspace{2cm}}$

(v)  $(98765 - 5) \div 8 = \underline{\hspace{2cm}}$





# Chapter 5 Multiples and Factors



## Learning Objectives

Students will be able to

- ✦ develop an understanding for multiples
- ✦ learn to find multiples and know their properties
- ✦ find the common multiples of two or more numbers
- ✦ understand factors
- ✦ find factors of a number using multiplication and division
- ✦ understand the properties of factors
- ✦ learn to find all the factors of a given number and list them
- ✦ learn to find common factors of two or more numbers
- ✦ learn the divisibility rules of 2, 3, 5, 9 and 10
- ✦ find factors of a number using factor tree

## Concept Building

- To introduce multiples, ask the students to take around 50 beans and make groups of 2 beans and arrange the groups as shown below.

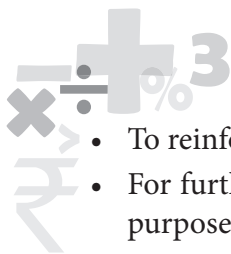
$$\textcircled{\circ\circ} = 2 \times 1 = \textcircled{\circ\circ} = 2; \textcircled{\circ\circ}\textcircled{\circ\circ} = 2 \times 2 = \textcircled{\circ\circ\circ\circ} = 4; \textcircled{\circ\circ}\textcircled{\circ\circ}\textcircled{\circ\circ} = 2 \times 3 = \textcircled{\circ\circ\circ\circ\circ\circ} = 6$$

- Explain to the students that 2, 4, 6, ... are the multiples of 2.
- Tell them that the numbers which are multiplied together to get the product are called the factors and the product is called the multiple.

$$\begin{array}{c} 2 \quad 1 \\ \diagdown \quad / \\ \phantom{2} \end{array} = 2 \rightarrow \text{Multiple}$$

Factors

- Explain to them that the numbers like 1, 2, 3, 4,... which are used to form multiples give us the 1st, 2nd, 3rd and 4th multiples, etc. of the given number.
- Tell them that a number which can be divided by another number without leaving any remainder is called the multiple of the divisor.
- To reinforce the concept, ask them to do the related **Try These** section.
- Also make them notice, that multiplying an odd number by an even number they get an even multiple and by multiplying an odd number by an odd number they get an odd multiple.



- To reinforce, ask them to do **Exercise 5.1** from the textbook.
- For further reinforcement, ask them to do the **Let's Link** section which will serve dual purpose of revising multiples and understanding the link with English language.

### Common multiples

- Ask the students to call out the multiples of 3 and 4 and write them on the black/whiteboard as shown below.

3   6   9   12   15   18   21   24  
 4   8   12   16   20   24

Now ask them to call out the numbers from the list above which are common in both the lists numbers, that is, 12, 24, etc.

So 12 and 24 are the common multiples of 3 and 4.

- Do several more examples and ask them to do the related **Try These** section from the textbook to reinforce the concept.
- For more practice, ask them to do **Exercise 5.2** from their textbooks.

### Factors

- Write some multiplication facts on the black/whiteboard such as

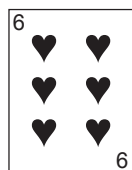
$$8 \times 7 = 56 \qquad 20 \times 5 = 100$$

Encircling the numbers being multiplied, explain the concept of factor. The product is called the multiple.

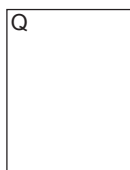
- Write some more multiplication facts and ask the students to identify factors of the products written on the board.

For example, to find 9 is a factor of 63, they have to divide 63 by 9. If the remainder is 0 or if there is no remainder, it means it is a factor 63.

- Pay stress on the fact that if on division remainder is 0 then it means that the number is a factor of the given multiple otherwise not.
- To reinforce the concept, ask them to do the **Fun Time** section from the book.
- Explain the ways of finding factors of a product using multiplication and division facts.
- To reinforce, the teacher forms groups of 4 each. Each group is given a well-shuffled pack of cards kept upside down. The students take turns in picking two cards each. Each student has to find the product of these two numbers and then whole group will find all the factors of product. For example, one student picks.



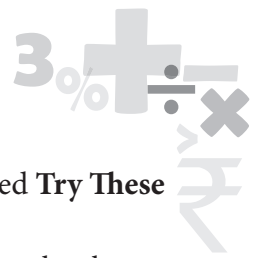
and



value of the face card Q = 12

$$6 \times 12 = 72$$

The group has to write all the possible factors of 72.



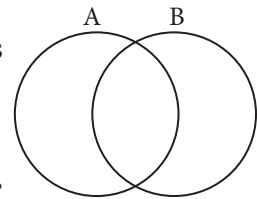
- For practice, ask them to do **Exercise 5.3** from the textbook.
- For further reinforcement, ask them to do **Math Lab Activity** and the related **Try These** section from the textbook.
- For further reinforcement, ask them to do the **Let's Link** section from the textbook.

### Divisibility rules

- Before introducing the rules of divisibility, make the students understand the meaning of the term divisibility. We say that one number is divisible by the other of the divisor if it divides the dividend exactly, i.e., without leaving a remainder.
- Make them understand this using tables, e.g.,  $5 \times 7 = 35$  so 35 is divisible by 5 and 7. But for greater numbers this process becomes time consuming. So the rules of divisibility are used as tools to cut short this process.
- Divisibility by 2, 5 and 10 can be merely judged by observation. Rules of 3 and 9 need to be demonstrated with examples.
- For practice, ask them to do **Exercise 5.4** from the textbook.
- Explain that all numbers can be made up by multiplying at least two numbers, but in some cases to get a given number they need to multiply more than two numbers, e.g.,  $56 = 2 \times 4 \times 7$ . This can be done easily using a factor tree.
- For reinforcement, ask them to do the related **Try These** section from the textbook.

### Common factors

- To find common factors of two numbers, ask the students to write all factors of both numbers and then encircle the common ones.
- For reinforcement, students can be asked to bring plastic bangles and drawing sheets from home. Paste the bangles as shown.



To list the common factors of 72 and 90.

In Bangle A, write all the factors of 72, i.e., 1, 2, 3, 4, 6, 8, 9, 12, 18, 24, 36, 72.

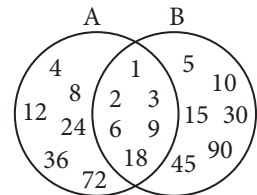
In Bangle B, write all the factors of 90, i.e., 1, 2, 3, 5, 6, 9, 10, 15, 18, 30, 45, 90.

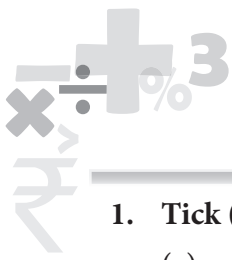
Common factors should be written in the common portion.

- For practice, ask them to do **Exercise 5.5** from the textbook.

To recapitulate the concepts learnt in the chapter, students should do **Let's Revise** section from their textbooks.

Use the **Let's Recap** to revise the key points of the lesson.





## Worksheet 1

### 1. Tick ( $\checkmark$ ) the correct options.

- (a) \_\_\_\_\_ is a factor of every number.  
(i) 1                      (ii) 0                      (iii) can't say
- (b) A number has \_\_\_\_\_ number of multiples.  
(i) limited              (ii) unlimited              (iii) 2
- (c) 1, 2, 3, 4, 6 and 12 are the \_\_\_\_\_ of 12.  
(i) factors              (ii) multiples

### 2. Choose the numbers from the box and write the numbers that are

45	80	72	63	75	90	41	27	94	310	905
----	----	----	----	----	----	----	----	----	-----	-----

- (a) multiples of 9
- (b) multiples of 10
- (c) multiples of 5

### 3. (a) Write the first 5 multiples of 7.

\_\_\_\_\_

- (b) Write the first 5 odd multiples of 9 and first 5 even multiples of 15.

\_\_\_\_\_  
\_\_\_\_\_

### 4. Fill in the blanks.

- (a) The multiples of 6 less than 29 are \_\_\_\_\_ .
- (b) The smallest multiple of 21 is \_\_\_\_\_ .

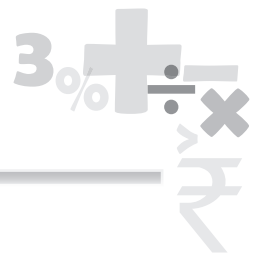
### 5. (a) Is 135 a multiple of 7? \_\_\_\_\_

- (b) Is 210 a multiple of 3? \_\_\_\_\_

### 6. (a) Write the multiples of 10 which are greater than 40 but less than 80.

\_\_\_\_\_

- (b) Write the multiples of 4 which are less than 20. \_\_\_\_\_



## Worksheet 2

1. Find the factors of each of the following using multiplication.

- (a) 45 \_\_\_\_\_  
(b) 28 \_\_\_\_\_  
(c) 100 \_\_\_\_\_

2. Write all the factors of numbers in each case. Then find all the common factors.

- (a) 4, 16 \_\_\_\_\_  
\_\_\_\_\_

Common factors \_\_\_\_\_

- (b) 5, 20 \_\_\_\_\_  
\_\_\_\_\_

Common factors \_\_\_\_\_

- (c) 9, 36 \_\_\_\_\_  
\_\_\_\_\_

Common factors \_\_\_\_\_

- (d) 12, 40 \_\_\_\_\_  
\_\_\_\_\_

Common factors \_\_\_\_\_

3. The first common multiple of 3 and 5 is 15. Find the 2nd, 3rd and 4th common multiples of 3 and 5.

\_\_\_\_\_

4. Write T for true and F for false.

- (a) 1, 2, 4, 6 are the multiples of 2 \_\_\_\_\_  
(b) 1, 3, 6, 9, 18 are the factors of 18. \_\_\_\_\_  
(c) 48 is a multiple of 12. \_\_\_\_\_  
(d) Each factor of a number is greater than the number. \_\_\_\_\_  
(e) Each multiple of a number is less than the number. \_\_\_\_\_

5. Find the factors of each of the following using division.

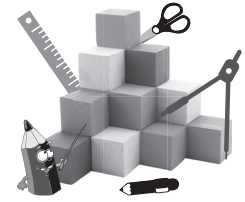
(a) 25

(b) 33

(c) 72



# Geometry



## Learning Objectives

### Students will be able to

- ✦ recall basic steps and review straight and curved lines
- ✦ develop an understanding of points and line, line segments, rays
- ✦ learn the use of a 15 cm ruler to measure small lengths and draw line segments of the given lengths
- ✦ learn the concept of open and closed curves and simple closed curves
- ✦ develop an understanding of polygons and their classification according to the number of sides
- ✦ learn about the parts of a circle
- ✦ learn to measure the circumference of a circle
- ✦ learn to draw a circle using a compass
- ✦ understand the relationship between the radius of a circle and its diameter
- ✦ draw a circle of a given radius and diameter

## Concept Building

- To recall the concept of curved and straight lines, draw images on the black/whiteboard — some with straight lines, some with curved lines and some having both and ask the students to identify each.
- Display the cut-outs of plane shapes on the flannel board and ask the students to identify the kind of lines they are made of and count their number of vertices and sides.
- Demonstrate some solid shapes like a cuboid, cone, sphere, etc., and discuss the number of vertices, edges, faces each figure has; discuss whether they have a straight or a curved edge.
- To reinforce the above concepts, use the **Roll Back** section given in the textbook.

## Point, line segment, line and ray

- Explain the concepts of a point, a line, a ray and a segment. Ask the students to draw these in their notebooks. Discuss the difference between a line, line segment and ray.
- To reinforce the concept, ask the students to do **Let's Link** from their textbooks. This section links mathematics with science.

- Draw some closed and open figures made up of line segments on the black/whiteboard and ask the students to count the number of line segments in each.
- Ask them to do **Exercises 6.1** from the textbook for more practice.

### Measuring lengths

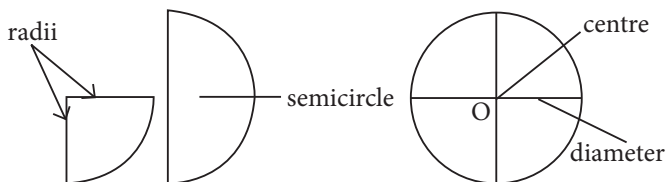
- Asks the students to bring a 15 cm ruler to school. Students spend first few minutes in studying the ruler. Follow this up with a class discussion on their observations.
- Demonstrate the use of a ruler in measuring different objects.
- To reinforce, students should be asked to measure their pencils, easers, pencil boxes, width of their notebooks, etc.
- Stress upon the 0 mark for measuring.
- Now students should learn to draw line segments of the given lengths.
- For further reinforcement, ask them to do the related **Try These** section from the textbook.
- Ask them to do **Exercises 6.2** from the textbook for more practice.

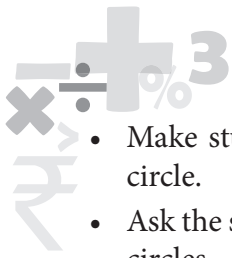
### Open and closed figures or shapes

- Draw some figures on the black/whiteboard – some with straight lines, some with curved lines and some having both. Discuss the difference between a closed and an open figure. Ask the students to differentiate between the two. Draw some closed figures made up of straight lines only and tell them that such figures are called polygons. After this, discuss the various types of polygons according to the number of sides they have.
- The teacher can use the **Math Lab Activity** from the textbook to reinforce the concept.
- For further reinforcement, bring some Madhubani paintings to the class and ask the students to identify straight and curved lines, open and closed shapes. Identify polygons and their types. Students can be asked to draw some simple Madhubani paintings of their own.
- Ask them to do **Exercises 6.3** from the textbook for more practice.

### Circle

- Students are already familiar with the shape of a circle. Students can be asked to bring a drawing sheet. Ask them to draw a circle on the sheet and cut it. Develop an understanding of the elements of the circle in them. Students can be asked to mark the parts and cut their parts and paste in their notebook.





- Make students understand the relationship between the diameter and the radius of a circle.
- Ask the students to bring a compass to school. Teach them how to use a compass to draw circles.
- For reinforcement, ask them to do the related **Try These** section from the textbook.
- For further reinforcement, ask them to do the **Fun time** section from the textbook.

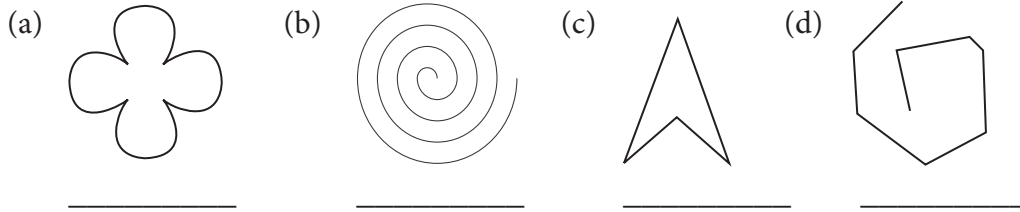
To recapitulate the concepts learnt in the chapter, students will do the **Let's Revise** section from their textbooks.

Use the **Let's Recap** section to revise the key points of the lesson.

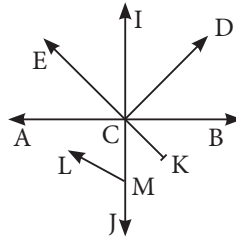


# Worksheet 1

1. Tick (✓) the open figures and cross (×) the closed figures.

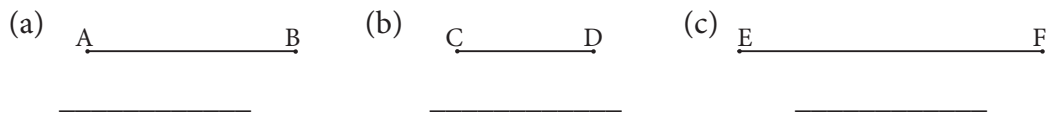


2. Look at the given figure and fill in the blanks.



- |              |              |
|--------------|--------------|
| (a) AB _____ | (b) CK _____ |
| (c) CD _____ | (d) BC _____ |
| (e) CI _____ | (f) CA _____ |
| (g) IJ _____ | (h) ML _____ |
| (i) CE _____ |              |

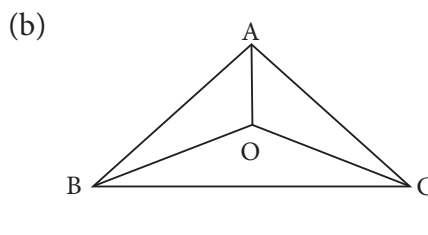
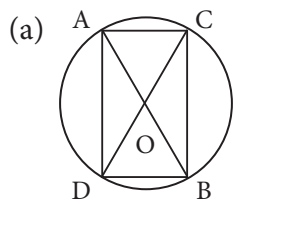
3. Measure the lengths of the following line segments.

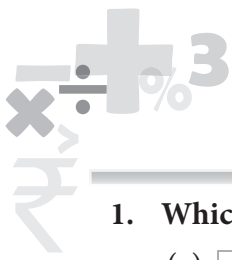


4. Draw the line segments of given lengths (a)  $AB = 7 \text{ cm}$  (b)  $CD = 3.6 \text{ cm}$ .

\_\_\_\_\_

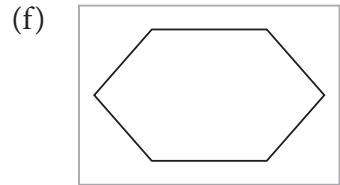
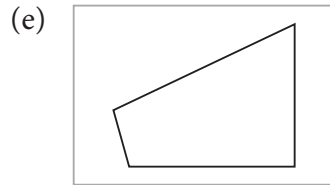
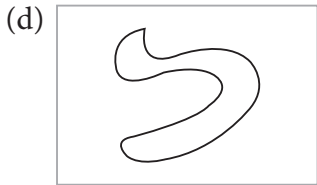
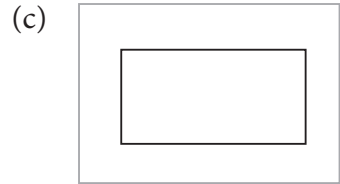
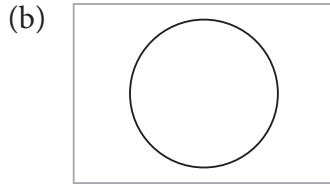
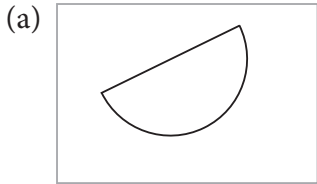
5. How many line segments are there in the following figures.





## Worksheet 2

1. Which of the following are polygons?



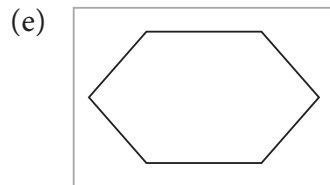
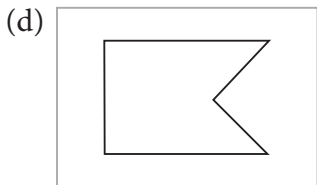
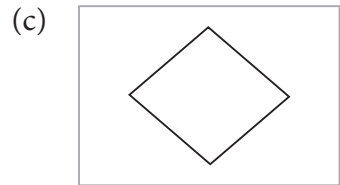
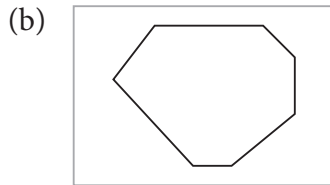
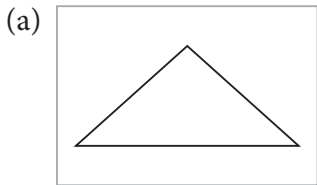
2. Which of the following statements are true or false.

(a) A triangle has three sides. \_\_\_\_\_

(b) A quadrilateral is a simple closed curve. \_\_\_\_\_

(c) Radius of a circle is twice its diameter. \_\_\_\_\_

3. Which of the following polygons are quadrilateral?

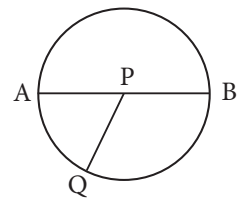


4. Name the parts of the circle.

(a) centre \_\_\_\_\_

(b) radius \_\_\_\_\_

(c) diameter \_\_\_\_\_





# Shapes and Patterns



## Learning Objectives

### Students will be able to

- ✦ revise the concept of symmetry
- ✦ develop and understand the ways of extending a pattern.
- ✦ develop an understanding of reflective symmetry
- ✦ identify symmetrical figures and draw other half of incomplete symmetrical figures
- ✦ understand and extend tessellations
- ✦ understand coding and decoding

## Concept Building

- Students have already learnt about symmetry and patterns. Recall the concepts using the **Roll Back** section given in the textbook. Students can be given pictures from old newspapers and asked to identify symmetrical figures.

## Extending a pattern

- Discuss the ways of extending different patterns on the black/white board.

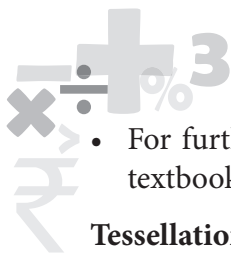
## Reflection

- Students can be asked to bring a tracing paper. Ask them to fold the paper from the middle. Let them draw any figure on the side of the fold. Now ask them to trace the same on the other side. Tell them that the second figure is the reflection of the first. This is a set of reflected figures.
- For reinforcement, ask them to do **Exercise 7.1** from the textbook.
- For further reinforcement, ask them to do the **Fun time** section from the textbook.

## Symmetry

Students are already familiar with the concept of vertical and horizontal symmetries.

- Students can be asked to bring pictures of some symmetrical figures from old magazines and newspapers. They can be asked to draw horizontal and vertical axes of symmetry.
- To reinforce, students can be made to do the paper cutting activity using steps given in the textbook.
- For reinforcement, ask them to do **Exercise 7.2** from the textbook.



- For further reinforcement, ask them to do the **Values and attitudes** section from the textbook and discuss the rich cultural heritage of India.

### **Tessellations**

Students are already familiar with the patterns and the ways to extend these. With the help of tile designs, pictures of beehive and jig saw puzzles, the teacher can introduce the concept of tessellation.

- Explain to students that the shapes that fit into each other without leaving any gaps are tessellations or tessellated shapes.
- For reinforcement, take the class around the school and show them tiling patterns on walls and floors.
- For hands-on experience, students can be given cut-outs of different polygons and allowed to explore which tessellates and which does not.
- For reinforcement, ask them to do **Exercise 7.3** from the textbook.
- Use the **Math Lab Activity** from the textbook to reinforce the concept.
- For further reinforcement, ask them to do the **Let's Link** section from the textbook. This section links Mathematics with Social Studies. Discuss in class that tangram is an old Chinese puzzle, where seven different pieces fit together and used to make different patterns.

### **Coding and decoding**

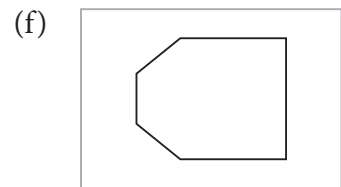
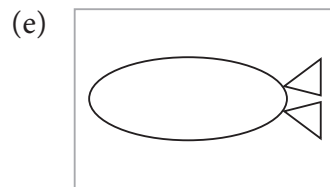
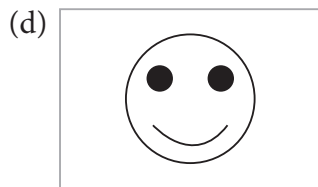
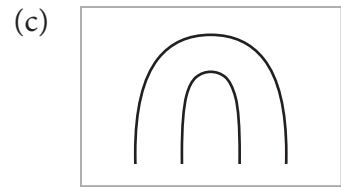
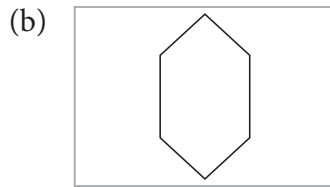
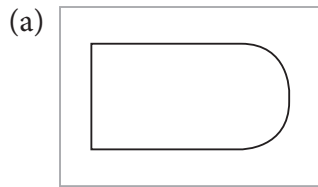
- Discuss secret messages with the class and makes them understand the patterns used in coding and decoding.
- For reinforcement, ask them to do **Exercise 7.4** from the textbook.

To recapitulate the concepts learnt in the chapter, students will do **Let's Revise** section from their textbooks.

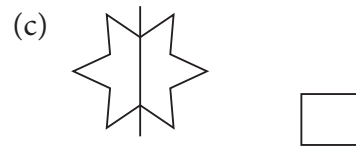
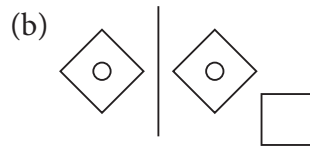
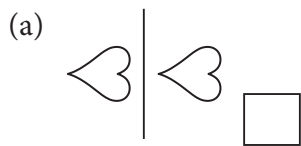
Use the **Let's Recap** section to revise the key points of the lesson.

# Worksheet 1

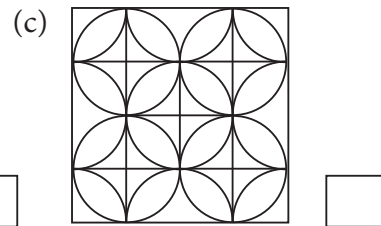
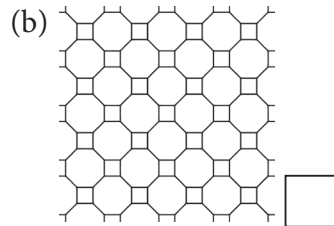
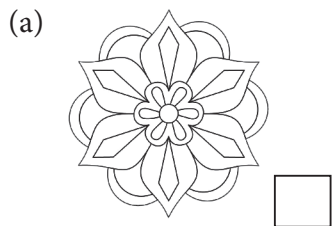
1. Draw the line of symmetry for the following figures.



2. Tick (✓) the reflected shapes.



3. Tick the shapes that tessellate.



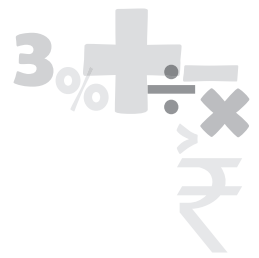
4. Find the radius of a circle with diameter 8 cm. \_\_\_\_\_

5. Find the diameter of a circle with radius 4 cm. \_\_\_\_\_

6. Draw a circle with radius 2 cm.







# Mathematics

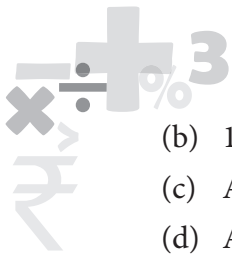
## Model Test Paper 1

Class 4

Time: 2 hours

Total Marks: 50

1. Write the following numbers in words. (1 × 2 = 2)
  - (a) 45,678 \_\_\_\_\_
  - (b) 1,05,321 \_\_\_\_\_
2. Fill in the missing numbers to continue the pattern. (1 × 2 = 2)
  - (a) 34,567; 34,568; 34,569; \_\_\_\_\_; \_\_\_\_\_; \_\_\_\_\_
  - (b) 1,23,456; 1,23,556; 1,23,656; \_\_\_\_\_; \_\_\_\_\_; \_\_\_\_\_
3. Write the Roman numerals that come after the following. (1 × 3 = 3)
  - (a) LXII \_\_\_\_\_
  - (b) XXV \_\_\_\_\_
  - (c) XXXVI \_\_\_\_\_
4. Fill in the blanks. (1 × 2 = 2)
  - (a)  $71213 + 0 =$  \_\_\_\_\_
  - (b)  $4567 + 36590 = 36590 +$  \_\_\_\_\_
5. Multiply. (1 × 2 = 2)
  - (a)  $15 \times 30$
  - (b)  $415 \times 200$
6. Find the product by breaking up one of the numbers. (2 × 2 = 4)
  - (a)  $165 \times 12$
  - (b)  $88 \times 32$
7. Find the quotient in each. (2 × 2 = 4)
  - (a)  $2050 \div 5$
  - (b)  $1818 \div 3$
8. Are the following statements true? (1 × 2 = 2)
  - (a)  $35456 - 26719 = 26719 - 35456$
  - (b)  $88888 - 5555 = 89999 - 6666$
9. Find the first 4 odd multiples of: (2 × 2 = 4)
  - (a) 11
  - (b) 15
10. What must be added to 30,200 to get 34,500? (2 × 1 = 2)
11. Write whether the following statements are true or false. (1 × 5 = 5)
  - (a) 14 is a common multiple of 2 and 7. \_\_\_\_\_



- (b) 12 is an odd multiple of 3. \_\_\_\_\_
- (c) All rectangles are quadrilaterals. \_\_\_\_\_
- (d) All quadrilaterals are squares. \_\_\_\_\_
- (e) A polygon has minimum three sides. \_\_\_\_\_

12. In an election, 6,78,949 voters cast their votes out of which 10,922 votes were found to be invalid. How many votes were found to be valid?  $(2 \times 1 = 2)$
13. Find the diameter of the circle whose radius is 5 cm.  $(2 \times 1 = 2)$
14. Draw the lines of symmetry through the following.  $(1 \times 4 = 4)$
- (a) 3                      (b) MOM                      (c) KICK                      (d) BOOK
15. In the month of October, a restaurant served 216 lunches. Each lunch was sold for ₹225. What was the total collection of the restaurant in the month of October?  $(2 \times 1 = 2)$
16. Make a factor tree for each of the following.  $(2 \times 2 = 4)$
- (a) 56                      (b) 36
17. How many baskets are required for 1134 oranges, if each basket can hold 54 oranges?  $(2 \times 1 = 2)$
18. Mr Khan has 1220 beads. He wants to make packets of 35 beads each. But he forgets to check if these packets will be enough for his 45 students. Will he have enough packets for each student? If not how many more beads would he need?  $(2 \times 1 = 2)$





# Fractions



## Learning Objectives

### Students will be able to

- ✦ revise the concept of fractions and associated terms
- ✦ develop the concept of equivalent fractions
- ✦ reduce fractions to their simplest forms
- ✦ understand the terms like and unlike fractions
- ✦ compare and order like fractions
- ✦ compare and order unlike fractions
- ✦ add and subtract like fractions
- ✦ find the fraction of a number
- ✦ know proper and improper fractions
- ✦ understand mixed fractions
- ✦ convert a mixed fraction into an improper fraction

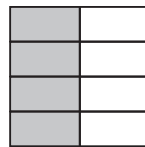
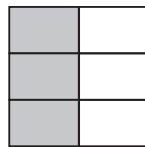
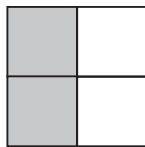
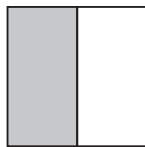
## Concept Building

To recall the concept, bring some A4 sheets and cut-outs of different shapes to class.

- Take a cut-out of a circle and fold it into two equal parts. Colour one part and ask the class what fraction is this? Divide the circle into 4 equal parts. Colour one part and ask the class how many parts the shape has been divided into. How many parts are coloured? What fraction of the circle is coloured?
- Take a collection of objects such as 6 pencils, of which 2 are blue and 4 are red. Now asks them what fraction of the pencils is red.
- Write some fractions on the black/whiteboard and ask the students which is the numerator and which is the denominator.
- Now ask the students to do the Roll Back section from the textbook.

## Equivalent Fractions

- Divide one rectangular sheet of paper into 2 equal parts and colour  $\frac{1}{2}$  part. Now fold it one more time so that the sheet divides into 4 equal parts. Now, colours 2 parts out of 4 and ask what fraction is coloured  $\frac{2}{4}$ .



Divide another sheet into 6 equal parts and colour 3 parts out of 6 and tell them that the coloured fraction is  $\frac{3}{6}$ .

Divide another sheet into 8 equal parts and colour 4 parts out of 8 and tell them that the fraction of coloured part is  $\frac{4}{8}$ .

Now ask the students if the parts of paper coloured is same in the all the papers. The answer is yes.

Then explain to them that this means  $\frac{1}{2} = \frac{2}{4} = \frac{3}{6} = \frac{4}{8}$ .

And tell them that such fractions are called equivalent fractions.

- Explain to them that equivalent fractions can be obtained by multiplying the numerator and denominator both by the same number.
- For reinforcement, ask them to do **Exercise 8.1** from the textbook.

### Reducing fractions to their simplest form or lowest form

- Introduce to the students the concept of simplest form or lowest term. Also tell them that these can be obtained by dividing both the numerator and the denominator by the same number. Solve several examples on the black/whiteboard.
- For practice, ask them to do **Exercise 8.2** from the textbook.
- For further reinforcement, ask them to do the **Let's Link** section from the textbook.

### Types of fraction

- Write three fraction on the black/whiteboard as shown below.

$$\frac{1}{4} = \frac{2}{4} = \frac{3}{6}$$

Draw the attention of the students to the fact that the denominator of each fraction is the same, i.e., 4 in this case. Inform them that such fractions which have the same denominator are called **like fractions**.

- Now given them the shape cut-outs again and fold them into number of equal parts as shown below.

$$\frac{1}{2} = \frac{2}{3} = \frac{3}{4}$$

- Now write three fraction on the black/whiteboard.

Draw the attention of the students to the fact that the denominator of each fraction is

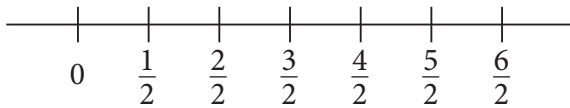
different. Inform them that such fractions which have the different denominators are called **unlike fractions**.

- Explain to them that fraction that has 1 as the denominator is called a **unit fraction**.
- For practice, ask them to do **Exercise 8.3** from the textbook.

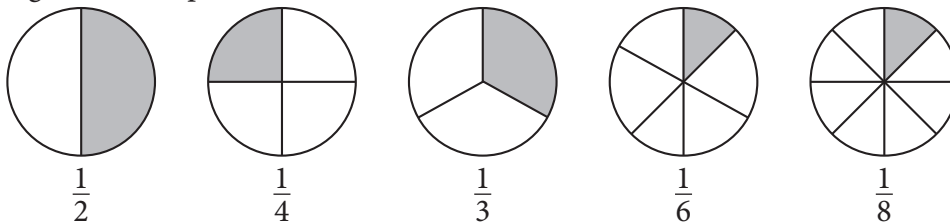
### Comparison of like fractions

- Represent like fractions on the number line. Now make them observe that the fractions with smaller numerator are closer to zero and the ones with greater numerator are further away and we know that the number closer to zero is always smaller so  $\frac{1}{2} < \frac{2}{2} < \frac{3}{2} < \frac{4}{2} < \frac{5}{2} < \frac{6}{2}$ .

Thus, we observe that in like fractions, the fraction with a greater numerator is greater.



- Again use the picture cut-outs and write fraction as shown below.



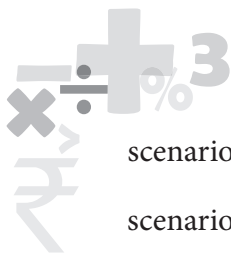
Make students understand from the pictures that  $\frac{1}{2} > \frac{1}{4} > \frac{1}{3} > \frac{1}{6} > \frac{1}{8}$ , i.e., the more the number of parts, smaller is each part. Stress upon the fact that each of the fractions above has the same numerator and different denominators. Also the fraction with smaller denominator is greater so to compare the fractions with the same numerator, compare their denominators. The greater the denominator, the smaller is the fraction.

- Explain the method of cross multiplication to compare the unlike fractions.
- For practice, ask them to do **Exercise 8.4** from the textbook.
- For further reinforcement, ask them to do the Values and attitudes section from the textbook and also tell them the advantages of having good health.

### Addition of like fractions

- Explain the method of adding like fractions with the help of pictures.
- Demonstrate the addition of like fraction using an ice tray and some gems of two colours.

The ice tray has the capacity of 12 cubes. Place 3 green gems in the tray. Represent this



scenario using the fraction  $\frac{3}{12}$ . Now put 4 orange gems in 4 other cubes. Represents this scenario using the fraction  $\frac{4}{12}$ . Now number of cubes filled is 7 and the fraction that can be used to represent the scenario is  $\frac{7}{12}$ .

$$\frac{3}{12} + \frac{4}{12} = \frac{7}{12} = (3 + 4)$$

- Draw the attention of the students to the fact that for adding like fractions, we just add the numerators and the denominator remains the same.
- For practice, ask them to do **Exercise 8.5** from the textbook.
- The teacher can use the **Math Lab Activity** from the textbook to reinforce the concept.
- In the same manner, explain to them the subtraction of fractions.
- For practice, ask them to do **Exercise 8.6** and **word problems** from the textbook.
- For further reinforcement, ask them to do the **Fun Time** section from the textbook.

#### To find the fraction of a number

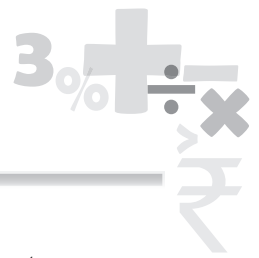
- Ask them to divide 36 *bindis* into two equal groups by sticking the bindis on two sheets of paper. They can do this by making two groups of 18 bindis each. Now they are asked to make three equal groups, each representing  $\frac{1}{3}$  of total.  $\frac{1}{3}$  of 36 = 12.
- Repeat the activity with different number of beads or seeds or marbles.
- For practice, ask them to do **Exercise 8.7** from the textbook.

#### Proper and improper fractions

- To teach proper and improper fractions, bring paper plates to class. Tell them  $\bigcirc$  this is 1 whole and demonstrate further by folding and cutting improper fractions that are less than 1 whole, as explained in the book.
- Using paper plates, introduce improper and mixed fractions. Now explain the method of converting an improper fraction to a mixed number and a mixed number into an improper fraction.
- For practice, ask them to do **Exercise 8.8** from the textbook.

To recapitulate the concepts learnt in the chapter, students should do **Let's Revise** section from their textbooks.

Use the **Let's Recap** section to revise the key points of the lesson.



## Worksheet 1

### 1. Choose the correct option and fill in the blanks.

- (a) The numerator of a proper fraction is always \_\_\_\_\_ the denominator.  
(i) 1                      (ii) greater than              (iii) less than
- (b) \_\_\_\_\_ fractions are more than one whole.  
(i) Mixed              (ii) Improper              (iii) Equivalent
- (c) The numerator of a unit fraction is always \_\_\_\_\_.  
(i) more than 1      (ii) less than 1              (iii) equal to 1

### 2. Shade $\frac{2}{5}$ in the following figures in two different ways.



### 3. Colour $\frac{3}{4}$ of the given circles.



### 4. Write the next three equivalent fractions of $\frac{3}{4} = \frac{\quad}{\quad} = \frac{\quad}{\quad} = \frac{\quad}{\quad}$

### 5. Fill in the boxes to make the fractions equivalent.

- (a)  $\frac{2}{5} = \frac{16}{\square}$               (b)  $\frac{4}{6} = \frac{\square}{30}$               (c)  $\frac{1}{8} = \frac{\square}{24}$               (d)  $\frac{5}{\square} = \frac{45}{36}$

### 6. Arrange the following in the ascending order.

- (a)  $\frac{7}{11}, \frac{5}{11}, \frac{3}{11}, \frac{8}{11}$                                       (b)  $\frac{3}{14}, \frac{5}{14}, \frac{1}{14}, \frac{7}{14}$

\_\_\_\_\_

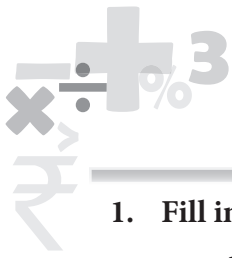
\_\_\_\_\_

### 7. Arrange in the following in descending order.

- (a)  $\frac{7}{15}, \frac{2}{15}, \frac{5}{15}, \frac{10}{15}$                                       (b)  $\frac{22}{23}, \frac{11}{23}, \frac{21}{23}, \frac{15}{23}$

\_\_\_\_\_

\_\_\_\_\_



## Worksheet 2

### 1. Fill in the blanks.

(a)  $\frac{1}{5}$  of 25 cakes = \_\_\_\_ cakes

(b)  $\frac{1}{4}$  of 100 p \_\_\_\_ p

(c)  $\frac{1}{3}$  of ₹120 = ₹ \_\_\_\_

(d)  $\frac{1}{4}$  of 100 g = \_\_\_\_ g

(e)  $\frac{1}{2}$  of 500 kg = \_\_\_\_ kg

(f)  $\frac{3}{4}$  of 12 L = \_\_\_\_ L

(g)  $\frac{3}{4}$  of 100 mL = \_\_\_\_ mL

(h)  $\frac{1}{5}$  of 100 m = \_\_\_\_ m

### 2. Write > ; < or = in the boxes.

(a)  $\frac{2}{4} \square \frac{3}{4}$

(b)  $\frac{5}{9} \square \frac{3}{9}$

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

### 3. Find the difference.

(a)  $\frac{12}{13} - \frac{6}{13}$

(b)  $\frac{7}{10} - \frac{4}{10}$

### 4. Find the sum.

(a)  $\frac{2}{15} + \frac{9}{15} =$  \_\_\_\_\_

(b)  $\frac{5}{9} + \frac{2}{9} + \frac{1}{9} =$  \_\_\_\_\_

5. Jenny visited a shop during a sale, where prices of objects were reduced by two-thirds of the price. She selected a few items but could not figure out how much she had to pay for these. Help jenny to know the price of each item.



₹150



₹60



₹120

\_\_\_\_\_

\_\_\_\_\_

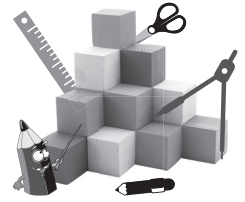
\_\_\_\_\_

6. On a Sunday, Harshita finished  $\frac{2}{3}$  of her homework in the morning and  $\frac{1}{3}$  in the evening. When did she do more work?

7. Raghav ate  $\frac{1}{3}$  of chocolate and Aditya ate  $\frac{1}{3}$  of the chocolate. What fraction of chocolate did they eat together?



# Decimals



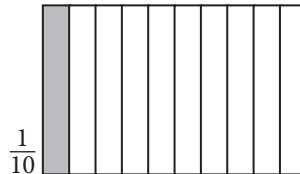
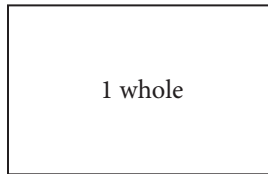
## Learning Objectives

Students will be able to

- ✦ understand the concept of decimals
- ✦ understand the concept of tenths and hundredths
- ✦ express fractions as decimals and vice versa
- ✦ express mixed numbers as decimals
- ✦ understand the place value chart of decimals.

## Concept Building

- To introduce decimals, take a plain rectangle and 1 rectangle with tenths marked on it.



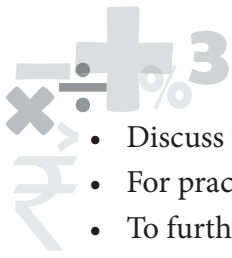
- Colour 3 strips of the tenths sheet and express 1 whole and 3 tenths as fraction =  $1\frac{3}{10}$ . This figure can also be written in decimals as 1.3.
- The teacher can use the **Math Lab Activity** and **Headway** section from the textbook to reinforce the concept.

## Writing mixed numbers as decimals

- Ask students notice that the decimal is placed between the whole number and the fraction. It is used to represent the fractional part.
- Stress upon the point that all numerals after the decimal point show that it is less than whole.
- For practice, ask them to do **Exercise 9.1** from the textbook.
- For reinforcement, ask them to do the **Let's Link** section from the textbook. This section links Mathematics with Science.

## Hundredths

- Explain tenths and hundredths using whole sheets. Students can be asked to demonstrate these by colouring.



- Discuss the place value chart of decimals by writing it on the black/whiteboard.
- For practice, ask them to do **Exercise 9.2** from the textbook.
- To further reinforce the concept, ask the students to do **Fun Time** from their textbooks.

### **Converting fraction to decimals and decimals to fraction**

- To explore the close relationship between fractions and decimals, discuss the examples given in the textbook.
- For application in real life, ask them to do the Life Skills section from the textbook.
- For practice, ask them to do **Exercise 9.3** from the textbook.

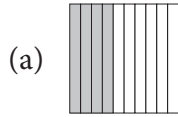
To recapitulate the concepts learnt in the chapter, students should do the **Let's Revise** section from their textbooks.

Use the **Let's Recap** section to revise the key points of the lesson.

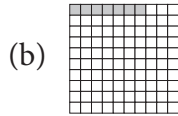


# Worksheet 1

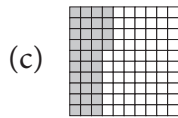
## 1. Match the following.



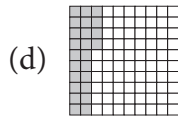
(i) 0.34



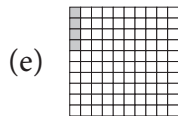
(ii) 0.1



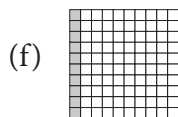
(iii) 0.4



(iv) 0.04



(v) 0.07



(vi) 0.24

## 2. Write as a decimal.

(a) 7 and 4 hundredths

(b) 8 tenths

(c)  $\frac{14}{100}$

(d)  $\frac{9}{10}$

## 3. Give the next three numbers.

(a) 2.4, 2.5, 2.6, \_\_\_\_, \_\_\_\_, \_\_\_\_

(b) 17.2, 16.3, 15.4, \_\_\_\_, \_\_\_\_, \_\_\_\_

## 4. Express as decimals.

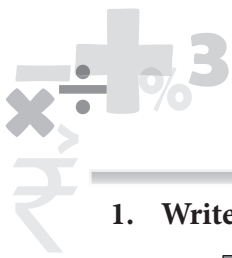
(a)  $\frac{976}{100}$

(b)  $\frac{6}{100}$

(c)  $\frac{4329}{10}$

(d)  $\frac{78}{100}$

(e)  $\frac{43}{10}$



## Worksheet 2

1. Write the decimal number for the shaded parts in each of the following.



\_\_\_\_\_



\_\_\_\_\_



\_\_\_\_\_



\_\_\_\_\_



\_\_\_\_\_

2. Complete the pattern.

(a) 1.1, 1.2, 1.3, \_\_, \_\_, \_\_

(b) 1.8, 1.9, 2.0, \_\_, \_\_, \_\_

(c) 10.4, 11.4, 12.4, \_\_, \_\_, \_\_

(d) 67.7, 67.8, 67.9, \_\_, \_\_, \_\_

3. Write the following decimals in the place value chart.

(a) 10.5

(b) 0.36

(c) 0.7

(d) 0.09

Decimal	Tens	Ones	Decimal Point (.)	Tenths	Hundredths

# Chapter 10 Measurement



## Learning Objectives

### Students will be able to

- ✦ review basic units of length, mass and capacity
- ✦ express length in centimetres, metres and kilometres
- ✦ use a ruler to measure length upto  $\frac{1}{2}$  cm correctness
- ✦ draw line segments from different positions
- ✦ explore conversion from one unit of length to the other
- ✦ express one unit in terms of the other
- ✦ express mass in kilograms and grams
- ✦ measure capacity in millilitres and litres
- ✦ apply this knowledge of units of measurement in daily life
- ✦ estimate length, mass

## Concept Building

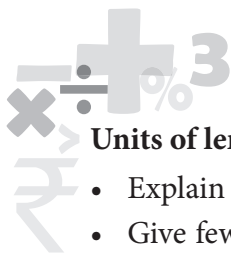
- Students have already learnt about the units of length, mass and capacity. To recall the concept, use the **Roll back** section from the textbook.

## Measurement of length

- Bring an enlarged picture of a 15 cm ruler to class. Discusses different features of the ruler. Special focus should be on the '0' mark and the half cm points, i.e., (half way between the marking)
- To demonstrate, draw a line segment of fixed length on the black/whiteboard. Measure it, drawing the attention of the students to the '0' mark and saying that the measurement starts from here.
- Now students are asked to read the measure of the objects shown in the textbook.
- To reinforce the concept, ask them to do the related **Try These** section from the textbook.

## Measuring length from different positions

- Demonstrate the measuring of lengths from different positions.
- To reinforce the concept, ask them to do the related **Try These** section from the textbook.



## Units of length

- Explain the units of measuring length, height and distance, i.e., m, cm and km.
- Give few concrete examples of measuring length. Hang a measuring tape and measure ribbons of different lengths. One piece of 1 cm and other of 1 m length can also be shown just to give the students an idea of how long a centimetre and a metre are.

## Conversion of units

- Revise the relationship between centimetre and metre; and metre and kilometre. Explain the conversion of units, that is, m to cm and km to m and multiplication by 100 and 1000. After this, explain conversion of m to km and cm to m and division by 100 and 1000.
- To reinforce the concept, ask them to do the related **Try These** section from the textbooks.
- Ask them to do **Exercise 10.1** from the textbook.
- To further reinforce and at the same time develop the value of respecting the elders in the family, ask them to do the **Values and Attitudes** section from the textbook.

## Finding halves and quarters of m and km

- Explain the use of fractions in units of lengths. Explain how to find halves and quarters of m and km.
- Ask them to do **Exercise 10.2** from the textbook.

## Measurement of mass or weight

Students are already familiar with different types of weighing scales.

- Demonstrate the use of weighing scale and how to make up 1 kg using different weights of 500 g, 250 g and 250 g.

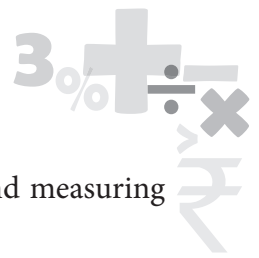
For this, put 1 kg weight on one pan and two 500 g weights on the other pan to balance the scale and explain that

$$1 \text{ kg} = 500 \text{ g} + 500 \text{ g} = 1000 \text{ g} = 2 \times 500 \text{ g}$$

In the same manner, explain to them that

$$1 \text{ kg} = 250 \text{ g} + 250 \text{ g} + 250 \text{ g} + 250 \text{ g} = 4 \times 250 \text{ g} = 1000 \text{ g}$$

- Students are asked to weigh different objects and record their weights. This gives them an idea of weights of different objects.
- Ask them to do **Exercise 10.3** from the textbook.
- For reinforcement, ask them to do the **Let's Link** section from the textbook. This section links Mathematics with Science.

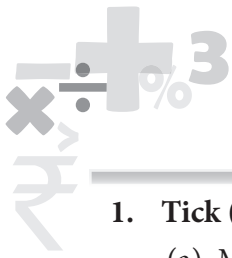


### Measuring capacity

- Demonstrate different ways of making of a litre using one litre beaker and measuring cylinders of 100 mL, 200 mL and 500 mL, etc.
- Demonstrate calculation involved in conversion of units using examples.
- Ask them to do **Exercise 10.4** from the textbook.
- The teacher can use the **Math Lab Activity** section from the textbook to reinforce the concept.
- The **Mixed bag** section can be used to reinforce the conversion of different units of measurements.

To recapitulate the concepts learnt in the chapter, students should do **Let's Revise** section from their textbook.

Use the **Let's Recap** section to revise the key points of the lesson.



## Worksheet 1

**1. Tick ( $\checkmark$ ) the correct options.**

(a) Millilitre is the smallest unit of \_\_\_\_\_.

(i) length                      (ii) weight                      (iii) capacity

(b) 1 m = \_\_\_\_\_ cm.

(i) 10                              (ii) 100                              (iii) 1000

(c) \_\_\_\_\_ is the biggest unit of length.

(i) kilometre                      (ii) metre                      (iii) centrimetre

**2. Express in km and m:**

(a) 2861 m                      (b) 2324 m                      (c) 1410 m

**3. Express in kg and g:**

(a) 7280 g                      (b) 4500 g                      (c) 6000 g

**4. Express in mL:**

(a) 4 L                              (b) 207 L                              (c) 40 L

**5. Convert the following as directed.**

(a) 1050 cm into m                      (b) 3 km 555 m into m

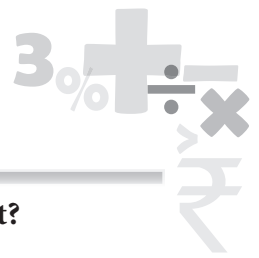
(c) 250 L into mL                      (d) 5 L 305 mL into mL

(e) 4 kg 450 g into g                      (f) 1750 g into kg

**6. 100 g of butter costs ₹41. How much will 1 kg cost?**

**7. 1 kg of apples cost ₹140. How much will 200 g cost?**

**8. A bag had 45 kg of wheat. Anil took out 15 kg 750 g of wheat from the bag. What is the quantity of wheat left in the bag?**



## Worksheet 2

1. The perimeter of a housing society is 13 km. How many metres is that?
2. 65,000 cm = \_\_\_\_\_ m.
3. Express 8 km 435 m in metres: \_\_\_\_\_
4. Change 4444 g into kg and g: \_\_\_\_\_
5. 5425 mL = \_\_\_\_\_ L and \_\_\_\_\_ mL
6. Solve these word problems.

(a) Raghav made 10 glasses of lemon juice, each of capacity 240 mL. Find the capacity of 10 glasses.

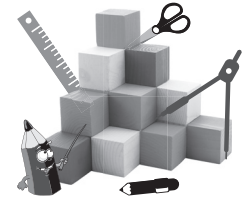
(b) Rohan wants to pack 7 kg peas into small packs of 250 g each. How many packets are there?

7. Imran has 1 m 250 cm of ribbon and Mohit has 2 m 25 cm of ribbon. Who has more ribbon and by how much?

8. The capacities of tank A and tank B are 15 L and 50000 mL, respectively. Find the total capacity of both the tanks.



# Perimeter and Area



## Learning Objectives

Students will be able to

- ✦ develop the concept of perimeter
- ✦ understand the method of calculating perimeter of simple polygons
- ✦ find perimeter of an irregular shape
- ✦ understand the term area and develop the concept of area
- ✦ find area of simple polygons as well as irregular shapes

## Concept Building

- Mark a point A near the wall. Students are asked to walk around the boundary of the classroom from the point marked and come back to the same point. Keep the attendance register on the table. Start from the point A on the register and move pencil around it. Now, explain them that the distance covered in both the cases is the perimeter.

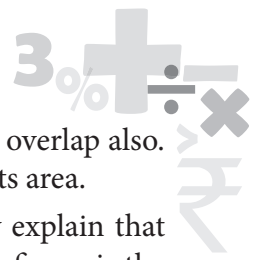
### Perimeter

- To reinforce the concept, the teacher can use the **Headway** section from the textbook.
- Draw different types of polygons on the black/whiteboard and find their perimeter.
- Ask the students to draw boundary of their textbooks, pencil boxes, erasers, etc. in their notebooks and measure the sides, and hence, find the perimeter.
- To reinforce, students are asked to do the **Try These** section from the textbook.
- Take a square cm grid and draw some irregular shapes on it and find the perimeter as explained in examples 3 and 4.
- For practice, ask them to do **Exercise 11.1** from the textbook.
- For reinforcement, ask them to do the **Values and Attitudes** section from the textbook. This will make them aware of the fact that fitness is very important.
- For further reinforcement, ask them to do the **Math Lab Activity** from the textbook.

### Area

- On a chart paper, keep a register and mark its boundary. Cut some square cardboard pieces of the same size. Now cover the space enclosed by the boundary of the register with the cardboard pieces. Draw the attention of the students to the fact that there should



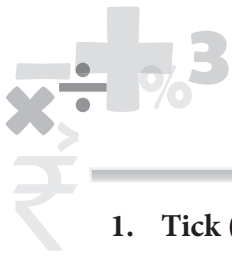


be no gap between any two cardboard pieces. At the same time, they don't overlap also. Count the number of cardboard pieces covering the space which is called its area.

- Same process is repeated to find the space covered by a pencil box. Now explain that the register has more area than the pencil box. Also explains that area of a figure is the amount of space covered by that figure.
- Take a square grid. Draw some regular and irregular shapes on it and explain the method of finding the area of the irregular figures.
- To reinforce, ask them to do the **Exercise 11.2** from the textbook.
- For further reinforcement, ask them to do the **Let's Link** and **Fun Time** sections from the textbook.

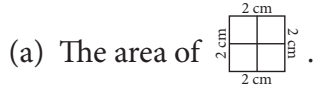
To recapitulate the concepts learnt in the chapter, students will do **Let's Revise** section from their textbooks.

Use the **Let's Recap** section to revise the key points of the lesson.



## Worksheet 1

1. Tick (✓) the correct options.



(i) 4 cm                      (ii) 4 sq. cm                      (iii) 8 sq. cm

(b) Circumference of the circle is the \_\_\_\_\_.

(i) length of its boundry                      (ii) area

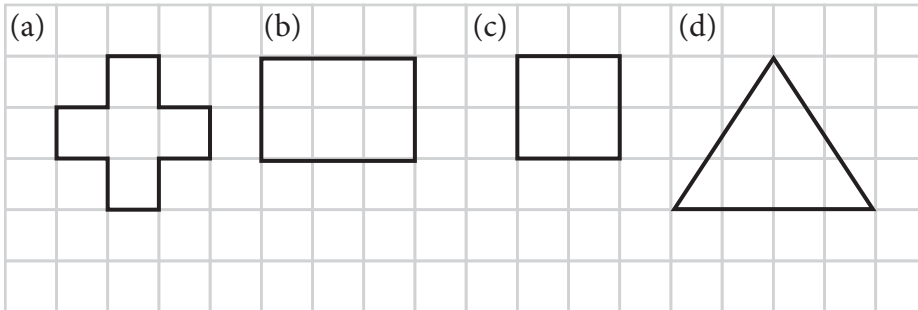
(iii) amount of space covered by it.

(c) The \_\_\_\_\_ of a polygon is the amount of surface it covers.

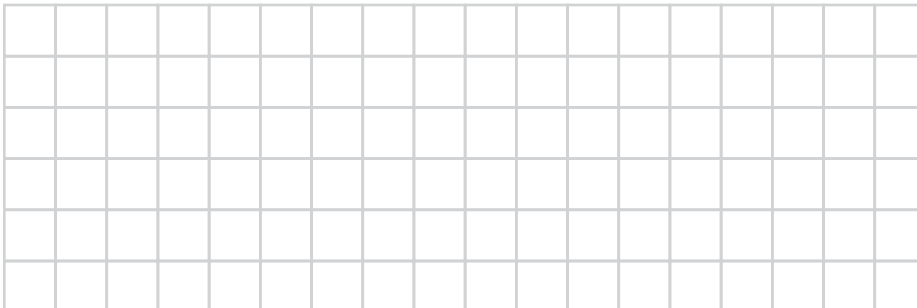
(i) breadth                      (ii) area                      (iii) perimeter

2. Find the perimeter of the square with side 8 cm.

3. Find the area of the following figures.

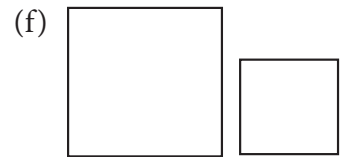
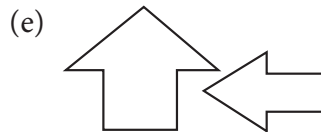
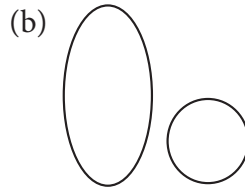
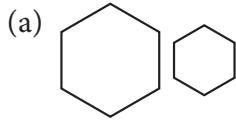


4. On this square grid, draw any two shapes with area 16 sq. cm. Now, find their perimeter.

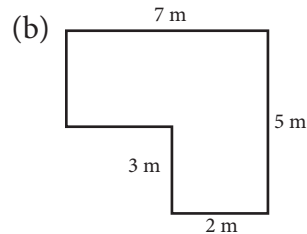
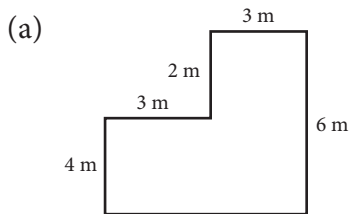


## Worksheet 2

1. Colour the shape which has a bigger area.



2. Find the perimeter of the following figures.



3. Find the perimeter of the rectangles with following dimensions.

(a)  $L = 6 \text{ cm}$ ,  $B = 4 \text{ cm}$

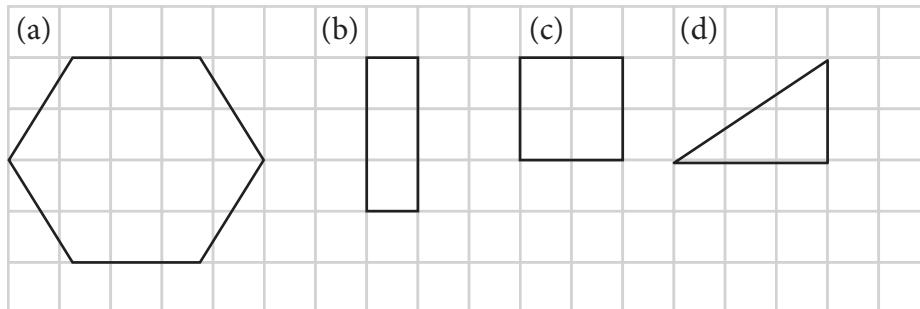
(b)  $L = 10 \text{ cm}$ ,  $B = 2 \text{ cm}$

4. Find the perimeter of the squares with sides:

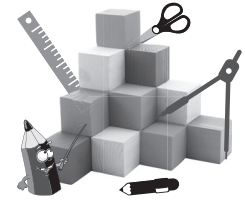
(a)  $3 \text{ cm}$

(b)  $9 \text{ cm}$

5. Find the area the following figures.



# Chapter 12 Money



## Learning Objectives

Students will be able to

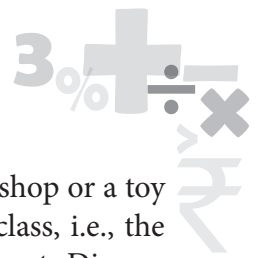
- ✦ review money concepts learnt earlier
- ✦ develop skills of adding and subtracting money
- ✦ multiply and divide money
- ✦ study and make bills

## Concept Building

- Discuss in class to review the concepts of money learnt earlier.
- Explain to the students that adding and subtracting money is just like adding and subtracting other numbers. As they haven't learnt the addition and subtraction of decimals, so tell them to treat the decimal point as a separator only between rupees and paise.
- Using play money to demonstrate the way of counting money. For developing students' interest, ask them to do the **Fun Time** section from the textbook.
- Give them a rate list of an ice cream parlour or a toy shop and tell them to select items they will buy using money.
- Explain some example of subtraction of money.
- Ask them to do **Exercise 12.1** from the textbook.

## Multiplication and division of money

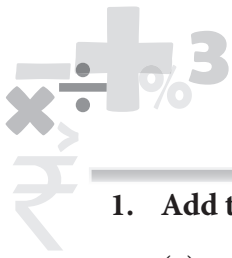
- Explain to students that multiplying money is just like multiplying other numbers. Since the students haven't learnt multiplication of decimals as yet, again tell them to look at the decimal point only as a separator between rupees and paise.
- For reinforcement, ask them to do **Life Skills** section from the textbook. Explain to them the division of money. The teacher introduces the basics of unitary method to the students. Introduce them to the concept of price of one unit or unit price using division. Tell them that when the price of a unit is given, this can be used to find the price of more objects using multiplication. For practice ask students to do **Exercise 12.2** from the textbook.



### Bill

- The teacher instructs the students to bring a bill of a restaurant, a grocery shop or a toy shop. Ask them to paste it in their notebook. Some can be discussed in class, i.e., the information given in the bill and the process of calculating the total amount. Discuss several examples on the black/whiteboard. For practice, ask students to do **Exercise 12.3** from the textbook.
- For reinforcement, ask students to do the **Lets' Link** section which links Mathematics with Social studies. For further reinforcement, do the **Math Lab activity** for recapitulation of the concepts learnt, ask students to do the **Let's Revise** from the textbook.

Use the **Let's Recap** to revise the key points of the lesson.



## Worksheet 1

### 1. Add the following.

- (a) ₹45.45 + ₹34.25 + ₹12 = ₹\_\_\_\_\_
- (b) ₹5.15 + ₹56.25 + ₹566.35 = ₹\_\_\_\_\_
- (c) 256 rupees and 79 rupees 79 paise = ₹\_\_\_\_\_
- (d) 53 rupees 74 paise and 86 rupee 26 paise = ₹\_\_\_\_\_
- (e) 10 rupees 90 paise, 12 rupees 25 paise and 15 rupees 30 paise = ₹\_\_\_\_\_

### 2. Find the difference.

- (a) ₹75.45 - ₹54.35 = ₹\_\_\_\_\_
- (b) ₹167 - ₹99 = ₹\_\_\_\_\_
- (c) ₹243.25 - ₹185.45 = ₹\_\_\_\_\_
- (d) ₹66.30 - ₹22.50 = ₹\_\_\_\_\_
- (e) ₹86.05 - ₹79.25 = ₹\_\_\_\_\_
- (f) ₹100 - ₹98.15 = ₹\_\_\_\_\_

### 3. Multiply.

- (a) ₹20.25 × 25 = ₹\_\_\_\_\_
- (b) ₹78.10 × 6 = ₹\_\_\_\_\_
- (c) ₹165.45 × 3 = ₹\_\_\_\_\_
- (d) ₹29.29 × 9 = ₹\_\_\_\_\_
- (e) ₹65 × 65 = ₹\_\_\_\_\_
- (f) ₹100.75 × 13 = ₹\_\_\_\_\_

### 4. Divide.

- (a) ₹84.63 ÷ 21 = ₹\_\_\_\_\_
- (b) ₹13.12 ÷ 16 = ₹\_\_\_\_\_
- (c) ₹46.17 ÷ 9 = ₹\_\_\_\_\_
- (d) ₹11.25 ÷ 15 = ₹\_\_\_\_\_
- (e) ₹16.74 ÷ 6 = ₹\_\_\_\_\_
- (f) ₹36 ÷ 12 = ₹\_\_\_\_\_



## Worksheet 2

Solve the following word problems.

1. Pulkit bought a pair of shoes for ₹895.99, a belt for ₹267.50 and two pairs of socks for ₹145. How much money did he spend altogether?

2. Anita saved ₹1050, ₹1567.50 and ₹1624.75 in three months from her monthly budget. How much money did she save in all?

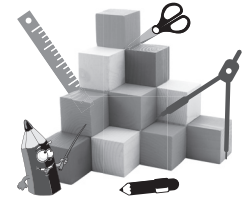
3. Monu has ₹333.33 and Joy has ₹313.50. How much more money does Monu have than Joy?

4. Dr Keshav bought 4 gift items for his friends, each costing ₹185.99. He gave the shopkeeper two 500-rupee notes. How much money did he get back?

5. Ashish earns his pocket money every week by helping his parents in the household chores. If he earns ₹348.40 in 4 weeks, what is his pocket money of 1 week?

6. Cost of 15 hair bands is ₹160.35. What is the cost of 1 hair band?

# Chapter 13 Time



## Learning Objectives

### Students will be able to

- ✦ recall reading and showing time on a clock
- ✦ read a calendar, i.e., learn about months/days
- ✦ read and show time to the next hour and to the past hour
- ✦ read time to the exact minute
- ✦ understand the use of am and pm and their significance
- ✦ understand the 24 hour clock
- ✦ calculate the duration of an activity
- ✦ find the finishing time when starting time and duration are given
- ✦ find the starting time when duration and finishing time are given
- ✦ calculate the number of days

## Concept Building

- To recall the previous knowledge of the students, ask them to do the **Roll Back** section from the textbook.

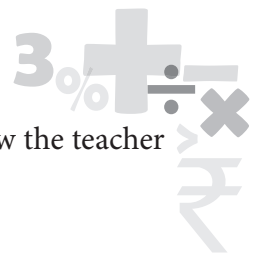
### Minutes past or minutes to

- To read time in terms of minutes past and minutes to, take an old clock without cell or a model of a clock with moving hands. Paste papers of two colours, dividing the clock into 2 halves vertically. Now move the needles with hands and explain to them how to read time to minutes past and minutes to as explained before. Take numerous examples and then ask the students to come and display the time for practice.
- Ask them to do **Exercise 13.1** from their textbooks.
- For reinforcement, ask them to do the **Math Lab Activity** section from the textbook.

### Reading time to the exact minute

- Using the same clock, explain to them reading and writing time to the exact minute. For practice, ask them to do **Exercise 13.2** from the textbook.
- The teacher can call two students to enact a scene wherein one student tells the other about an interesting cartoon show. For example, he/she tells that it is aired on the channel





at 9 o'clock on Sunday. He/she also tells what time the show gets over. Now the teacher discusses that such problems can be solved using am and pm.

- For practice, ask them to do **Exercise 13.3** from the textbook.

### **24-hour format in time**

- To stress upon the need for a 24-hour clock, tell them about railways and airlines that use 24-hour format.
- Discuss about the incident in which Mr Kapoor has to board a flight to London. He checks his ticket and notices that time is 01:00 hours. He reaches the airport at 10:00 am as the reporting time is 3 hours before the flight. He is informed that his flight has already left. He is late by 9 hours as the time on the ticket is according to 24-hour clock. As per the 24-hour clock 01:00 hours means 1 o'clock at the night.
- For reinforcement, ask them to do **Try these** section from the textbook.
- Ask them to do **Exercise 13.4** from the textbook.
- For further reinforcement, ask them to write the duration of different periods in school and their daily schedule after school according to 24-hour clock.

### **Duration of time**

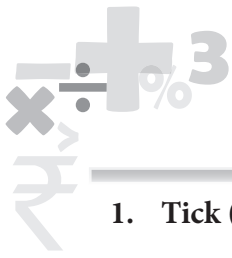
- Demonstrate a model of a clock and explain to them how to calculate the time duration of an activity.
- To reinforce, let the students note the starting time and the finishing time of the game played during games period or any other activity that they do in the evening and find its time duration.

### **Calculation of days**

- Let students keep record of different school activities—number of days spent practicing for farewell of class V, or any other school function and then ask them to calculate the number of days spent practicing or number of days left in the next event.
- For practice, ask them to do **Exercise 13.6** from their textbooks.
- For reinforcement, ask them to do the **Life Skills** section from their textbook. This will teach them an important life skill.
- Use the **Let's Link** section to discuss a leap year. This section links Mathematics with Social Studies.

To recapitulate the concepts learnt in the chapter, students should do **Let's Revise** section from their textbooks.

Use the **Let's Recap** section to revise the key points of the lesson.



## Worksheet 1

### 1. Tick (✓) the correct options.

- (a) What will be the time 5 hours before 2:30 pm?  
(i) 9:30 am                      (ii) 9:30 pm                      (iii) 7:30 pm
- (b) How many hours have passed between 3:00 pm and 9:00 pm?  
(i) 2                                  (ii) 6                                  (iii) 9
- (c) What time will it be 15 minutes after 4:30 pm?  
(i) 4:45 pm                      (ii) 4:15 pm                      (iii) 4:45 am
- (d) The year which has \_\_\_\_\_ is a leap year.  
(i) 365 days                      (ii) 360 days                      (iii) 366 days
- (e) A TV film starts at 5:30 pm on Sunday. It runs for 2 hours 15 minutes. At what time does it end?  
(i) 7:30 pm                      (ii) 8:45 pm                      (iii) 7:45 pm
- (f) Rajan is celebrating Diwali with his friends. He knows that firecrackers can be burst only till 10 pm. The present time is shown by the wall clock here. For how much more time can Rajan and his friends enjoy bursting crackers?



- (i) 20 minutes                      (ii) 45 minutes                      (iii) 40 minutes

### 2. How many minutes have passed from:

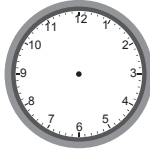
- (a) 5:15 am to 6:00 pm                      \_\_\_\_\_                      (b) 3:45 am to 4:30 am                      \_\_\_\_\_  
(c) 9:18 am to 10:00 pm                      \_\_\_\_\_                      (d) 10:45 pm to 3:30 am                      \_\_\_\_\_

### 3. Write the time according to the 24-hour clock.

- (a) 3 am                                  \_\_\_\_\_ hours  
(b) 1:30 in the afternoon                      \_\_\_\_\_ hours  
(c) 9:30 in the evening                      \_\_\_\_\_ hours  
(d) 12 o'clock in the midnight                      \_\_\_\_\_ hours

## Worksheet 2

1. What is the time 4 hours after 10:45 am? Show the time in the given clock and write the time using the 12-hour clock and 24-hour clock.



\_\_\_\_\_ am/pm

\_\_\_\_\_ hours

2. For how many hours and minutes are you in your school?

3. Find the difference in the time for the given clocks.



Time is \_\_\_\_\_

Time is \_\_\_\_\_

Difference in the time \_\_\_\_\_

4. Fill in the blanks.

(a) 7:50 = \_\_\_\_\_ minutes to \_\_\_\_\_

(b) 9:05 = \_\_\_\_\_ minutes past \_\_\_\_\_

(c) 5 o' clock in the evening \_\_\_\_\_ am/pm.

(d) 1 o' clock at night \_\_\_\_\_ am/pm.

(e) 2 o' clock in the afternoon \_\_\_\_\_ am/pm.

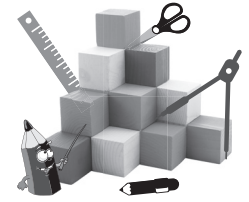
(f) 4 o' clock in the morning \_\_\_\_\_ am/pm.

5. A plane left Delhi at 3:30 hours and reached Mumbai after 90 minutes. At what time did it reach Mumbai?

Chapter  
**14**



# Data Handling



## Learning Objectives

Students will be able to

- ✦ recapitulate the knowledge of pictographs and bar graphs
- ✦ read and interpret bar graphs
- ✦ use tally marks in collecting data
- ✦ interpret a pie chart

## Concept Building

- Revise the concept of the pictograph and bar graph, i.e., interpretation and their uses using the **Roll back** section from the textbook.

### More about bar graphs

- Discuss the axis (horizontal, vertical), scale and title of the bar graph in the class.
- To reinforce the concept, ask them to do the **Values and Attitudes** section from the textbook. This will help them in being responsible citizens caring about their environment.
- For reinforcement, ask them to do the **Fun Time** section from the textbook.

### Tally marks

- Explain the use of tally marks in collecting data. Explain to them that these marks are made in groups of 5 for easy calculation.
- Ask them to do **Exercise 14.1** from the textbook.

### Pie chart or circle graphs

- Review students knowledge of fractions and circles before explaining pie charts.
- Explain to them how to interpret the information given in various pie charts.
- For reinforcement, ask them to do the **Let's Link** section from the textbook. This section links Mathematics with Science.
- Ask them to do **Exercise 14.2** from the textbook.
- The teacher can use the **Maths Lab Activity** section from the textbook to reinforce the concept.

To recapitulate the concepts learnt in the chapter, students should do the **Let's Revise** section from their textbooks.

Use **Let's Recap** to revise the key points of the lesson.

## Worksheet 1

**1. Draw a bar graph using the given data.**

A student monthly expenditure on various items is shown in the given table.

Items	Expenditure in (₹)
Health	200
Food	450
Clothing	150
Education	150
Miscellaneous	50

Also find the total amount spent by him in one month?

**2. Read the bar graph on the favourite ice cream flavour of some students and answer the following questions.**

(a) How many students preferred *khatta meetha aam*?

\_\_\_\_\_

(b) Which ice cream flavour was liked by the most number of students?

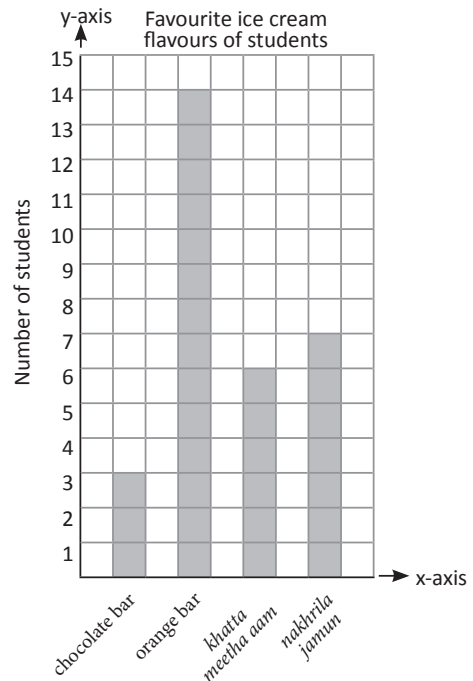
\_\_\_\_\_

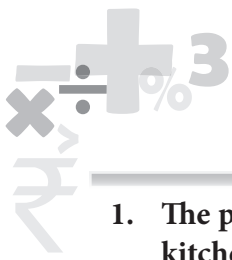
(c) Did students like the chocolate bar the most?

\_\_\_\_\_

(d) Which ice cream flavour was liked by 6 students?

\_\_\_\_\_

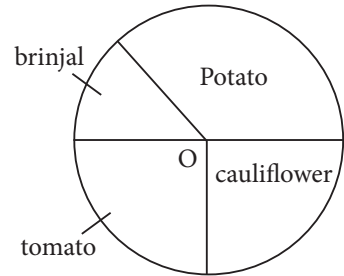




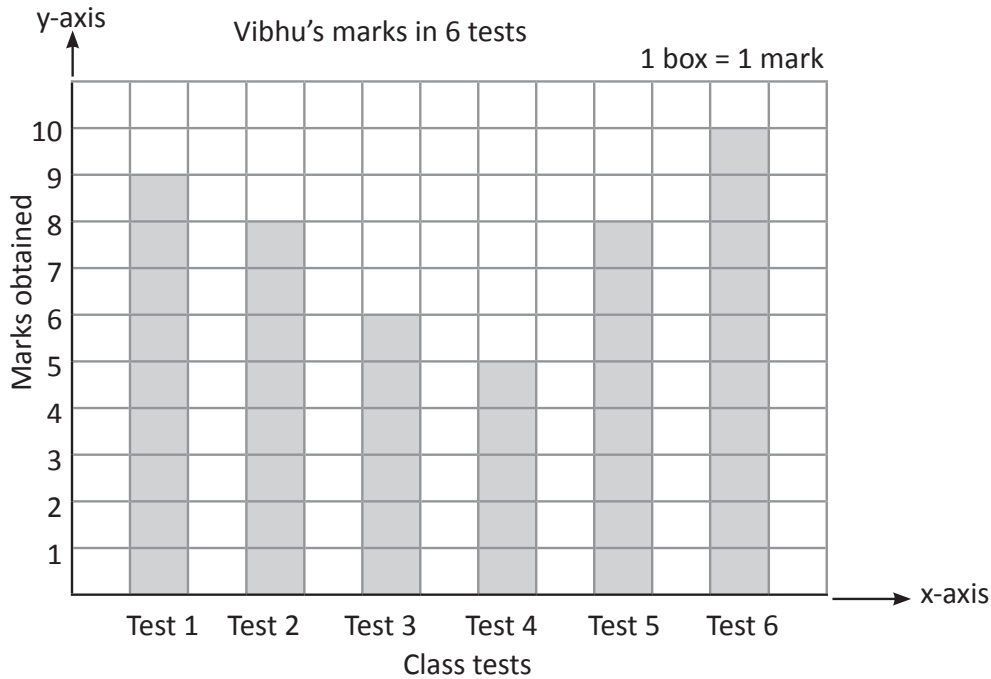
## Worksheet 2

1. The pie chart drawn below shows the space used to grow different vegetables in a kitchen garden. Now, answer the following questions.

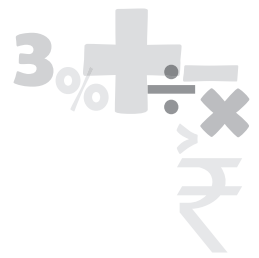
- (a) Which vegetable has been grown on the maximum area? \_\_\_\_\_
- (b) Which vegetable occupies the least area? \_\_\_\_\_
- (c) Which two vegetables have been grown on the same areas? \_\_\_\_\_



2. Read the bar graph given below and answer the questions that follow.



- (a) What is the title of the graph? \_\_\_\_\_
- (b) What was Vibhu's highest marks? \_\_\_\_\_
- (c) In which test did he score the least? \_\_\_\_\_
- (d) What is the scale of the graph? \_\_\_\_\_
- (e) What is represented on the y-axis of the graph? \_\_\_\_\_
- (f) Did Vibhu perform consistently? \_\_\_\_\_



# Mathematics

## Model Test Paper 2

Class 4

Time: 2 hours

Total Marks: 50

**1. Fill in the blanks/boxes.**

(1 × 5 = 5)

(a)  $\frac{4}{7} = \frac{\square}{28}$

(b) 4.6, 4.7, 4.8, \_\_\_\_\_, \_\_\_\_\_

(c) 7 m = \_\_\_\_\_ cm

(d) 6: 25 pm = \_\_\_\_\_ hours.

(e) A man runs around a square. The distance covered by him is called \_\_\_\_\_.

**2. Add.**

(2 × 2 = 4)

(a)  $\frac{6}{17} + \frac{5}{17}$

(b)  $\frac{4}{14} + \frac{8}{14}$

**3. Find the difference.**

(2 × 2 = 4)

(a)  $\frac{9}{13} - \frac{7}{13}$

(b)  $\frac{24}{35} - \frac{14}{35}$

**4. Express each as a decimals.**

(2 × 2 = 4)

(a)  $4\frac{9}{10}$

(b)  $8\frac{14}{100}$

**5. Express each as a fraction:**

(2 × 2 = 4)

(a) 14.9

(b) 1.27

**6. Find.**

(2 × 4 = 8)

(a)  $\frac{1}{8}$  of 1 km

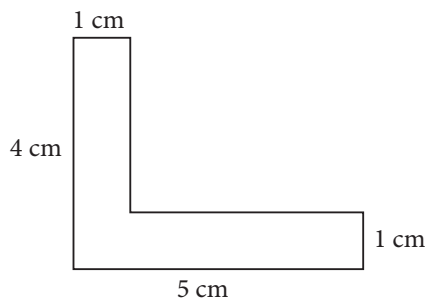
(b)  $\frac{3}{4}$  of 1 m

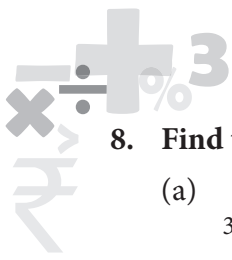
(c)  $\frac{1}{4}$  of 1 L

(d)  $\frac{1}{4}$  of 1 kg

**7. What is the perimeter of the given shape.**

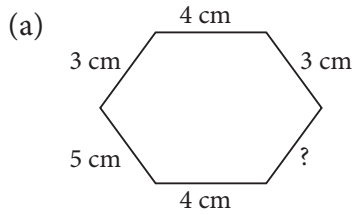
(3 × 1 = 3)





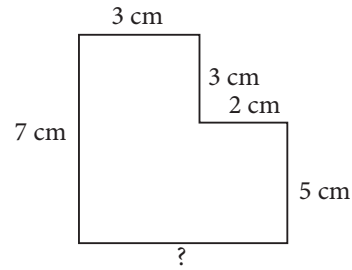
8. Find the missing length in each.

( $2 \times 3 = 6$ )



Perimeter = 24 cm

(b)



Perimeter = 29 cm

9. Multiply.

( $2 \times 2 = 4$ )

(a) 8 rupees 30 paise by 2.

(b) 9 rupees 20 paise by 3.

10. How many hours are between:

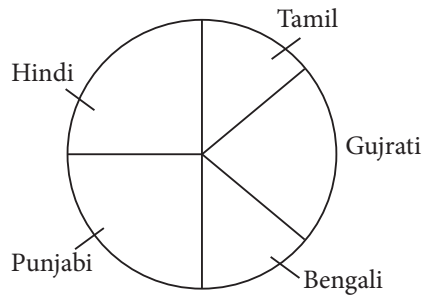
( $2 \times 2 = 4$ )

(a) 5:00 am and 2:00 pm

(b) 10:00 pm and 11:00 am

11. The following pie-chart gives the mother tongues of students of a class. ( $2 \times 2 = 4$ )

Look at it and answer the following questions.



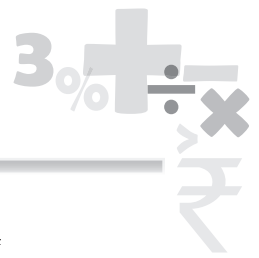
(a) Write the fraction of students speaking Hindi.

\_\_\_\_\_

(b) Write the fraction of students speaking Tamil, Gujarati and Bengali.

\_\_\_\_\_





# Answer Key

## Chapter-1

### Worksheet-1

- (a) (iii) (b) (i) (c) (iii) (d) (i)
- Nine lakh three thousand three hundred forty
- 10578      4. 580, 600
- (a) XLIII (b) XVI (c) XXIX  
(d) XIII (e) XXX (f) XXXVII
- X, XXV, XXIX, XXX, XL, C
- (a) 16 (b) 9 (c) 28 (d) 7 (e) 29  
(f) 41 (g) 40 (h) 500 (i) 1000
- (a) IV + III = VII (b) XII + VI = XVIII  
(c) VIII - II = VI (d) XXXI - IV = XXVII

### Worksheet-2

- 33,043; 34,043; 35,043      2. 76,081
- 2,00,000 + 10,000 + 800 + 30
- (a) 9998 (b) 101
- 3412, 32041, 32400, 34012
- (a) 15260 (b) 30600 (c) 93000
- (a) 80000 (b) 986051
- 53256, 35427, 6840, 3949
- C, L, XXXIX, XXVIII, XXIV, XIV

## Chapter-2

### Worksheet-1

- (a) 3420 (b) 7001 (c) 33799  
(d) 78349 (e) 68887 (f) 96921  
(g) 80210 (h) 91281 (i) 968687  
(j) 555620 (k) 684225 (l) 899998
- (a) 16240 (b) 7605 (c) 53591  
(d) 14996 (e) 33996 (f) 15106
- (a) 3331 (b) 1449 (c) 555619
- (a) 56, 62, 67, 71, 74 (b) 800, 750, 700, 650, 600

### Worksheet-2

- (a)
 

6	5	2	3
+	1	3	5
	5	1	5

  
 (b)
 

2	7	4	2	3
+	6	5	7	9
	9	3	2	1
- (a) Monday, 185 (b) ₹1,24,915

- (a) (iii) (b) (iii) (c) (iii)
- (a) 2124 (b) 9700      5. 6644

## Chapter-3

### Worksheet-1

- (a) (ii) (b) (iii) (c) (iii)
- (a)  $500 \times 27 + 12 \times 27 = 13500 + 324 = 13824$   
(b)  $400 \times 63 + 89 \times 63 = 25200 + 5607 = 30807$
- (a) 10 (b) 100 (c) 700 (d) 480000
- (a) 280 (b) 9600 (c) 1800 (d) 45000
- (a)  $700 \times 9$  (b)  $500 \times 4$
- 15060      7. 7250 lemons

### Worksheet-2

- (a) (ii) (b) 5
- (a) 3618 (b) 61308 (c) 95380 (d) 34125
- 364      4. ₹26
- 728 minutes or 12 hours 8 minutes

## Chapter-4

### Worksheet-1

- (a) (i) (b) (iii) (c) (ii) (d) (i)
- (a) 8 (b) 8 (c) 9
- (a) Q = 3, R = 20 (b) Q = 12, R = 0
- ₹623      5. 85 kg      6. (c), 78 L

### Worksheet-2

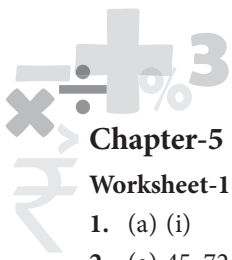
- (a) 10 (b) 40 (c) 70 (d) 300
- (a) 275 (b) 3500 (c) 10 (d) 0
- 1060      4. 4
- (a)
 

10
8
84
-80
4

 $\rightarrow [8] \times [10] + [4] = 84$ 
  
 (b)
 

5
16
90
-80
10

 $\rightarrow [16] \times [5] + [10] = 90$
- (a) (iii) 37 (iv) 21, 37 (v) 888, 37  
(b) (iv) 1234 (v) 12345



## Chapter-5

### Worksheet-1

- (a) (i) (b) (ii) (c) (i)
- (a) 45, 72, 63, 90, 27 (b) 80, 90, 310  
(c) 45, 75, 905
- (a) 7, 14, 21, 28, 35  
(b) first 5 odd multiples of 9 = 9, 27, 45, 63, 81  
first 5 even multiples of 15 = 30, 60, 90, 120, 150
- (a) 6, 12, 18, 24 (b) 21
- (a) No (b) Yes
- (a) 50, 60, 70 (b) 4, 8, 12, 16

### Worksheet-2

- (a) 1, 3, 5, 9, 15, 45 (b) 1, 2, 4, 7, 14, 28  
(c) 1, 2, 4, 5, 10, 20, 25, 50, 100
- (a)  $4 - 1, 2, 4$   $16 - 1, 2, 4, 8, 16$   
common factors - 1, 2, 4  
(b)  $5 - 1, 5$   $20 - 1, 2, 4, 5, 10, 20$   
common factors - 1, 5  
(c)  $9 - 1, 3$   $36 - 1, 3, 4, 6, 9, 12, 36$   
common factors - 1, 3  
(d)  $12 - 1, 2, 3, 4, 6, 12$   
 $40 - 1, 2, 4, 5, 8, 10, 20, 40$
- 30, 45, 60
- (a) F (b) T (c) T (d) F (e) F
- (a) 1, 5 (b) 1, 3, 11 (c)  
(c) 1, 2, 3, 4, 6, 8, 9, 12, 18, 24, 36, 72

## Chapter-6

### Worksheet-1







- Open figures — b, d Close figures — a, c
- (a) line (b) line segment (c) ray  
(d) ray (e) ray (f) ray  
(g) line (h) ray (i) ray
- (a) 2.9 cm (b) 1.9 cm (c) 4.1 cm
- (a) 10 (b) 6

### Worksheet-2

- (c), (f)
- (a) true (b) true (c) false
- (c)
- (a) p (b) PA, PB and PQ (c) AB

## Chapter-7

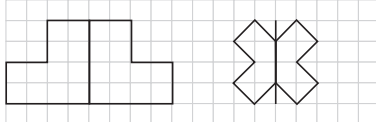

### Worksheet-1

- (a)  (b)  (c)   
(d)  (e)  (f) 
- (b) and (c) 3. 4 cm 4. 8 cm

### Worksheet-2

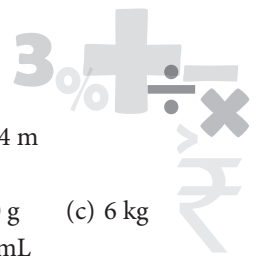
- (b) and (d) 2. (a) WELL DONE  
(b) 

18	5	4	21	3	5
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16	15	12	12	21	20	9	15	14
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## Model Test Paper 1

- (a) Forty-five thousand six hundred seventy-eight  
(b) One lakh five thousand three hundred twenty-one
- (a) 34570; 34571; 34572  
(b) 1,23,756; 1,23,856; 1,23,956
- (a) LXIII (b) XXVI (c) XXXVII
- (a) 71213 (b) 4567
- (a) 450 (b) 83000
- (a) 1980 (b) 2816
- (a)  $Q = 410$  (b)  $Q = 606$
- (a) no (b) yes
- (a) 11, 33, 55, 77 (b) 15, 45, 75, 105
- 4300 11. (a) true (b) false  
(c) true (d) false (e) true
- 6,68,027 13. 10 cm
- (a) 3 (b) MOM (c) KICK (d) BOOK
- ₹48,600
- (a) 
$$\begin{array}{r} 56 \\ \textcircled{2} \overline{) 28} \\ \underline{2} \phantom{0} \\ 14 \\ \textcircled{2} \overline{) 14} \\ \underline{2} \phantom{0} \\ 7 \end{array}$$
 (b) 
$$\begin{array}{r} 36 \\ \textcircled{2} \overline{) 18} \\ \underline{2} \phantom{0} \\ 9 \\ \textcircled{2} \overline{) 9} \\ \underline{3} \phantom{0} \\ 3 \end{array}$$
- 21 18. No, 355



## Chapter-8

### Worksheet-1

- (a) (iii) (b) (i) (c) (iii)
- 
- 
- $\frac{6}{8}, \frac{9}{12}, \frac{12}{16}$       5. (a) 40 (b) 20 (c) 3 (d) 4
- (a)  $\frac{3}{11}, \frac{5}{11}, \frac{7}{11}, \frac{8}{11}$       (b)  $\frac{1}{14}, \frac{3}{14}, \frac{5}{14}, \frac{7}{14}$
- (a)  $\frac{10}{15}, \frac{7}{15}, \frac{5}{15}, \frac{2}{15}$       (b)  $\frac{22}{23}, \frac{21}{23}, \frac{15}{23}, \frac{11}{23}$

### Worksheet-2

- (a) 5 (b) 25 (c) 40 (d) 25  
(e) 250 (f) 9 (g) 75 (h) 20
- (a) < (b) > (c) =
- (a)  $\frac{6}{13}$  (b)  $\frac{3}{10}$       4. (a)  $\frac{11}{15}$  (b)  $\frac{8}{9}$
- football – ₹50, hat – ₹20 rocking horse – ₹40
- In the morning      7.  $\frac{2}{3}$

## Chapter-9

### Worksheet-1

- (a) (iii) (b) (v) (c) (i) (d) (vi)  
(e) (iv) (f) (ii)
- (a) 7.04 (b) .8 (c) 0.14 (d) 0.9
- (a) 2.7, 2.8, 2.9 (b) 14.5, 13.6, 12.7
- (a) 9.76 (b) 0.06 (c) 432.9 (d) 0.78  
(e) 4.3

### Worksheet-2

- (a) .9 (b) .6 (c) 2.8 (d) 1.5 (e) 3.5
- (a) 1.4, 1.5, 1.6 (b) 2.1, 2.2, 2.3  
(c) 13.4, 14.4, 15.4 (d) 70.0, 70.1, 70.2

Decimal	Tens	Ones	Decimal Point (.)	Tenths	Hundredths
10.5	1	0	.	5	
0.36			.	3	6
0.7			.	7	
0.09			.	0	9

## Chapter-10

### Worksheet-1

- (a) (i) (b) (ii) (c) (iii)

- (a) 2 km 861 m (b) 2 km 324 m  
(c) 1 km 410 m
- (a) 7 kg 280 g (b) 4 kg 500 g (c) 6 kg
- (a) 4000 mL (b) 207000 mL  
(c) 40000 mL
- (a) 10 m 50 cm (b) 3555 m  
(c) 250000 mL (d) 5305 mL  
(e) 4450 g (f) 1 kg 750 g
- ₹410      7. ₹28      8. 29 kg 250 g

### Worksheet-2

- 13000 m      2. 650      3. 8435 m
- 4 kg 444 g      5. 5,425
- (a) 2400 mL or 2 L 400 mL (b) 28
- Imran by 1 m 25 cm      8. 65 L

## Chapter-11

### Worksheet-1

- (a) (ii) (b) (i) (c) (ii)      2. 32 cm
- (a) 5 sq. units (b) 6 sq. units  
(c) 4 sq. units (d) 6 sq. units
- Do it yourself

### Worksheet-2

- (a) 24 m (b) 24 m
- (a) 20 cm (b) 24 cm
- (a) 12 m (b) 36 cm
- (a) 16 sq. units (b) 3 sq. units  
(c) 4 sq. units (d) 3 sq. units

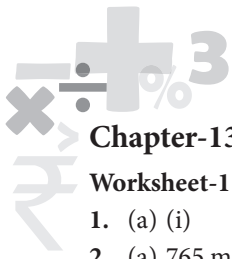
## Chapter-12

### Worksheet-1

- (a) 91.70 (b) 627.75 (c) 335.79  
(d) 140 (e) 38.45
- (a) 21.10 (b) 68 (c) 57.8  
(d) 43.8 (e) 6.8 (f) 1.85
- (a) 506.25 (b) 468.6 (c) 496.35  
(d) 263.61 (e) 4225 (f) 1309.75
- (a) 4.03 (b) 0.82 (c) 5.13  
(d) 0.75 (e) 2.79 (f) 3

### Worksheet-2

- ₹1308.40      2. ₹4242.25      3. ₹19.83
- ₹256.04      5. ₹87.1      6. ₹10.69



## Chapter-13

### Worksheet-1

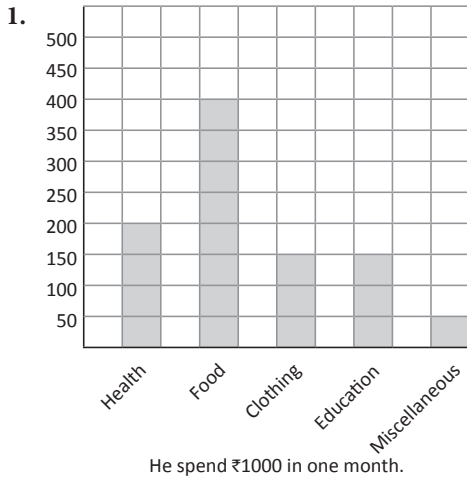
- (a) (i)      (b) (ii)      (c) (i)
- (a) 765 minutes      (b) 45 minutes  
(c) 285 minutes
- (a) 03:00 hours      (b) 13:30 hours  
(c) 09:30 hours      (d) 00:00 hours

### Worksheet-2

- 2:45 pm, 14:45 hours
- 5:10, 7:20, 2 hour 10 minute
- (a) 10, 8 o'clock      (b) 5, 9 o'clock  
(c) 5:00 pm      (d) 1:00 am  
(e) 2:00 pm      (f) 4:00 am
- 5:00 hours

## Chapter-14

### Worksheet-1



- (a) 6      (b) orange bar  
(c) no      (d) *khatta metha aam*

### Worksheet-2

- (a) potato      (b) brinjal  
(c) cauliflower and tomato
- (a) Vibhu's marks in 6 tests      (b) 10  
(c) Test 4      (d) 1 box = 1 mark  
(e) marks      (f) no

### Model Test Paper 2

- (a) 16      (b) 4.9, 4.10  
(c) 700 cm      (d) 18:25 hours  
(e) perimeter
- (a)  $\frac{11}{17}$       (b)  $\frac{12}{14}$
- (a)  $\frac{2}{13}$       (b)  $\frac{10}{35}$
- (a) 4.9      (b) 8.14
- (a)  $\frac{149}{10}$       (b)  $\frac{127}{100}$
- (a) 125 m      (b) 750 cm  
(c) 250 mL      (d) 250 g
- 7.18 cm
- (a) 5 cm      (b) 9 cm
- (a) ₹16.60      (b) ₹27.60
- (a) 9 hours      (b) 13 hours
- (a)  $\frac{1}{4}$       (b)  $\frac{1}{2}$