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Maths Quest

TEACHER'S MANUAL

Kalpana Gairola



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New Delhi-110002 (INDIA)



V-CONNECT
EDUCATION

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Preface

The **Math Quest** 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 **MCQs**, **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 explanation** 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

MCQs, 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 MCQs, 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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1

Large Numbers

Learning Objectives

Students will be able to

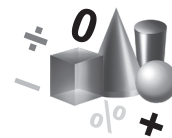
- recapitulate the concepts of numbers up to 9999
- read and understand numbers up to 9999
- understand place value, face value, expanded form and standard form of digits in 5- and 6-digit numbers
- compare and order 5- and 6-digit numbers
- form 5- and 6-digit numbers using the given digits without/with repetition of the digits
- round off the numbers to the nearest 10, 100 and 1000
- learn about Roman numbers and rules while forming these numbers

Concept Explanation

- Students are already familiar with the numbers up to 9999.
- Recapitulate the concept of numbers up to 9999 the using Gear Up section given in the textbook.

Numbers more than 9999; Reading and writing 5- and 6-digit numbers

- Explain to students how the smallest 5-digit number, that is, 10000 is formed by adding 1 to the largest 4-digit number, that is, 9999. Also introduce the ten thousands place.
- Next, explain to students how the smallest 6-digit number, that is, 100000 is formed by adding 1 to the largest 5-digit number, that is, 99999. Also introduce the lakhs place.
- Now use place value chart to make the students understand how to read and write 5- and 6-digit numbers.
- Call out 5- or 6-digit number and let the students write them out in their notebooks.
- Abacus can also be used to understand and read 5- and 6-digit numbers.
- Use the Common Error section related to the concept to avoid the mistakes done by the students while reading and writing 5- and 6-digit numbers.
- To reinforce, ask them to do the Recreation Corner section from the textbook.
- Instruct them to do the related Crack it section and Check Point 1.1 from the textbook.



Face value and place value; Comparing and ordering numbers

- Explain the difference between place value and face value with suitable examples. Take the help of the place value chart to make the students understand the concept easily.
- Use the examples of the related section to make them understand the concept of standard form and expanded form of 5- and 6-digit numbers. The numbers should be formed by representing them on their place value charts.
- Recall the use of symbols to compare numbers. First start with different digits. For example, a 4-digit number is smaller than a 5-digit number and a 5-digit number is smaller than a 6-digit number.
- Tell them to start comparing from the lakhs place till they come across different digits. The number with the bigger digit at the same place would be the greater number.
- Once students learn to compare numbers, explain to them about the ascending and descending orders of numbers.
- Instruct them to do Check Point 1.2 and Check Point 1.3 from the textbook.

Forming numbers

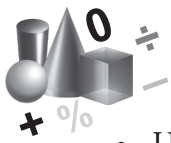
- Tell students the rule of forming numbers with the given set of digits.
- Digits are arranged in decreasing order to build the greatest number possible without/with repeating the digits. Similarly, the digits are arranged in increasing order to build the smallest number possible.
- Introduce the use of 0 in building the smallest and greatest numbers.
- To reinforce the concept, the teacher can use the Maths Lab Activity section from the textbook.
- Instruct them to do Check Point 1.4 from the textbook.

Rounding off numbers

- Start the concept of the rounding off of numbers by giving some real-life examples. For example, about 60 people attended the seminar. There are about 900 students in a school. Tell students why rounding off is important in our daily lives.
- Then with the help of a number line, explain the concept further. Explain to them how a number is rounded off to the nearest 10, nearest 100 and nearest 1000. Tell them the rules of rounding up and rounding down.
- To reinforce the concept, the teacher can use the Growing With Values section from the textbook.
- Ask the students to do Check Point 1.5 from the textbook.

Roman numbers

- Read the section Roman Numbers from the book.



- Use the table to make the students understand the relation between Roman Numerals and the corresponding Hindu-Arabic Numerals.
- Explain the rules associated with the concept writing a Hindu-Arabic Numeral in Roman Numeral.
- Use the Common Error section of the related concept to avoid the mistake done by the students while converting Hindu-Arabic Numerals to Roman Numerals.
- To reinforce, ask them to do the Maths Connect section from the textbook.
- Instruct them to do the related Crack It section and Check Point 1.6 from the textbook.

To recapitulate the concepts learnt, in the chapter students will do Test Yourself and Brain Workout sections from the textbook.

Use the Flashback section to revise the key points of the concepts.

Multiple Choice Questions

Tick (✓) the correct options.

1. The place value of 7 in 752364 is

- (a) 7000 (b) 70000 (c) 700000 (d) 7

2. Predecessor of 3,45,575 is

- (a) 3,45,576 (b) 3,45,574 (c) 3,45,571 (d) 3,45,577

3. The smallest number formed using the digits 5, 9, 3, 2 is

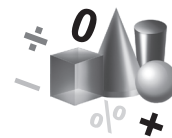
- (a) 9532 (b) 5932 (c) 3295 (d) 2359

4. 527 rounded off to the nearest 100 is

- (a) 500 (b) 550 (c) 600 (d) 530

5. In Roman numeral, 40 is represented as

- (a) LX (b) XXL (c) XXXX (d) XL



Worksheet 1 _____

1. Fill in the blanks.

- (a) The place value of 3 in 49,307 is _____.
- (b) The smallest 6-digit number is _____.
- (c) Number of 3-digit numbers that can be formed using the digits 0, 4 and 5 is _____.
- (d) Use the correct symbol $>$, $<$ or $=$: 273506 _____ 272560
- (e) Place value of 5 in 95372 is _____.

2. Write the following numerals in words.

- (a) 25,102 _____
- (b) 3,48,411 _____
- (c) 10,005 _____
- (d) 9,58,577 _____

3. Write the following numbers in figures.

- (a) Three lakh three _____
- (b) Forty-nine thousand eighty-four _____

4. Build the smallest 5-digit number using the digits 8, 0, 5 and 1.

5. Round off 581

- (a) to the nearest 10 _____
- (b) to the nearest 100 _____

6. Write in Roman numerals.

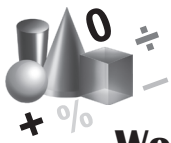
- (a) 48 _____
- (b) 30 _____

7. Write XXIX, X, XL, XXV, XXX, C in the order as directed.

- (a) ascending order: _____
- (b) descending order: _____

8. Write the following using Hindu-Arabic numerals.

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



Worksheet 2

1. Fill in the blanks.

- (a) Count in thousands: 32,043, _____, _____, _____
- (b) The standard form for $70000 + 6000 + 80 + 1$ is _____.
- (c) The expanded form of 10,830 is _____.
- (d) The largest 4-digit even number is _____.
- (e) Predecessor of 80001 is _____.
- (f) Successor of 986050 is _____.

2. Rewrite the following numbers in ascending order.

3412, 34012, 32041, 300421, 30421, 341, 121

3. Rewrite the following numbers in descending order.

6840, 3949, 354, 53, 600845, 79812, 798120

4. Write in words.

- (a) 79,346 _____
- (b) 51,867 _____

5. Round off the following numbers as directed.

	Number	to the nearest 10	to the nearest 100	to the nearest 1000
(a)	15256			
(b)	30550			

6. Write in descending order

XXIV, XIV, L, XXXIX, XXVIII, C

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

- (a) $\times \text{II} + \text{IV} = \times \text{VIII}$ (b) $\text{VIII} - \text{II} = \text{IV}$

2

Addition and Subtraction

Learning Objectives

Students will be able to

- recapitulate the concept of adding and subtracting two 3-digit numbers with/without regrouping, two 4-digit numbers without regrouping, addition and subtraction facts
- add bigger numbers with/without regrouping and understand the properties of addition of numbers
- subtract bigger numbers with/without regrouping and understand subtraction with zeroes, and the properties of subtraction of numbers
- apply the concept of addition and subtraction while solving real-life problems
- estimate the sum or difference of two given numbers

Concept Explanation

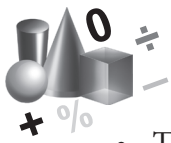
- Students are already familiar with the concept of adding and subtracting two 3-digit numbers with/without regrouping, two 4-digit numbers without regrouping, addition and subtraction facts.
- Recapitulate these concepts using the Gear Up section given in the textbook.

Addition; Properties of addition of numbers

- Read the related section from the textbook.
- Use the example given in that section to explain the concept of adding two bigger numbers with regrouping.
- Clarify, in an addition sum the numbers that are added are called the addends and the result is called the sum.
- Explain the properties of addition using the examples given in the textbook.
- To reinforce, ask them to do the Maths Lab Activity from the textbook.
- Ask them to do the related Crack It section and Check Point 2.1 from the textbook.

Subtraction; Properties of subtraction

- Read the related section from the textbook.
- Use the example given in that section to explain the concept of subtracting two bigger numbers with regrouping.
- Clarify, when we check our answer using addition, the answer and the number at the bottom (smaller number) add up to the number at the top (bigger number).



- The concept of subtraction of a number from a number (having digits as zeroes except the higher place) can easily be understood with the help of the example given in the textbook.
- The properties of subtraction can be taught using the examples given in the textbook.
- To reinforce, ask them to do the Maths Connect section from the textbook and inform them to observe how Mathematics is related with Social Studies.
- Ask them to do the related Crack It section and Check Point 2.2 from the textbook.

Word problems; Problem solving skills

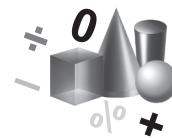
- Use the example given in the textbook to make the students understand the concept.
- To reinforce, instruct them to do the related Crack It section from the textbook.
- Make the students understand that a problem can have some extra information, large numbers and confusing words.
- Explain to the students with the help of examples given in the textbook.
- Tell them that sometimes information given is not sufficient also. Discuss such situations as well.
- Encourage them read the problem and understand it rather than looking for clue words only to help them in solving the questions.
- Ask them to do Check Point 2.3, Check Point 2.4 and Check Point 2.5 from the textbook.

Estimating sums and differences

- Read the related section from the textbook.
- Make the students understand that first round off the given numbers to the specific places, then add or subtract the rounded off numbers.
- Ask them to do Check Point 2.6.

To recapitulate the concepts learnt in the chapter, students should do Growing With Values, Recreation Corner, Test Yourself and Brain Workout sections from the textbook.

Use the Flashback section to revise the key points of the concepts.



Multiple Choice Questions

Tick (✓) the correct options.

1. $3925 + 4872 = 4872 + \underline{\hspace{2cm}}$

- (a) 4872 (b) 3925 (c) 0 (d) 8797

2. $6251 + 0 = \underline{\hspace{2cm}}$

- (a) 6251 (b) 0 (c) 6252 (d) 6250

3. $5394 - 5394 = \underline{\hspace{2cm}}$

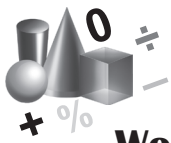
- (a) 5394 (b) 5391 (c) 0 (d) 5393

4. The number 1000 less than 10,000 is

- (a) 11,000 (b) 9,000 (c) 8,000 (d) 1,000

5. The number 1000 more than 10,000 is

- (a) 11,000 (b) 9,000 (c) 8,000 (d) 1,000



Worksheet 1

1. Add.

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

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

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

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

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

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

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

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

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

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

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

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

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.

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

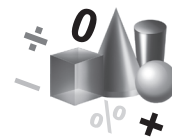
$$\begin{array}{r} (b) \quad 7\ 4\ 0\ 8 \\ - 5\ 9\ 5\ 9 \\ \hline \hline \end{array}$$

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

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.

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

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

$$\begin{array}{r} 8 \quad 4 \quad 2 \quad 3 \quad 2 \\ + \square \quad \square \quad 5 \quad \square \quad 6 \\ \hline 9 \quad 4 \quad \square \quad 4 \quad \square \end{array}$$

$$\begin{array}{r} 4 \quad 2 \quad \square \quad 0 \quad 3 \\ + \square \quad 9 \quad 0 \quad 3 \quad 9 \\ \hline 9 \quad \square \quad 3 \quad \square \quad \square \end{array}$$

2. Fill in the blanks.

(a) $5432 - 3212 + 846 = \underline{\hspace{2cm}}$

(b) $\underline{\hspace{2cm}} + 499 = 600$

(c) When zero is subtracted from any number, the difference is always $\underline{\hspace{2cm}}$.

(d) $896 - 896 = \underline{\hspace{2cm}}$

3. Solve the following word problems.

(a) What should be subtracted from 3327 to get 1203? What should be added to 299 to get 9999?

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

(c) 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?

(d) The population of a city is 98108. If 34168 are men, 52299 are women and the rest are children, find out many children are there in the city.

3

Multiplication

Learning Objectives

Students will be able to

- recapitulate the concept of multiplying a 3-digit number by a 1-digit number with/without regrouping and multiplying a 2-digit number by a 2-digit number with/without regrouping
- multiply a number by 10, 100, 1000, ...
- multiply a number by 20,..., 90; 200,..., 900; 2000,..., 9000
- understand the properties of multiplication
- multiply by breaking up numbers, by grouping numbers, by doubling
- multiply a 4-digit number by a 1-digit number
- multiply a 3-digit number by a 2-digit and a 3-digit number
- learn multiplying by a number that has a 0
- apply the knowledge of multiplication in story sums
- learn some problem-solving skills to solve a problem

Concept Explanation

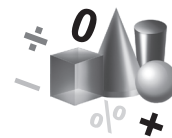
- Students already know how to multiply a 3-digit number by a 1-digit number with/without regrouping and a 2-digit number by 2-digit number with/without regrouping. Recapitulate these concepts of multiplication using the Gear Up section given in the textbook..

Multiplying by 10, 100, 1000, ...; Multiplying by 20,...,90; Multiplying by 200,...,900; Multiplying by 2000,...,9000;

- Use the given example in the textbook to make the students understand the concepts of multiplying a number by 10, 100, 1000,... and multiplying by 20,...,90;200,...,900; 2000,...,9000;.
- Create some patterns related to the concept.
- Ask them to do Check Point 3.1 from the textbook.

Properties of multiplication; Breaking up numbers; Grouping numbers; Multiplying by doubling

- Explain the properties of multiplication, that is:
 - When we multiply two or more numbers, we can multiply them in any order, the product remains the same.



- When we multiply a number by 1, the product is the number itself.
- The product of a number and 0 is 0.
- Use the examples given in the textbook to make them understand how to multiply by breaking up numbers, grouping numbers and by doubling.
- To reinforce, ask them to do the Recreation Corner section from the textbook.
- Ask them to do the related Crack It section and Check Point 3.2 from the textbook.

Multiplying 4-digit numbers

- Read the related section from the textbook.
- Explain the process of multiplying a 4-digit number by a 1-digit number (with/without regrouping) using the column method and box grid method given in the textbook.
- To reinforce, ask them to do the Crack It section and Check Point 3.3 from the textbook.

Multiplying by a 2-digit number; Multiplying by a 3-digit number

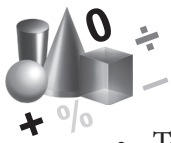
- With the help of given examples in the textbook, explain to the students how to multiply by a 2-digit number and by a 3-digit number.
- To reinforce, ask them to do the Maths Lab Activity and Maths Connect sections from the textbook.
- Instruct them to do the related Crack It section from the textbook.

Multiplying by a number that has a 0

- Take a 3-digit multiplicand such that 0 is its one of the digits.
- Explain to the students why we skip the step in multiplication if there is 0 in one of the digits of the multiplicand.
- Use the Common Error section of the related concept to avoid the mistake done by the students while multiplying.
- To reinforce, ask them to do the related Crack It section and Check Point 3.4 from the textbook.

Word problems: Problem-solving skills

- Discuss the keywords used for multiplication, which indicate that the numbers are to be multiplied.
- To reinforce, the teacher reads out example given in the Story Sums section, asking students to pick the relevant information and decide what needs to be done.
- Write the relevant information on the board in the form of the statements.
- Instruct them to solve the questions given in Check Point 3.5.
- Use different strategies given in the textbook to make them understand the problem-solving skills related to multiplication.



- To reinforce, ask them to do Growing With Values section from the textbook.
- Ask the students to do Check Point 3.6, Check Point 3.7 and Check Point 3.8 from the textbook.
- To recapitulate the concepts learnt in the chapter students will do the Recreation Corner, Maths Connect, Test Yourself and Brain Workout sections from the textbook.
- Use the Flashback section to revise the key points of the concepts.

Multiple Choice Questions

Tick (✓) the correct options.

1. $39 \times 1000 =$ _____

- (a) 390 (b) 3900 (c) 39000 (d) 390000

2. $4579 \times 0 =$ _____

- (a) 0 (b) 4579 (c) 4570 (d) 4500

3. $7 \times 18 =$ _____

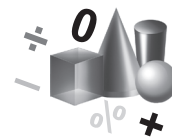
- (a) 120 (b) 125 (c) 124 (d) 126

4. Ruhi's balcony has 4 potted plant. Each plant has _____ flowers. So, there are 20 flowers in all.

- (a) 4 (b) 5 (c) 3 (d) 16

5. Neetu has 6 marbles. Kavya has 8 times as many marbles as Neetu has. How many marbles both have altogether?

- (a) 54 (b) 48 (c) 64 (d) 36



Worksheet 1 _____

1. Fill in the blanks.

(a) $7562 \times 1 = \underline{\hspace{2cm}}$

(b) $25 \times 36 = \underline{\hspace{2cm}} \times 25$

(c) $235 \times \underline{\hspace{2cm}} = 0$

(d) $\underline{\hspace{2cm}} \times 1 = 365$

(e) $54 \times \underline{\hspace{2cm}} = 540$

(f) $4 \times \underline{\hspace{2cm}} = 400$

(g) $\underline{\hspace{2cm}} \times 10 = 7000$

(h) $480 \times 1000 = \underline{\hspace{2cm}}$

2. Find the product by breaking up one of the numbers.

(a) 512×27

(b) 489×63

3. Find the product by grouping two numbers.

(a) 8×18

(b) 9×18

4. Find the the following products.

(a) $7 \times 30 \times 5$

(b) $8 \times 245 \times 125$

5. Find the products.

(a) 14×20

(b) 12×800

(c) 20×90

(d) 15×3000

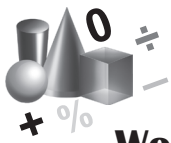
6. Encircle the same products in each of the following.

(a) 70×90 | 700×90 | 700×9 | 900×7 | 900×700

(b) 40×50 | 50×40 | 500×4 | 400×50 | 40×5

7. How many seconds are there in 251 minutes?

8. Each plant gives 125 lemons. How many lemons will a farm with 58 such plants yield?



Worksheet 2

1. Fill in the blanks.

(a) The number by which we multiply another number is called _____.

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

2. Find the product.

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

(b)
$$\begin{array}{r} 36 \\ \times 72 \\ \hline \end{array}$$

(c)
$$\begin{array}{r} 796 \\ \times 78 \\ \hline \end{array}$$

(d)
$$\begin{array}{r} 610 \\ \times 62 \\ \hline \end{array}$$

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

(f)
$$\begin{array}{r} 3583 \\ \times 44 \\ \hline \end{array}$$

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

(h)
$$\begin{array}{r} 607 \\ \times 119 \\ \hline \end{array}$$

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

4. There are 425 shirts in bag. How many shirts will there be in 4 such bags?

5. John runs in a park for 26 minutes each day. For how many minutes does he run in 4 weeks?

4

Division

Learning Objectives

Students will be able to

- recapitulate the concept of division through equal sharing, as equal grouping, as repeated subtraction, terms used in division, relation between division and multiplication.
- understand the properties of division
- understand the relation between multiplication and division
- divide a 4-digit number by a 1-digit number
- divide by 10, 100 and 1000
- understand patterns in division
- divide a 4-digit number by a 2-digit number
- apply the concept of division in real life

Concept Explanation

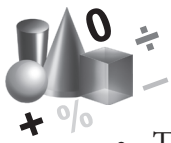
- Students already know how to divide through equal sharing, as equal grouping, as repeated subtraction, terms used in division, relation between division and multiplication.
- Recapitulate these concepts of division using the Gear Up section given in the textbook.

Properties of division; Relation between division and multiplication

- Read the related sections from the textbook.
- Explain the properties of division, that is,
 - When we divide a number by 1, we get the quotient as the number itself.
 - When a number is divided by itself, we get the quotient as 1.
 - When 0 is divided by any number, we get the quotient as zero.
- Make the students understand that for each multiplication fact there are two division facts.
- To reinforce, ask them to do Check Point 4.1 from the textbook.

Dividing a 4-digit number by a 1-digit number

- Explain the method of dividing a 4-digit number by a 1-digit number.
- Solve few questions on the board.
- Now call the students one by one to the board to write the steps of the problem while solving.



- The teacher points out the errors if any and also draws the attention of the students to the fact that the remainder is always less than the divisor.
- Use the Common Error section to avoid the mistakes done by the students while solving a division sum.
- Instruct them to do the related Crack It section and Check Point 4.2 from the textbook.

Dividing by tens, hundreds and thousands

- Use the example given in the related section to make the students understand the concept of dividing a number by tens, hundreds and thousands.
- Explain when a number is divided by 10, 100 and 1000, the digits in the ones place, tens place and hundreds place of the dividend, respectively give the remainder and the rest of the digits from higher place to tens place, hundreds place and thousands place, respectively, make up the quotients.
- To reinforce, ask them to do the Maths Lab Activity section from the textbook.
- Instruct them to do the related Crack It section and Check Point 4.3 from the textbook.

Patterns in division

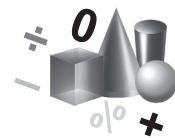
- Use different examples related to this section to develop the concept of patterns in division.
- To reinforce, ask them to do the related Crack It section from the textbook.

Dividing a 4-digit number by a 2-digit number

- Read the related section of the textbook.
- Explain the method of dividing a 4-digit number by a 2-digit number with the help of given examples in the textbook.
- Make the students understand how to estimate the quotient first and then find the actual quotient while solving a division problem.
- Use the Common Error section to avoid the mistakes done by the students while solving a division sum.
- To reinforce, ask the students to do the Growing With Values and Maths Connect sections from the textbook and observe how Mathematics is related with Science.
- Instruct them to do the related Crack It section and Check Point 4.2 from the textbook.

For solving problem using division, it is very important that students understand the meaning of quotient and remainder. For explaining this, use the examples related to this section.

Let us take example 13. The quotient in this example shows the number of trucks and the remainder shows bags leftover. Since one more truck is needed to load these remaining 11 bags. So the remainder can't be ignored in this case. So the correct answer is the quotient $24 + 1 = 25$ trucks.



Instruct them to solve the questions given in the section Check Point 4.5.

To recapitulate the concepts learn in the chapter students should do Recreation Corner, Test Yourself and Brain Workout sections from the textbook.

Use the Flashback section to revise the key points of the concepts.

Multiple Choice Questions

Tick (✓) the correct options.

1. $5 \div 5 =$ _____

- (a) 5 (b) 0 (c) 1 (d) 25

2. $5 \div 1 =$ _____

- (a) 5 (b) 0 (c) 1 (d) 25

3. For $593 \div 10$, Q = _____, R = _____

- (a) 59, 0 (b) 59, 1 (c) 59, 2 (d) 59, 3

4. $8 \div 2 = 4$

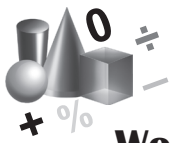
$80 \div 20 = 4$

$800 \div 200 =$ _____

- (a) 400 (b) 40 (c) 0 (d) 4

5. $400 \div 4$ $100 \div 1$

- (a) > (b) < (c) =



Worksheet 1

1. Fill in the blanks.

(a) $29 \div 1 = \underline{\hspace{2cm}}$

(b) $18 \div 0 = \underline{\hspace{2cm}}$

(c) $\underline{\hspace{2cm}} \div 24 = 0$

(d) $37 \div 37 = \underline{\hspace{2cm}}$

2. Find the quotients using multiplication tables.

(a) $48 \div 6 = \underline{\hspace{2cm}}$

(b) $64 \div 8 = \underline{\hspace{2cm}}$

(c) $36 \div 4 = \underline{\hspace{2cm}}$

3. Find the quotient and remainder in each of the following.

(a) $89 \div 23$ $Q = \underline{\hspace{2cm}}$ $R = \underline{\hspace{2cm}}$

(b) $108 \div 9$ $Q = \underline{\hspace{2cm}}$ $R = \underline{\hspace{2cm}}$

(c) $363 \div 3$ $Q = \underline{\hspace{2cm}}$ $R = \underline{\hspace{2cm}}$

4. Solve.

(a) 9 tanks can hold 5607 litres of oil. If all the tanks have the same capacity, find the quantity of oil in each tank?

(b) 5 bags of equal weight contain 425 kg of rice in all. How much rice is there in one bag?

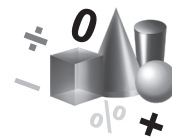
5. Tick (✓) the question that can be solved using the given facts and then solve and check your answer.

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 the 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. There are 6336 seats in an auditorium. Find the number of rows if each row has 36 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)
$$\begin{array}{r} \square \\ 4 \overline{) 84} \\ \underline{-\square} \\ \square \end{array} \longrightarrow \square \times \square = 84$$

(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) $444 \div 12 = 37$

(ii) $555 \div 15 = 37$

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

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

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

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

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

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

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

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

5

Multiples and Factors

Learning Objectives

Students will be able to

- recapitulate the tables 2 to 20 and understand the multiplication facts
- understand the meaning of multiples and their properties
- find the common multiples of the given numbers
- find the factors of a number using multiplication and division
- know some rules of divisibility when a number is divided by 2, 3, 5, 9 and 10
- Find the factors of a number using the factor tree method
- Find the common factors of the given numbers

Concept Explanation

- Students already know tables from 2 to 20 and the multiplication facts.
- Recapitulate these concepts of division using the Gear Up section given in the textbook.

Multiples; Properties of multiples

- To introduce multiples, the teacher can use this activity. Ask each student to get around 50 beans. Now ask them to make groups of 2 beans and arrange the groups as shown below.

$$\textcircled{\circ}\textcircled{\circ} = 2 \times 1 = \textcircled{\circ}\textcircled{\circ} = 2$$

$$\textcircled{\circ}\textcircled{\circ}\textcircled{\circ}\textcircled{\circ} = 2 \times 2 = \textcircled{\circ\circ\circ\circ} = 4$$

$$\textcircled{\circ}\textcircled{\circ}\textcircled{\circ}\textcircled{\circ}\textcircled{\circ} = 2 \times 3 = \textcircled{\circ\circ\circ\circ\circ\circ} = 6$$

$$\textcircled{\circ}\textcircled{\circ}\textcircled{\circ}\textcircled{\circ}\textcircled{\circ}\textcircled{\circ}\textcircled{\circ} = 2 \times 4 = \textcircled{\circ\circ\circ\circ\circ\circ\circ\circ} = 8$$

$$\textcircled{\circ}\textcircled{\circ}\textcircled{\circ}\textcircled{\circ}\textcircled{\circ}\textcircled{\circ}\textcircled{\circ}\textcircled{\circ}\textcircled{\circ} = 2 \times 5 = \textcircled{\circ\circ\circ\circ\circ\circ\circ\circ\circ\circ} = 10$$

- Explain to the students that 2, 4, 6, 8, 10, etc., are the multiples of 2.
- Similarly now ask them to make groups of 3 and explain that 3, 6, 9, etc. are multiples of 3.

$$\textcircled{\circ}\textcircled{\circ}\textcircled{\circ} = 3 \times 1 = 3$$

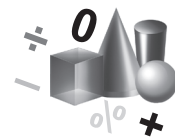
$$\textcircled{\circ}\textcircled{\circ}\textcircled{\circ}\textcircled{\circ}\textcircled{\circ} = 3 \times 2 = 6$$

$$\textcircled{\circ}\textcircled{\circ}\textcircled{\circ}\textcircled{\circ}\textcircled{\circ}\textcircled{\circ}\textcircled{\circ} = 3 \times 3 = 9$$

- Also tell them that the numbers which are multiplied together to get the product are called the factors and the product is called the multiple.

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

Factors

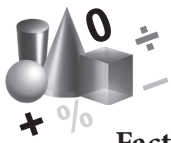


$$\begin{array}{c} 3 \quad 4 \\ \diagdown \quad / \\ = \quad 12 \quad \rightarrow \quad \text{Multiples} \\ \text{Factors} \end{array}$$

- The numbers like 1, 2, 3, 4, etc. which are used to form multiples give us the 1st, 2nd, 3rd, 4th and so on multiples of the given number.
- Every number has infinite multiples. A number which can be divided by another number without leaving any remainder is called the multiple of the divisor.
- Discuss the facts about multiples like
Every number is a multiple of 1, that is, $1 \times 1 = 1$, $1 \times 2 = 2$, ____
- Every number is the first multiple of itself.
- Explain to the students that to find the 4th multiple of a number, we multiply it by 4, to find the 7th multiple of a number, we multiply it by 7 and so on. Also make them notice when we multiply an odd number by an even number, we get an even multiple and when we multiply an odd number by an odd number we get an odd multiple.
- Ask them to do the related Crack It section and Check Point 5.1 from the textbook.

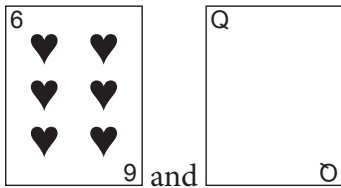
Common multiples

- Read the related section from the textbook.
- Ask the students to call out the multiples of 3 and write them on the board as shown below. Also ask them to say multiples of 4 aloud, and write as shown below
3 4 9 12 15 18 21 24
4 8 12 16 20 24
- Now teacher can ask them to call out the numbers from the list above which are common in both the lists numbers, that is, 12, 24,.. in the case of the multiples of 3 and 4.
- So, 12 and 24 are the common multiples of 3 and 4.
- Repeat the same with two different numbers.
- Ask them to do the related Crack It section from the textbook.
- To reinforce, ask them to play hip-hop game.
 - Ask the students to stand in a circle.
 - The players start counting from 1, saying the numbers aloud, on their turn.
 - For multiples of 2 they say hip and for multiples of 3 they say hop. For common multiples 6, 12, 18, etc. they have to say hip hop. The student who will not say hip hop or say it wrong is turned out of the circle. The student who remains in the circle till the end is the winner.
- Ask them to do Check Point 5.2 from the textbook.



Factors

- Read the related section from the textbook.
- Use the examples given in the related section to develop the concept of factor.
- Explain the ways of finding factors of a product using multiplication and division.
- Make groups of 4 students each. Provide each group with a well-shuffled pack of cards kept upside down.
- Each group will pick up two cards from the pack. Two students from each group will find the product of these two numbers and rest of the group will find all the factors of the product. For example, a group picks



Since value of the face card Q = 12, therefore, $6 \times 12 = 72$

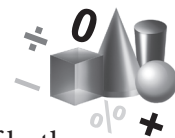
- The group has to write all the possible factors of 72.
- For each group, write all the factors of the product of the two numbers picked by them on the board.
- To reinforce, ask them to do the related Crack It section and Check Point 5.3 from the textbook.

Rules of divisibility

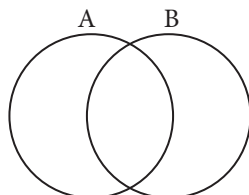
- Before introducing the rules of divisibility, make the students understand the meaning of the term divisibility. Divisibility is when one number is divisible by the other or if the divisor divides the dividend exactly, that is, without leaving a remainder. Teacher can make them understand by using multiplication facts, for example, $5 \times 7 = 35$, 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.
- Instruct them to do the related Crack It section and Check Point 5.4 from the textbook.

Factor tree; Common factors

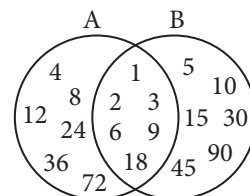
- Explain that all numbers can be made up by multiplying at least two numbers, but in some cases to get a given number we need to multiply more than two numbers, for example, $56 = 2 \times 4 \times 7$. The teacher further explains that this can be done easily using the factor tree method.



- To find the common factors of two numbers, the students should write all factors of both numbers and then encircle the factors which are common in both the numbers.
- To reinforce, students can be asked to bring bangles and drawing sheet from home. Paste the bangles as shown.



- To list the common factors of 72 and 90 in Bangle A, write all factor of 72, that is, 1, 2, 3, 4, 6, 8, 9, 12, 18, 24, 36, 72.
- In Bangle B, write all the factors of 90, that is, 1, 2, 3, 5, 6, 9, 10, 15, 18, 30, 45, 90.



Common factors should be written in the common portion of both the circles.

- To reinforce, ask the students to do Growing With Values, Recreation Corner and Maths Connect sections from the textbook.
- Ask them to do Check Point 5.5 from the textbook.

To recapitulate the concepts learnt in the chapter students should do the Maths Lab Activity, Test Yourself and Brain Workout sections from the textbook.

Use the Flashback section to revise the key points of the concepts.

Multiple Choice Questions

Tick (✓) the correct options.

1. The first three multiples of 5 are

- (a) 0, 1, 5 (b) 1, 5, 10 (c) 0, 5, 10 (d) 5, 10, 15

2. The first two common multiples of 4 and 3 are

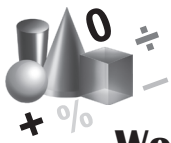
- (a) 8, 12 (b) 12, 24 (c) 12, 18 (d) 12, 30

3. The factor tree of 12 is.

- (a)
$$\begin{array}{c} 12 \\ \swarrow \searrow \\ 6 \times 2 \\ 12 = 6 \times 2 \end{array}$$
 (b)
$$\begin{array}{c} 12 \\ \swarrow \searrow \\ 4 \times 3 \\ 12 = 4 \times 3 \end{array}$$
 (c)
$$\begin{array}{c} 12 \\ \swarrow \searrow \\ 2 \times 3 \\ 12 = 2 \times 3 \end{array}$$
 (d)
$$\begin{array}{c} 12 \\ \swarrow \searrow \\ 4 \times 3 \\ \swarrow \searrow \\ 2 \times 2 \\ 12 = 2 \times 2 \times 3 \end{array}$$

4. 45 is divisible by

- (a) 6 (b) 5 (c) 10 (d) 7



Worksheet 1

1. Fill in the blanks.

- (a) _____ is a factor of every number.
- (b) A number has _____ number of multiples.
- (c) 1, 2, 3, 4, 6 and 12 are the _____ of 12.
- (d) The multiples of 6 less than 29 are _____
- (e) The smallest multiple of 21 is _____.

2. From the following numbers, sort and write the multiples of the asked numbers. 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 five multiples of 7. _____
- (b) Write the first five odd multiples of 9 and first five even multiples of 15. _____

4. Write all the factors of the given numbers, then find their common factors.

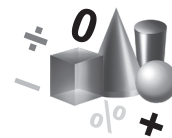
- (a) 4, 16 _____

- Common factors _____
- (b) 5, 20 _____

- Common factors _____

5. State whether the following are True or False.

- (a) 210 is a multiple of 3. _____
- (b) 135 is a multiple of 7. _____
- (c) 2, 6, 5, 12, 18, 24 are all multiples of 6. _____
- (d) 5, 10, 15, 20, 25, 30 are all multiples of 5. _____
- (e) $8 \times 4 = 32$, 32 is a multiple of both 8 and 4. _____



Worksheet 2

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

(a) 45 _____

(b) 28 _____

(c) 100 _____

2. Write all the factors of the given numbers and then find their common factors.

(a) 9, 36 _____

Common factors _____

(b) 12, 40 _____

Common factors _____

(c) 18, 54 _____

Common factors _____

(d) 81, 90 _____

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. State whether the following are True or False.

(a) 1, 2, 4, 6 are multiples of 2. _____

(b) 1, 3, 6, 9, 18 are factors of 18. _____

(c) 0 is the smallest factor of a number. _____

(d) 48 is a multiple of 12. _____

(e) 18 is a factor of 3. _____

(f) Each factor of a number is greater than the number. _____

(g) Each multiple of a number is less than the number. _____

5. (a) Write the multiples 10, which are greater than 40 but less than 80. _____

(b) Write multiples of 4, which are less than 20. _____



6

Symmetry and Patterns

Learning Objectives

Students will be able to

- recapitulate the concept of symmetrical objects and draw lines of symmetry in real objects and flat shapes
- understand the concept of reflection and symmetry
- understand the patterns in nature, in numbers and some man-made patterns (tiling)
- understand the concept of coding and decoding

Concept Explanation

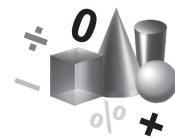
- Students already know about the symmetrical objects and drawing lines of symmetry in real objects and flat shapes.
- Recapitulate these concepts using the Gear Up section given in the textbook.

Reflections; Symmetry

- Bring some objects such as cut-outs of triangle, square, rectangle and circle, strings, sticks, mirror, etc. to the class.
- Demonstrate the concept of reflection using these objects.
- Tell them that mirror lines can be horizontal, vertical or slanting,
- Use the related Common Error section to help students avoid the mistakes done while solving questions.
- For the same object, ask them to fold the object into two equal halves and draw the lines of symmetry for these.
- Read the related sections from the textbook.
- To reinforce, ask the students to do the Recreation Corner section from the textbook.
- Ask them to do the related Crack It section and Check Point 6.1 from the textbook.

Patterns

- Bring pictures of birds, flowers, saris, rangolis, and some man-made tessellations in the class.
- Read the related sections from the textbook.
- Show the pictures to the class one by one and ask them to observe the pattern used in these pictures.
- Write some number patterns on the board.



- Clarify that tiling means to fill a flat space like a floor or a wall with tiles without any gaps or overlaps. Another word for tiling is tessellation.
- To reinforce, ask them to do the Maths Lab Activity and Maths Connect sections from the textbook and ask them to observe how Mathematics is related with Science.
- Ask them to do the related Crack It section and Check Point 6.2 from the textbook.

Coding decoding

- Read the related section from the textbook.
- Make the students understand that coding is used to transmit a secret message between the sender and the receiver.
- Use the example given in the related section to make them understand the concept of coding and decoding.
- To reinforce, ask them to do the Growing With Values section from the textbook.
- Instruct them to do Check Point 6.3 from the textbook..

To recapitulate the concepts learnt in the chapter, students should do Test Yourself and Brain Workout sections from the textbook.

Use the Flashback section to revise the key points of the concepts.

Multiple Choice Questions

Tick (✓) the correct options.

1. Mirror image of **B** would be

- (a) **B** (b) **ɹ** (c) **8** (d) **B**


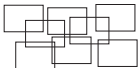
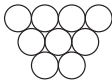
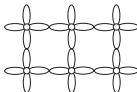
2. The letter that is symmetrical is

- (a) **A** (b) **F** (c) **L** (d) **J**





3. 20, 17, 14, _____.

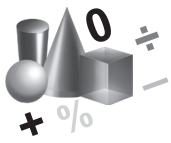
- (a) 13 (b) 12 (c) 10 (d) 11

4. The figures showing tessellation is

- (a)  (b)  (c)  (d) 

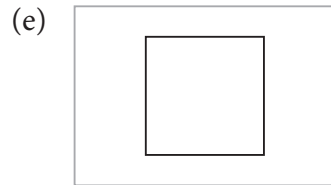
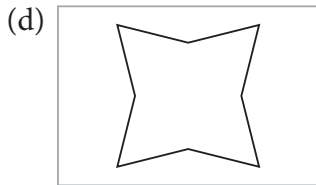
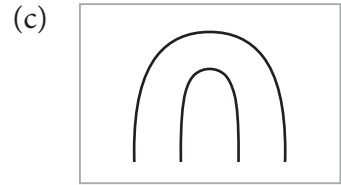
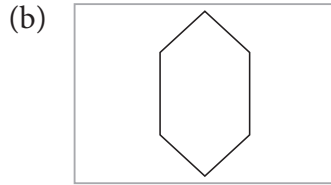
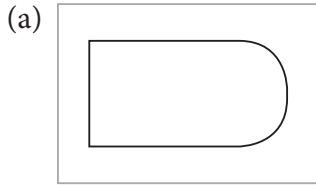
5.  _____.

- (a)  (b)  (c)  (d) 

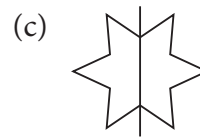
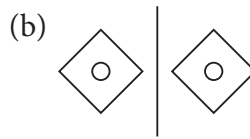


Worksheet 1

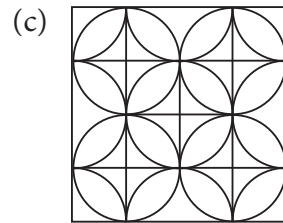
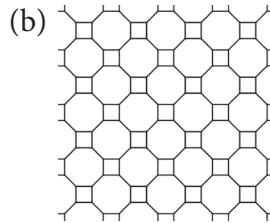
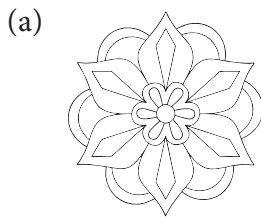
1. Draw the line(s) of symmetry for the following figures.



2. Tick (✓) the reflected shapes.



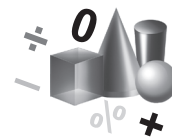
3. Tick (✓) the shapes that tessellate.



4. If the diameter of a circle is 8 cm, find its radius.

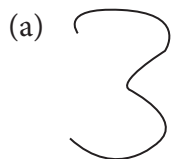
5. If the radius of a circle is 3 cm, find its diameter.

6. Draw a circle with radius 4 cm.



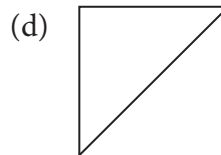
Worksheet 2

1. Tick (✓) the symmetrical figures and put a cross (×) on the figures that are not symmetrical.









2. Using the code given below:

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26

- (a) decode the following message.

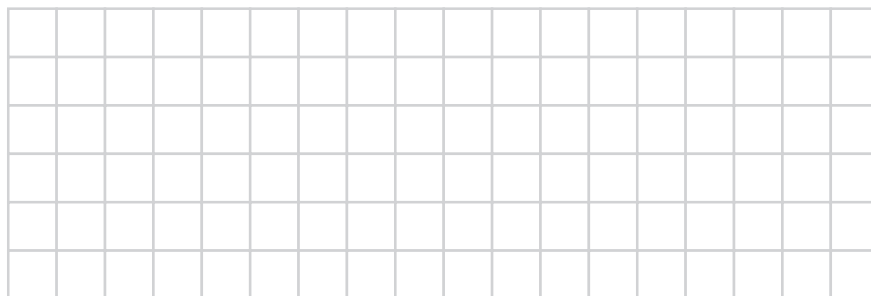
23 5 12 12 4 15 14 5
 — — — — — — — —

- (b) write the following message using the code given above.

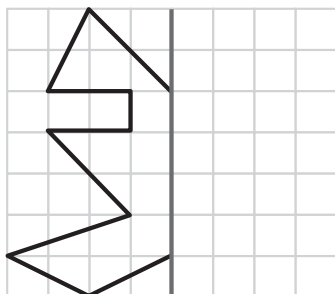
REDUCE _____

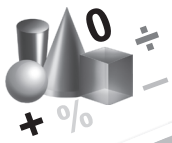
POLLUTION _____

3. Draw any two figures and their reflections.



4. Draw the other half to make a symmetrical figures.





7

Geometry

Learning Objectives

Students will be able to

- recapitulate the concept of flat shapes
- learn about the concept of point, line, line segment and ray
- measure and draw a line segment
- know about simple closed figure and identify open, closed, simple closed curves and polygons
- learn about a circle and its parts, draw a circle and some circle designs

Concept Explanation

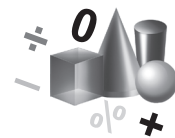
- Students already know about the concept of straight and curved lines, along with drawing and identifying the plane shapes using different solid shapes.
- Recapitulate these concepts using the Gear Up section given in the textbook.

Point; Line segment; Line; Ray

- Bring some objects such as bindis, two side arrowhead cut-outs, one side arrowhead cut-out, some strips, images of road, pole, railway track, etc. to the class.
- Read the related sections from the textbook.
- Use the cut-outs and pictures to make the students understand the concept of point, line segment, line and ray.
- Explain to them that the bar over \overline{AB} signifies that AB is a line segment and we can write it \overline{BA} as well.
- Similarly, explain the meaning of \overrightarrow{AB} and \overleftarrow{AB} .
- Ask them to do the related Crack It section and Check Point 7.1 from the textbook.

Measuring a line segment; Drawing a line segment

- Bring a scale (or a ruler), pencil, eraser, plane white sheets to the class.
- Demonstrate how to measure and draw a line segment.
- Explain, when we measure or draw a line segment, we keep its starting point at 0.
- Read the related sections from the textbook.
- Ask them to do Check Point 7.2 from the textbook.



Simple closed figure or curve; Types of polygons

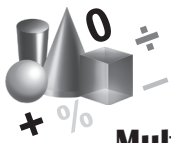
- Bring some strings to the class.
- Demonstrate how to make open, closed, simple closed curves and polygons using these strings.
- Read the related sections in the textbook.
- Define the properties of polygons to make students understand these.
- To reinforce, ask them to do the Maths Connect section from the textbook and tell them to observe how Mathematics is connected with EVS.
- Ask them to do Check Point 7.3 from the textbook.

Circle; Drawing circles; Circle designs

- Bring some bangles to the class.
- Draw a circle on the board. Also label its radius, centre, circumference and diameter.
- Read the related section from the textbook.
- Ask them to draw a circle in their notebooks and label its parts.
- Use compasses and pencil to demonstrate how to draw a circle of the given radius.
- Now ask the students to draw a circle of the given radius.
- Make some circle designs on the board and instruct them to copy these designs in their notebooks.
- To reinforce, ask them to do Maths Lab Activity and Recreation Corner sections from the textbook.
- Ask them to do Check Point 7.4 from the textbook.

To recapitulate the concepts learnt in the chapter, students should do Test Yourself and Brain Workout sections from the textbook.

Use the Flashback section to revise the key points of the concepts.



Multiple Choice Questions

Tick (✓) the correct options.

1. A ray is represented as

- (a) $\bullet AB$ (b) \overrightarrow{AB} (c) \overline{AB} (d) \overleftrightarrow{AB}

2. A line segment is represented as

- (a) $\bullet AB$ (b) \overrightarrow{AB} (c) \overline{AB} (d) \overleftrightarrow{AB}

3.  The line segment AB measures

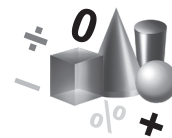
- (a) 5 cm (b) 2 cm (c) 3 cm (d) 4 cm

4. A polygon with 4 line segments is called a

- (a) rectangle (b) circle (c) triangle (d) quadrilateral

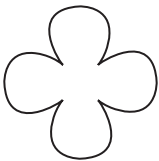
5. Identify the closed figure.

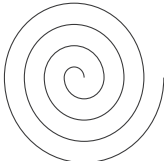
- (a)  (b)  (c)  (d) 





Worksheet 1 _____

1. Write whether the given figures are open or closed in the blanks given.

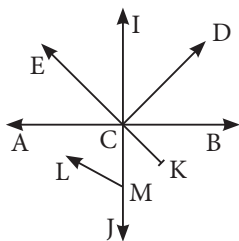
(a)  _____

(b)  _____

(c)  _____

(d)  _____

2. Observe the given figure and fill in the blanks.



- | | |
|----------|----------|
| AB _____ | CK _____ |
| CD _____ | CB _____ |
| CI _____ | CA _____ |
| IJ _____ | ML _____ |
| CE _____ | |

3. Measure the lengths of the following line segments and write in the blanks given.

(a) A _____ B _____

(b) C _____ D _____

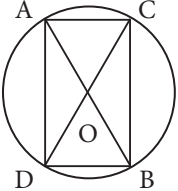
(c) E _____ F _____

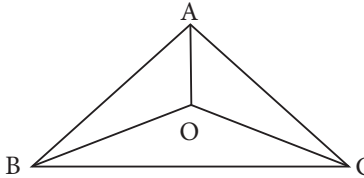
4. Draw line segments of the given lengths

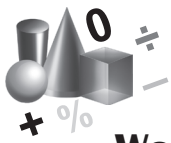
(a) $AB = 7 \text{ cm}$

(b) $CD = 3.6 \text{ cm}$

5. How many line segments are there in the following figures? Also, write their names.

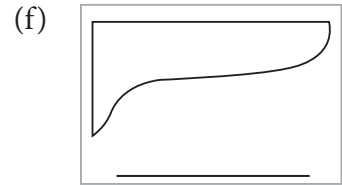
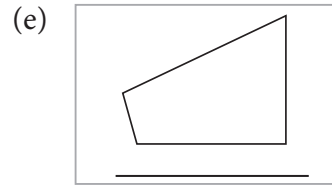
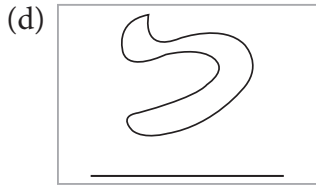
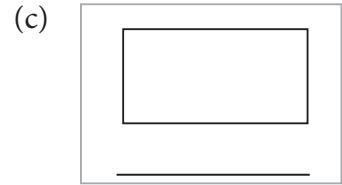
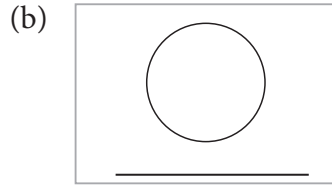
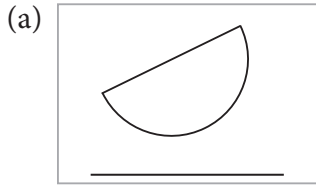
(a)  _____

(b)  _____



Worksheet 2

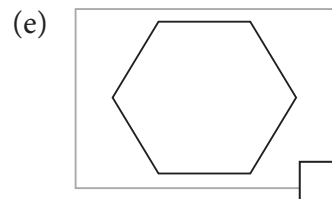
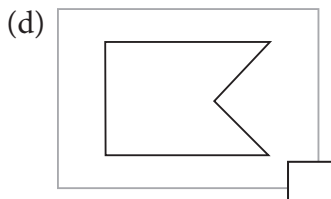
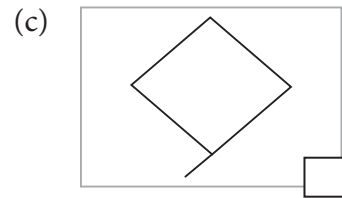
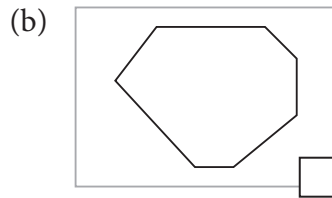
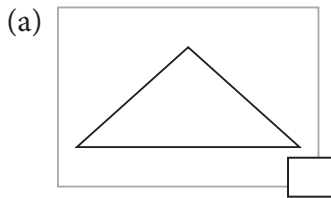
1. Write P for the figure that are polygons in the blanks given.



2. State whether the following statements are true or false.

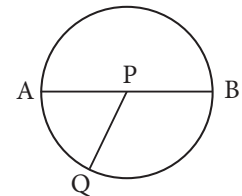
- (a) A triangle has three sides. _____
- (b) A quadrilateral is a simple closed curve. _____
- (c) Radius of a circle is twice its diameter. _____

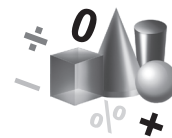
3. Tick (✓) the polygons that are quadrilaterals.



4. Name the parts of the circle.

- (a) Centre _____
- (b) Radius _____
- (c) Diameter _____





Mathematics

Model Test Paper 1

Class 4

Time: 2 hours

Total Marks: 50

1. Fill in the blanks. (6 × 1 = 6)

- (a) 5347 rounded off to the nearest thousand is _____ .
(b) $4599 + 1 =$ _____
(c) $42 \times 2000 =$ _____
(d) The remainder is always _____ than the divisor.
(e) The second even multiple of 5 is _____ .
(f) The third odd multiple of 7 is _____ .

2. Solve. (3 × 2 = 6)

(a) $\begin{array}{r} 3\ 9\ 6\ 7\ 8 \\ +\ 2\ 7\ 5\ 3\ 1 \\ \hline \end{array}$	(b) $\begin{array}{r} 4\ 5\ 1\ 2\ 7\ 3 \\ \quad 1\ 2\ 6\ 8\ 1 \\ +\ 3\ 0\ 1\ 3\ 9\ 4 \\ \hline \end{array}$	(c) $\begin{array}{r} 5\ 9\ 3\ 6\ 2\ 7 \\ +\ 4\ 5\ 1\ 6\ 6 \\ \hline \end{array}$
--	---	---

3. Subtract. (3 × 2 = 6)

(a) $\begin{array}{r} 9\ 4\ 3\ 8\ 7\ 6 \\ -\ 4\ 2\ 8\ 5\ 2\ 9 \\ \hline \end{array}$	(b) $\begin{array}{r} 8\ 1\ 4\ 3\ 7\ 1 \\ -\ 3\ 4\ 9\ 1\ 3\ 2 \\ \hline \end{array}$	(c) $\begin{array}{r} 5\ 0\ 0\ 0\ 0\ 0 \\ -\ 3\ 6\ 1\ 2\ 8 \\ \hline \end{array}$
--	--	---

4. Find the product. (3 × 2 = 6)

(a) 6470×181 (b) 990099×0 (c) 247×320

5. Divide. (3 × 2 = 6)

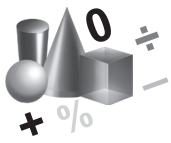
(a) $8742 \div 23$ (b) $5738 \div 42$ (c) $1387 \div 12$

6. Make a factor tree for each of the following. (3 × 2 = 6)

(a) 68 (b) 86 (c) 98

7.

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20



U	V	W	X	Y	Z
21	22	23	24	25	26

$$(2 \times 2 = 4)$$

Using the assigned value for each letter of the alphabet, code and decode the following.

- (a) GRATITUDE (b) COMPASSION

8. Draw circles of given radii.

$$(2 \times 2 = 4)$$

- (a) 3 cm (b) 6 cm

9. Solve the following word problems.

$$(4 \times 3 = 12)$$

- (a) In a school, there are 8497 students. 4872 are girls. How many boys are there?
- (b) Population of Village A is 25,989. Population of village B is 37,832. What is the difference between the populations of the two villages?
- (c) During the school assembly, students were standing in 70 rows of 25 students each. How many students are there in the school?
- (d) Sunil wants to pack 4860 candies equally in 25 boxes. Will he be able to pack all the candies?

8

Fractions

Learning Objectives

Students will be able to

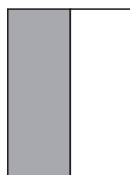
- recapitulate the concept of fractions as parts of a whole, whole, half, one-fourth, three-fourths and one-third, fraction of a collection, numerator and denominator of a fraction, one-half, one-fourth and one-third of collection of objects
- understand the concept of equivalent fractions
- learn about like and unlike fractions
- compare like and unlike fractions
- add and subtract like fractions
- understand fractions as a part of a collection
- learn about proper, improper and mixed fractions
- convert improper fractions into whole numbers/mixed numbers and vice versa.
- use these concepts of fractions in some real life applications

Concept Explanation

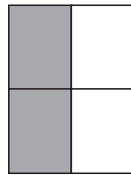
- Students are already familiar with the concept of fractions as parts of a whole, whole, half, one-fourth, three-fourths and one-third, fraction of a collection, numerator and denominator of a fraction, one-half, one-fourth and one-third of collection of objects.
- Recapitulate the concept of fractions using the Gear Up section given in the textbook.

Equivalent fractions; Like and unlike fractions

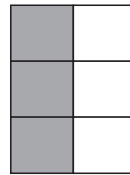
- Get A4 sheets and circle cut-outs and fold one of the sheets into 2 equal parts (see Fig. a). Colour one part and write fraction $\frac{1}{2}$ below it.
- Now divide another sheet in to 4 equal parts and colour the two equal parts (see Fig. b).



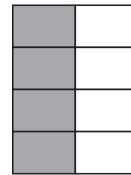
$\frac{1}{2}$ Fig. a



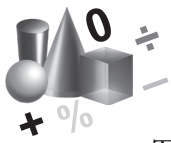
$\frac{2}{4}$ Fig. b



$\frac{3}{6}$ Fig. c



$\frac{4}{8}$ Fig. d



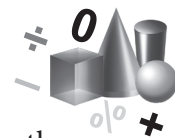
- Then divide third sheet into 6 equal parts and colour 3 parts out of 6 equal parts (see Fig. c).
- Divide fourth sheet into 8 equal parts and colour 4 parts out of 8 equal parts (see Fig. d).
- Now ask the students, ‘Is the coloured part the same in all the sheets?’
Clarify, if students have any doubts (the answer is yes).
- Then explain that this means $\frac{1}{2} = \frac{2}{4} = \frac{3}{6} = \frac{4}{8}$ and make the students understand that such fractions are called equivalent fractions.
- Further, explain that equivalent fractions can be obtained by multiplying the numerator and denominator by the same numbers.
- Define the facts that
 - the fractions that have the same denominator are called like fractions,
 - the fractions that have the different denominators are called like fractions,
 - the fractions that have 1 as the numerator are called unit fractions.
- Read the related section from the textbook
- To reinforce, ask the students to do the Maths Connect section from the textbook and ask them observe how Mathematics is connected with Social Studies.
- Ask the students to do Check Point 8.1 and Check Point 8.2 from the textbook.

Comparison of fractions

- Use the examples in the textbook to make students understand the concept of comparing two like fractions and unlike fractions
- Instruct them to do Check Point 8.3 from the textbook.

Addition and subtraction of like fractions

- Explain the method of adding or subtracting like fractions with the help of pictures used in the related examples of the section.
- Demonstrate the addition of like fractions using an ice tray and some gems of two colours. The ice tray has the capacity of say 12 cubes. Place 3 green gems in the tray. Represent this scenario (3 green gems in the tray) using the fraction $\frac{3}{12}$.
Now put 4 orange gems in 4 other empty cubes of the same tray.
Represent this scenario (4 orange gems in the tray) using the fraction $\frac{4}{12}$.
Now total number of places filled is 7 and the fraction that can be used to represent the scenario is $\frac{7}{12}$, that is, $\frac{3}{12} + \frac{4}{12} = \frac{7}{12}$.
- Similarly, explain the concept of subtracting two like fractions.
- Draw the attention of the students to the fact that for adding or subtracting like fractions, we just add or subtract the numerators and the denominator remains the same.



- To reinforce, ask them to do the related Crack It section and Check Point 8.4 from the textbook.

Fractions as a part of a collection

- Bring some beads to the class.
- Provide different number of beads to each student.
- Read the related section from the textbook.
- Instruct them to find $\frac{1}{2}$ of the beads they have and write the fraction for the part of beads they have taken out.
- Repeat the same with different fractions.
- Instruct the students to do Check Point 8.5 from the textbook.

To recapitulate the concepts learnt in the chapter, students should do Growing With Values, Maths Lab Activity, Test Yourself and Brain Workout sections from the textbook.

Use the Flashback section to revise the key points of the concepts.

Multiple Choice Questions

Tick (✓) the correct options.

1. Equivalent fraction of $\frac{6}{7}$ is

(a) $\frac{24}{35}$

(b) $\frac{12}{21}$

(c) $\frac{12}{14}$

(d) $\frac{18}{28}$

2. Like fractions are

(a) $\frac{1}{4}, \frac{1}{2}$

(b) $\frac{3}{7}, \frac{4}{7}$

(c) $\frac{9}{12}, \frac{6}{11}$

(d) $\frac{5}{7}, \frac{4}{6}$

3. The unit fraction is

(a) $\frac{1}{9}$

(b) $\frac{3}{12}$

(c) $\frac{4}{8}$

(d) $\frac{3}{4}$

4. $\frac{9}{15} - \frac{2}{15} =$ _____

(a) $\frac{11}{15}$

(b) $\frac{14}{15}$

(c) $\frac{5}{15}$

(d) $\frac{7}{15}$

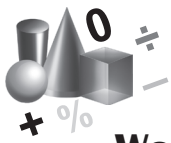
5. The mixed fraction is

(a) $\frac{3}{5}$

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

(c) $9\frac{5}{6}$

(d) $\frac{8}{11}$

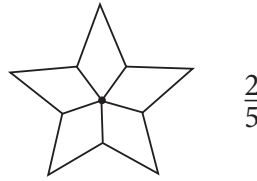
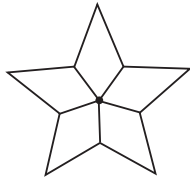


Worksheet 1

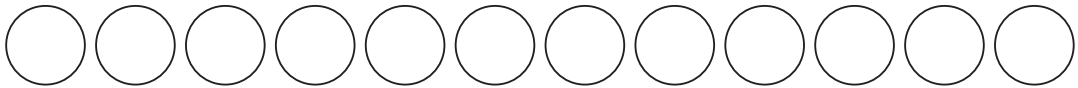
1. Fill in the blanks.

- (a) The numerator of a proper fraction is always _____ than the denominator.
 (b) _____ fractions are more than one whole.
 (c) The numerator of a unit fraction is always _____.

2. Shade $\frac{2}{5}$ 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) $\frac{6}{7} = \frac{\square}{35}$ (b) $\frac{2}{5} = \frac{\square}{30}$ (c) $\frac{1}{8} = \frac{\square}{24}$ (d) $\frac{5}{\square} = \frac{45}{36}$

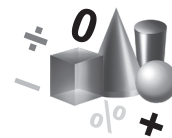
6. Find the difference.

- (a) $\frac{12}{13} - \frac{6}{13} = \underline{\hspace{2cm}}$ (b) $\frac{7}{10} - \frac{4}{10} = \underline{\hspace{2cm}}$

7. Find the sum.

- (a) $\frac{2}{15} + \frac{9}{15} = \underline{\hspace{2cm}}$ (b) $\frac{5}{9} + \frac{2}{9} + \frac{1}{9} = \underline{\hspace{2cm}}$

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



Worksheet 2

1. Arrange the following fractions in ascending order.

(a) $\frac{7}{11}, \frac{5}{11}, \frac{3}{11}, \frac{8}{11}$

(b) $\frac{3}{14}, \frac{5}{14}, \frac{1}{14}, \frac{7}{14}$

2. Arrange the following fractions in descending order.

(a) $\frac{7}{15}, \frac{2}{15}, \frac{5}{15}, \frac{3}{15}$

(b) $\frac{22}{23}, \frac{11}{23}, \frac{21}{23}, \frac{15}{23}$

3. Fill in the blanks

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

(b) $\frac{1}{4}$ of 100 paise ____ paise

(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 litres = ____ litres

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

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

(i) $\frac{1}{4}$ of 100 cm = ____ cm

4. Write $>$, $<$ or $=$ in the blank boxes.

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

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

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

5. Change the following improper fractions into mixed fractions.

(a) $\frac{7}{4} =$ _____

(b) $\frac{10}{3} =$ _____

6. Change the mixed fraction $3\frac{5}{9}$ into an improper fraction.

7. Jenny visited a shop where prices of objects were reduced for sale to 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



9

Decimals

Learning Objectives

Students will be able to

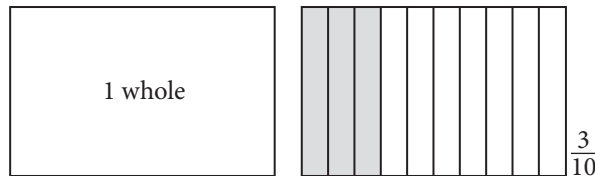
- recapitulate the concept of fractions and fractions with denominator as 10, 100, 1000
- understand the concept tenths and hundredths in decimals
- read and write decimals with tenths and hundredths
- convert a fraction into a decimal and vice versa

Concept Explanation

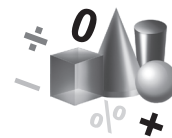
- Students are already familiar with the concept of fractions as parts of a whole, reading and writing fractions with denominators as 10, 100,... etc.
- Recapitulate these concepts using the Gear Up section given in the textbook.

Tenths (pictorial representation, place value, reading and writing)

- To introduce decimals, distribute plain rectangles and also rectangles with tenths.



- Colour 3 strips of tenths sheet. Now express 1 whole and 3 tenths as fraction three-tenths $= \frac{3}{10}$. So 1 whole and 3 tenths make $1\frac{3}{10}$.
- Read the related section from the textbook
- Use examples of the related section to make them understand how shaded parts out of the total parts can be written in fractions as well as in decimals.
- Define that a decimal point separates the whole number part of a decimal from the fractional part.
- Explain the place immediately to the right of the decimal point is the tenths place.
- Use black/whiteboard to explain how to read and write a decimal with tenths.
- To reinforce, ask students to do the Growing With Values and Maths Lab Activity sections from the textbook.
- Instruct the students to do the related Crack It section and Check Point 9.1 from the textbook.



Hundredths (pictorial representation, place value, reading and writing)

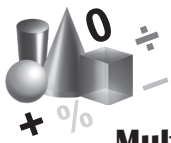
- To introduce decimals, distribute plain square and also a square with hundredths.
- Colour 5 small squares of the hundredths sheet. Now express 5 hundredths as the fraction five-hundredths = $\frac{5}{100}$. So, 1 whole and 5 hundredths make $1\frac{5}{100}$.
- Read the related section from the textbook
- Use the examples of the related section to make them understand how shaded parts out of total parts can be written in fractions as well as in decimals.
- Explain the fact that the place immediately to the right of the tenths place is the hundredths place.
- Use the related Common Error section to help students avoid the mistakes while representing a decimal with tenths or hundredths on a grid.
- Use black/whiteboard to explain how to read and write a decimal with hundredths.
- To reinforce, ask the students to do the related Crack It section and Check Point 9.2 from the textbook.

Convert a fraction into a decimal; Convert a decimal into a fraction

- Read the related section from the textbook.
- Use black/whiteboard and examples of the related section to make the students understand how to convert a fraction into a decimal and vice versa.
- To reinforce, ask them to do the related Crack It section and Check Point 9.3 from the textbook.

To recapitulate the concepts learnt in the chapter students should do Recreation Corner, Maths Connect, Test Yourself and Brain Workout sections from the textbook.

Use the Flashback section to revise the key points of the concepts.



Multiple Choice Questions

Tick (✓) the correct options.

1. $4\frac{9}{10}$ in decimal is

- (a) 0.4 (b) 0.9 (c) 4.9 (d) 9.4

2. Thirty-four and three-tenths is

- (a) 34.3 (b) 3.34 (c) 33.4 (d) 3.43

3. Seventy-one and forty-two-hundredths is

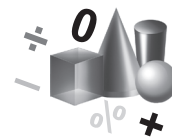
- (a) 71.042 (b) 7.142 (c) 71.42 (d) 7.42

4. $\frac{547}{100}$ in decimal is

- (a) 54.7 (b) 5.47 (c) 0.547 (d) 547

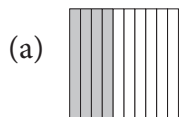
5. 55.55 in fraction is

- (a) $\frac{55}{10}$ (b) $\frac{55}{100}$ (c) $\frac{55.55}{100}$ (d) $\frac{5555}{100}$

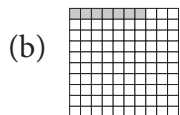


Worksheet 1

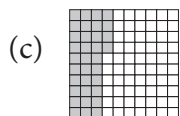
1. Match the following.



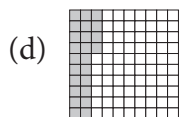
(i) 0.34



(ii) 0.24



(iii) 0.07



(iv) 0.4

2. Write the following as a decimal.

(a) 7 and 4 hundredths _____

(b) 8 tenths _____

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

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

3. Write 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) $\frac{5329}{10}$

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

(e) $\frac{73}{10}$

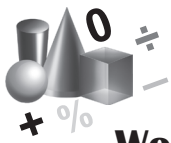
(f) $\frac{14}{10}$

(g) $\frac{1}{100}$

(h) $\frac{201}{10}$

(i) $\frac{323}{100}$

(j) $\frac{2005}{100}$



Worksheet 2

1. 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

2. Write each of the following in decimal.

(a) Forty-hundredths

(b) Three and seventeen-hundredths

(c) Four-tenths

(d) Eleven and one-tenth

(e) Five-hundredths

3. Write each of the following decimals in word.

(a) 25.03

(b) 0.65

(c) 0.08

(d) 0.2

(e) 6.06

4. Convert the following fractions into decimals.

(a) $\frac{8}{10}$ _____

(b) $\frac{15}{10}$ _____

(c) $\frac{4}{100}$ _____

(d) $\frac{125}{100}$ _____

10

Measurement

Learning Objectives

Students will be able to

- recapitulate the concepts of length, weight and capacity and their basic units
- know the different units of measurement of length, weight and capacity
- convert bigger unit of lengths, weight and capacity into smaller units and vice versa
- apply addition and subtraction in some real life problems based on measurement

Concept Explanation

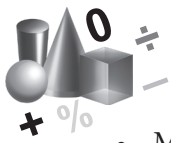
- Students already know about the concept of length, mass and capacity and their basic units.
- Recapitulate these concepts using the Gear Up section given in the textbook..

Measurement of length (small and big units, interchanging the units)

- Read the related section from the textbook.
- Conduct a quiz in the class to make them understand different units of length, that is, we measure length of a pen in cm, height of a pole in m and distance between two cities in km, etc.
- Make them understand the use of scale, metre scale, tape in real life. Also, explain how and which lengths could be measured by these.
- Instruct them to do Check Point 10.1 from the textbook.
- Revise the relationship between different units of measurements like cm and m; m and km, etc.
- Use the examples of the related section to make the students understand how to convert smaller units of length into bigger units and vice versa.
- Use the Common Error section to avoid the mistakes done by the students while converting the given lengths into other units.
- Ask them to do the related Crack It section from the textbook.
- Read the word problems of the related section and ask the students to observe which operation (addition or subtraction) they will use while solving a problem.
- Instruct them to do Check Point 10.2 from the textbook.

Measurement of capacity (small and big units, interchanging the units)

- Read the related section from the textbook.



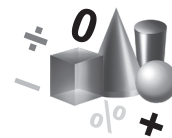
- Make them understand that the measure of a liquid that a container can hold is called its capacity.
- Discuss where the two units of capacity, L and mL are used in real life.
- Instruct them to do the related Crack It section from the textbook.
- Define the relationship between these two units of capacity, that is, mL and L.
- Use the examples of the related section to make students understand how to convert L into mL and mL into L.
- Ask them to do the related Crack It section from the textbook.
- Read the word problems of the related section and ask the students to observe which operation (addition or subtraction) they will use while solving a problem.
- Instruct them to do Check Point 10.3 from the textbook.

Measurement of mass (small and big units, interchanging the units)

- Read the related section from the textbook.
- Discuss where the units of mass (weight), that is, g, mg and kg are used in real life while weighing an object.
- Define the relationship between g and kg units of mass, that is, kg and g.
- Use the examples of the related section to make students understand how to convert kg into g and g into kg.
- Ask them to do the related Crack It section and Check Point 10.4 from the textbook.
- Read the word problems of the related section and ask the students to decide which operation (addition or subtraction) they will use while solving a problem.
- Ask them to do Check Point 10.5 from the textbook.
- To reinforce, ask the students to do the Maths Connect section from the textbook and ask them to observe how Mathematics is connected with Science.

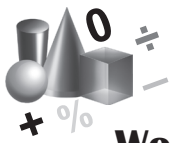
To recapitulate the concepts learnt in the chapter, students should do the Growing With Values, Recreation Corner, Maths Lab Activity, Test Yourself and Brain Workout sections from the textbook.

Use the Flashback section to revise the key points of the concepts.



Multiple Choice Questions

1. 4 m 20 cm = _____
(a) 420 cm (b) 4200 cm (c) 42 cm (d) 40 cm
2. 5 km 60 m = _____
(a) 560 m (b) 5600 m (c) 5060 m (d) 56 m
3. 3750 mL = _____
(a) 37 L 50 mL (b) 37 L 500 mL (c) 3 L 750 mL (d) 3750 L
4. 7 L = _____
(a) 70 mL (b) 7000 mL (c) 700 mL (d) 7 mL
5. 250 mL = _____
(a) $\frac{1}{2}$ L (b) $\frac{3}{4}$ L (c) $2\frac{1}{2}$ L (d) $\frac{1}{4}$ L



Worksheet 1

1. Fill in the banks.

- (a) Millilitre is the smallest unit of _____.
- (b) 1 m = _____ cm
- (c) 2 L 25 mL = _____ mL
- (d) 6 kg = _____ g

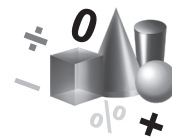
2. Convert the following as directed.

- (a) 1050 cm into m _____
- (b) 3 km 555 m into m _____
- (c) 250 mL into L _____
- (d) 5 L 305 mL into mL _____
- (e) 4 kg 450 g into g _____
- (f) 1750 g into kg _____

3. A tower is 25 m high. There is a pole of length 250 cm on the top of the tower. What is the height of the tower and pole together?

4. The capacity of a tank is 50 L and 250 mL. Find the capacity of the tank in mL.

5. 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. Fill in the blanks.

- (a) $15\text{ km } 245\text{ m} = \underline{\hspace{2cm}}\text{ m}$ (b) $30\text{ m } 15\text{ cm} = \underline{\hspace{2cm}}\text{ cm}$
(c) $11\text{ kg} = \underline{\hspace{2cm}}\text{ g}$ (d) $4\text{ kg } 50\text{ g} = \underline{\hspace{2cm}}\text{ g}$
(e) $9\text{ L} = \underline{\hspace{2cm}}\text{ mL}$ (f) $2\text{ L } 350\text{ mL} = \underline{\hspace{2cm}}\text{ mL}$

2. Find the sum.

- (a) $12\text{ km } 255\text{ m} + 18\text{ km } 45\text{ m} = \underline{\hspace{4cm}}$
(b) $25\text{ m } 95\text{ cm} + 3\text{ m } 28\text{ cm} = \underline{\hspace{4cm}}$
(c) $39\text{ kg } 102\text{ g} + 1\text{ kg } 98\text{ g} = \underline{\hspace{4cm}}$
(d) $5\text{ L } 45\text{ mL} + 2\text{ L } 15\text{ mL} = \underline{\hspace{4cm}}$

3. Find the difference.

- (a) $48\text{ km } 214\text{ m} - 23\text{ km } 30\text{ m} = \underline{\hspace{4cm}}$
(b) $17\text{ m } 75\text{ cm} - 6\text{ m } 18\text{ cm} = \underline{\hspace{4cm}}$
(c) $78\text{ kg } 200\text{ g} - 24\text{ kg } 400\text{ g} = \underline{\hspace{4cm}}$
(d) $7\text{ L } 500\text{ mL} - 3\text{ L } 600\text{ mL} = \underline{\hspace{4cm}}$

4. Imran has $1\text{ m } 250\text{ cm}$ of ribbon and Mohit has $2\text{ m } 25\text{ cm}$ of ribbon. Who has more ribbon and by how much?

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

6. The weight of a bag of rice is 36000 grams . Find the weight of the bag in kg.

11

Perimeter and Area

Learning Objectives

Students will be able to

- recapitulate the concepts of adding lengths
- understand how to find the perimeter of plane figures
- understand and find the area by counting the unit squares
- find the area of irregular shapes

Concept Explanation

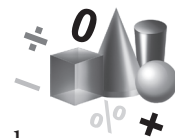
- Students already know about the concept of measuring lengths, adding and subtracting lengths.
- Recapitulate these concepts using the Gear Up section given in the textbook.

Perimeter

- Provide each student with a plane sheet. Ask them to place their geometry box on their sheets. Now instruct them to use pencil to draw the boundary of their geometry boxes on the sheets they have. Ask them to measure the length of the figure using a string and a ruler.
- Tell them that the total length of the outline of a closed figure is called its perimeter.
- Read the related section from the textbook.
- Use the examples given in the section to make students understand how to find the perimeter of different polygons drawn on the square grids.
- Draw their attention on the Tidbits which says that we can add and subtract only similar units.
- To reinforce, ask the students to do the Growing With Values and Maths Lab Activity sections from the textbook.
- Ask the students to do the related Crack It section and Check Point 11.1 from the textbook.

Area (by counting unit squares)

- Bring some square and rectangular cut-outs, square grid sheets, colour pencils, etc. to the class.
- Provide each student with a square grid sheet, a cut-out and a colour pencil.
- Instruct the students to place their cut-outs on the square grid and observe the part covered by it on the sheet.
- Define the amount of surface covered by a shape is called its area.



- Instruct each student to colour any number of unit squares in their sheets to make a sensible figure and ask them to count how many unit squares they have coloured.
- Clarify, that the part of the grid they have coloured or the number of unit squares they have coloured is the area of the shape they made and its unit is square unit or unit^2 .
- To reinforce, ask them to do the Maths Connect section from the textbook and tell them to observe how Mathematics is connected with Science.
- Ask them to do the related Crack It section and Check Point 11.2 from the textbook.

Area of irregular shapes

- Read the related section from the textbook.
- Discuss the rule associated with the concept of finding the area of irregular shapes with the help of square grid.
- Use the examples of the related section to make the students understand how to find the area of irregular shapes.
- To reinforce, ask them to do the Recreation Corner section from the textbook.
- Ask them to do the related Crack It section and Check Point 11.3 from the textbook.

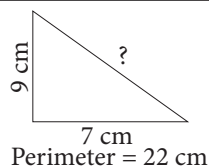
To recapitulate the concepts learnt in the chapter, students should do Test Yourself and Brain Workout sections from the textbook.

Use the Flashback section to revise the key points of the concepts.

Multiple Choice Questions

1. ? in the figure indicates

- (a) 4 cm (b) 5 cm
(c) 6 cm (d) 7 cm



2. Perimeter of a rectangle with length 7 cm and width 5 cm is

- (a) 24 cm (b) 23 cm (c) 22 cm (d) 21 cm

3. If a square is 1 m on each side, its area will be

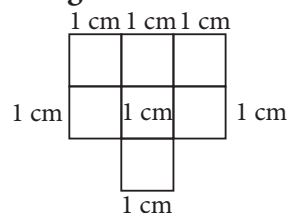
- (a) 4 m^2 (b) 4 m (c) 1 m^2 (d) 1 m

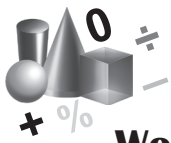
4. If the perimeter of square is 16 cm, then its one side is

- (a) 4 cm (b) 8 cm (c) 12 cm (d) 16 cm

5. If each square is a unit square, then the area of the given figure is

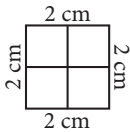
- (a) 6 cm^2 (b) 8 cm^2
(c) 5 cm^2 (d) 7 cm^2





Worksheet 1

1. Fill in the blanks.

(a) The area of  is _____.

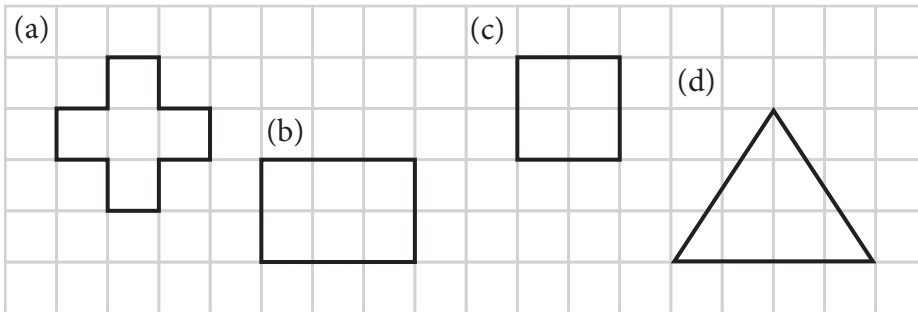
(b) Circumference of the circle is _____.

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

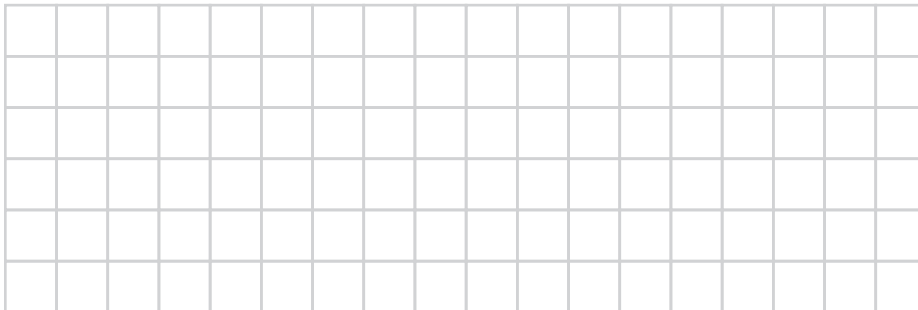
2. Find the perimeter of the square with side 8 cm.

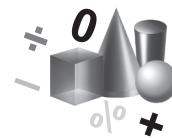


3. Find the area of the following figures.



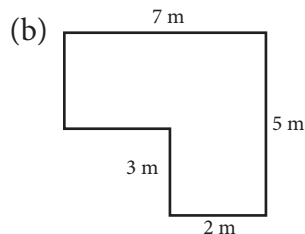
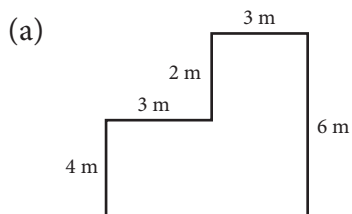
4. On this square grid, draw any two shapes with area 16 sq. cm. Now, find their perimeters.





Worksheet 2

1. Find the perimeter of the following figures.



2. Find the perimeter of the following rectangles.

(a) Length = 6 cm, Breadth = 4 cm

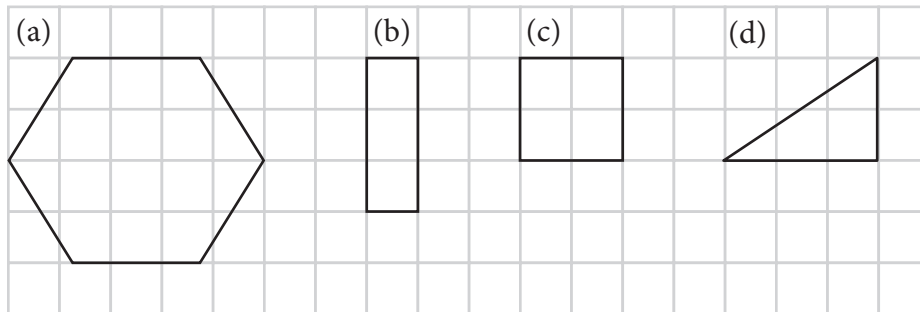
(b) Length = 10 cm, Breadth = 2 cm

3. Find the perimeter of the squares with sides

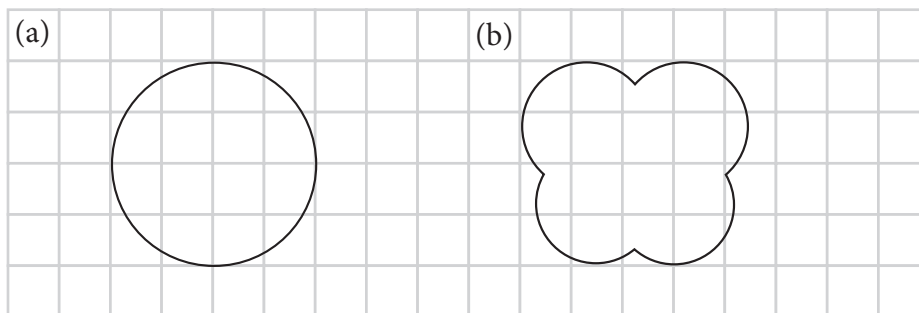
(a) 3 cm

(b) 9 cm

4. Find the area the following figures.



5. Find the area of the following figures.





12

Money

Learning Objectives

Students will be able to

- recapitulate the concept of reading and writing the money in figures and words, convert the money in rupees into paise and vice versa, count the money of a given collection and use the basic operations with the money
- know more about adding and subtracting money
- know more about multiplying and dividing money
- know how to create bills

Concept Explanation

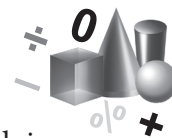
- Students are already familiar with the the concept of reading and writing the money in figures and words, converting the money in rupees into paise and vice versa, counting the money of a given collection and using basic operations with the money.
- Recapitulate these concepts using the Gear Up section from the textbook.

Addition and subtraction of money

- Explain to the students that adding and subtracting money is just like doing these operations with other numbers. As they have not learnt addition and subtraction of decimals, so tell them to treat the decimal point as a separator only between rupees and paise.
- Using play money, demonstrate the way of counting money.
- Give them a rate list of a stationery shop, grocery shop or a toy shop and tell them to select any two items and find the amount they will have to pay for buying the same.
- Explain the concept of addition and subtraction of money using related examples from the textbook.
- To reinforce, ask them to do the Maths Lab Activity section from the textbook.
- Instruct the students to do the Recreation Corner section from the textbook.

Multiplication and division of money

- Explain to the students that multiplying money is just like multiplying other numbers. Since the students have not learnt multiplication for decimals as yet, tell them to look at the deicmal point only as a separator between rupees and paise.
- Use examples of the related section to make the students understand the use of operations multiplication and division.



- Use the Common Error section to help students avoid the mistakes while doing multiplication in money.
- Ask them to do Check Point 12.1 from the textbook.

Bills

- In the activity of shopkeeper and customer, ask the shopkeeper to make a bill for the purchase done by the customer.
- Also instruct the customer to check and verify the bill prepared by the shopkeeper.
- To reinforce, ask them to do the Growing With Values section from the textbook.
- Ask them to do Check Point 12.2 from the textbook.

To recapitulate the concepts learnt in the chapter students should do Maths Connect, Test Yourself and Brain Workout sections from the textbook.

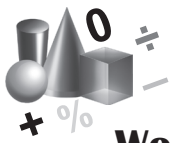
Use the Flashback section to revise the key points of the concepts.

Multiple Choice Questions

Mini bought fruits from the fruit seller who gave her a bill. Read the bill and answer the given questions by ticking the correct option.

S.N.	Fruit	Quantity	Rate	Amount
1.	Mango	2 kg	₹50	
2.	Orange	5 kg	₹35	
3.	Grapes	3 kg	₹65	
4.	Banana	2 kg	₹30	

- The amount Mini paid for mangoes is**
(a) ₹200 (b) ₹150 (c) ₹100 (d) ₹500
- The amount Mini paid for oranges is**
(a) ₹175 (b) ₹185 (c) ₹195 (d) ₹200
- The amount Mini paid for grapes is**
(a) ₹185 (b) ₹195 (c) ₹205 (d) ₹215
- The amount Mini paid for banana is**
(a) ₹30 (b) ₹40 (c) ₹50 (d) ₹60
- Total amount Mini paid to the fruit seller is**
(a) ₹230 (b) ₹330 (c) ₹430 (d) ₹530



Worksheet 1

1. Add the following.

- (a) ₹25.25 + ₹45.50 + ₹15 = _____
- (b) 125 rupees and 75 rupees 75 paise = _____
- (c) 29 rupees 30 paise and 115 rupees 25 paise

2. Find the difference.

- (a) ₹50.50 - ₹35.25 = _____
- (b) ₹65.75 - ₹22.50 = _____

3. Multiply.

- (a) ₹15.25 × 12 = _____
- (b) ₹35.25 × 8 = _____

4. Divide.

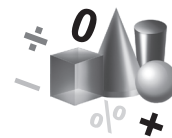
- (a) ₹206.25 ÷ 25 (b) ₹96 ÷ 12

5. Solve the following word problems.

- (a) Ashish bought a shirt for ₹795.50, a cap for ₹245.50 and a pair of socks for ₹85.25. How much money did he spend altogether?
- _____

- (b) Mandavi has ₹1000. She spent ₹635.75 to buy a gift for her daughter. How much money is she left with?
- _____

- (c) Renu has ₹500. She gave ₹150 to each of her two sons. How much money is she left with?
- _____



Worksheet 2

1. Fill in the blanks.

(a) ₹4.25 + ₹5.75 = _____

(b) ₹10 - ₹7.5 = _____

(c) ₹18 × 5 = _____

(d) ₹90 ÷ 15 = _____

2. Solve the following word problems.

(a) Iqbal buys 14 kites costing ₹8.50 each. How much money does he spend to buy these kites?

(b) The cost of 17 brushes is ₹429.25. Find the cost of a brush, if each brush costs the same amount.

(c) Abinav got ₹200 from his father and ₹150 from his mother. She buys a toy costing ₹275. Find the amount of money left with her.

3. Read and complete the following bill.

S.N.	Items	Quantity	Rate	Amount
1.	Pencil	5		₹22.50
2.	Eraser	4		₹12
3.	Notebook	6	₹24.75	
4.	Sharpener	2	₹6.50	
			Total =	



13

Time

Learning Objectives

Students will be able to

- recapitulate the concept of reading time to the nearest 5 minutes, telling the time before and after, relation between different units (day, hour, minute, seconds) of time, writing a date and estimating the time, reading a calendar and timeline
- tell time to the next hour
- read time to the exact minute
- understand the 12-hour clock (am and pm) and 24-hour clock
- convert a 12-hour clock into 24-hour clock and vice versa
- understand the concept of duration of time
- the relation between days and months, days and years; calculating duration in terms of days
- understand the concept of timeline in weeks, months and years

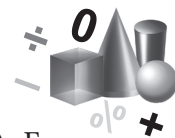
Concept Explanation

- Students are already familiar with the concept of reading time to the nearest 5 minutes, telling the time before and after, relation between different units (day, hour, minute, seconds) of time, writing a date and estimating the time, reading a calendar and timeline.
- Recapitulate these concepts using the Gear Up section given in the textbook.

Time to the next hour; Reading time to the exact minute; The 12-hour clock

- Take the model of a clock with moving hands.
- Explain to them to read time in 'minutes past' and 'minutes to'.
- Next use the same clock to explain reading and writing time to the exact minute.
- Read the related sections from the textbook.
- Ask them to do the related Crack It section from the textbook.
- Explain to students that there are 24 hours in a day. To tell what hour of the day it is, we follow either the
- 12-hour clock (am/pm) notation or the 24-hour clock notation.
- Clarify that the time from 12 o' clock midnight till 12 o' clock noon is called am (ante meridiem).

For example, 5 o' clock in the morning is written as 5 am.



And the time from 12 o' clock noon till midnight is called pm (post meridiem). For example, 4 o' clock in the evening is written as 4 pm.

- Ask them to do Check Point 13.1 from the textbook.

The 24-hour clock; Converting a 12-hour clock into a 24-hour clock and vice versa

- Read the related sections from the textbook.
- Use the examples given in the related sections to make them understand how to convert 12-hour clock into 24-clock and vice versa.
- Ask them to do Check Point 13.2 from the textbook.

Duration of time; What is a leap year?; Calculating days

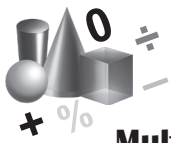
- Use a clock to calculate the time duration of an activity. Then explain to them how to calculate the duration using the examples given in the textbook.
- Ask the students to note the starting time and finishing time of the activity they did previously.
- Let students keep a record of different school activities—number of days spent practising for farewell of class V, or any other school function and then ask them to calculate the number of days spent practising.
- Clarify when a year will be a leap year. Also, ask them to pay attention on the fact whether the date mentioned is to be included while calculating the number of days.
- To reinforce, ask the students to do the Recreation Corner and Maths Lab Activity sections from the textbook.
- Ask them to do Check Point 13.3 and Check Point 13.4.

Timeline

- Read the related section from the textbook.
- Ask students to recall the events they did in each month, in the last 6 months and draw a timeline for that. Discuss with them and make them understand.
- Use examples given in the related sections to make the students understand timeline of a month, a week and years.
- Instruct them to do the related Crack It section and Check Point 13.5 from the textbook.

To recapitulate the concepts learnt in the chapter, students should do Growing With Values, Maths Connect, Test Yourself and Brain Workout sections from the textbook.

Use the Flashback section to revise the key points of the concepts.

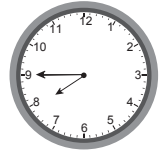


Multiple Choice Questions

Tick (✓) the correct options.

1. What is the time shown by the clock

- (a) 45 minutes past 6 (b) 45 minutes past 7
(c) 45 minutes past 8 (d) 45 minutes past 9



2. The clock showing the time 1:33 is

- (a)  (b)  (c)  (d) 

3. 18:10 hours in the 12-hour clock time would be

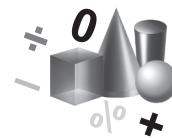
- (a) 1:10 pm (b) 8:10 pm (c) 9:10 pm (d) 6:10 pm

4. 12 midnight in the 24-hour clock time would be

- (a) 24:00 hours (b) 12:00 hours
(c) 20:00 hours (d) 10:00 hours

5. How many minutes have passed from 8:15 am to 8:45 am?

- (a) 15 minutes (b) 20 minutes (c) 25 minutes (d) 30 minutes



Worksheet 1 _____

1. Fill in the blanks.

- (a) The time 5 hours before 2:30 pm is _____.
- (b) Number of hours passed during 3:00 pm to 9:00 pm is _____.
- (c) The time 15 minutes after 4:30 pm will be _____.
- (d) 20 minutes to 10 is same as _____.
- (e) 15:30 hours in a 12-hour clock is _____.
- (f) 11 am in a 24-hour clock is _____.

2. Find the number of days between

- (a) 15 February and 26 February _____
- (b) 31 January and 28 March (in a leap year) _____

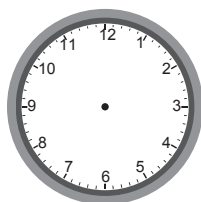
3. How many hours and minutes have passed from:

- (a) 5:00 am to 3:00 pm _____
- (b) 6:25 am to 11:00 am _____
- (c) 12:30 hours to 17:20 hours _____
- (d) 12 o' clock noon to 7:45 am _____

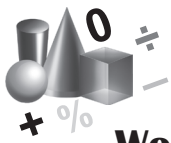
4. How many minutes have passed from:

- (a) 5:30 hours to 7:00 hours _____
- (b) Quarter to five to quarter past five _____
- (c) 4:15 pm to 5:50 pm _____
- (d) 2 o' clock to quarter to 3 _____

5. What is the time 4 hours after 10:45 am? Show the time on the clock and mention am/pm Also write time using the 24-hour clock.



_____ am/pm
_____ hours



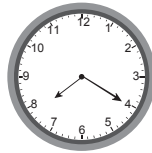
Worksheet 2

1. Fill in the blanks.

- (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

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

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



4. Fill in the blanks.

- (a) 7:50 = _____ minutes to _____
 - (b) 9:50 = _____ 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 Mumbai at 4:30 hours and reached Delhi after 100 minutes. At what time did it reach Delhi?**
-

6. How many minutes have passed from half-past eight to quarter to ten?

14

Data Handling

Learning Objectives

Students will be able to

- recapitulate the concept of listing objects, interpreting and drawing a pictograph and a bar graph
- learn more about bar graph
- understand and interpret a circle graph

Concept Explanation

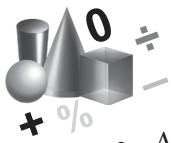
- Students are already familiar with the concept of listing objects, interpreting and drawing a pictograph and a bar graph.
- Recapitulate these concepts using the Gear Up section given in the textbook.

More about bar graphs

- Ask students about their favourite sports. Write down the information on the blackboard using the name of the students.
- Ask them to draw a pictograph for the given data.
- Tell them that there is a better way to represent this data. Convert this data into a bar graph.
- Explain that a bar graph must have title, label and scale.
- Clarify, a bar graph is useful in comparing two or more values at a glance and for making conclusions quickly and easily.
- Use the examples given in the textbook to make the students understand the concept of bar graph.
- Explain while reading a bar graph, look at the tallest bar and look at the shortest bar. Look at the titles, look at the labels and you can have all the information at your fingertips.
- To reinforce, ask the students to do the Growing With Values and Maths Connect sections from the textbook and ask them to observe how Mathematics is connected with GK.
- Ask them to do Check Point 14.1 from the textbook.

Circle graphs

- Read the related section from the textbook.
- Bring some circle cut-outs, ruler, crayons in the class.
- Provide these cut-outs to each student.



- Ask students about their favourite flowers. Write down the information on the blackboard.
- Demonstrate how this data can be represented on a circle cut-out.
- Instruct the students to do the same as he/she did.
- To reinforce, ask them to do Maths Lab Activity section from the textbook.
- Instruct them to do the related Crack It section and Check Point 14.2 from the textbook.

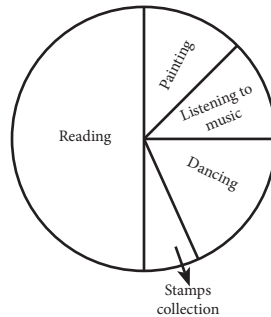
To recapitulate the concepts learnt in the chapter, students will do Test Yourself and Brain Workout sections from the textbook.

Use the Flashback section to revise the key points of the concepts.

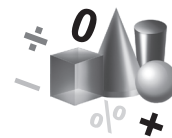
Multiple Choice Questions

Tick (✓) the correct options.

Read the circle graph on class 4 students' hobbies given below and answer the questions that follow by ticking the correct option.

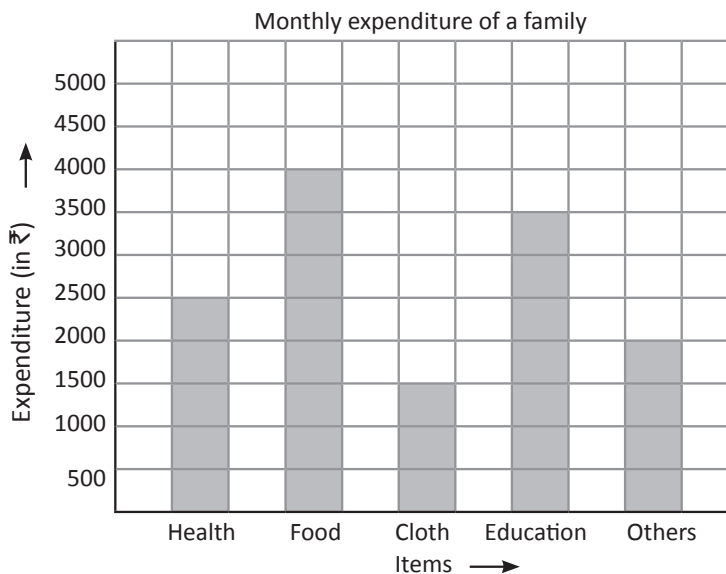


- Which was the most preferred hobby among students?
 (a) Painting (b) Reading (c) Dancing (d) Stamps collection
- Which was the least preferred hobby among students?
 (a) Painting (b) Dancing
 (c) Listening to music (d) Stamps collection
- Which was the next preferred hobby after reading among students?
 (a) Painting (b) Dancing
 (c) Listening to music (d) Stamps collection
- What fraction of students like reading?
 (a) $\frac{1}{8}$ (b) $\frac{1}{4}$ (c) $\frac{1}{6}$ (d) $\frac{1}{2}$
- What fraction of students liked dancing and collecting stamps?
 (a) $\frac{1}{8}$ (b) $\frac{1}{4}$ (c) $\frac{1}{6}$ (d) $\frac{1}{2}$



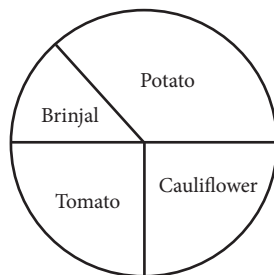
Worksheet 1

1. Read the bar graph given below which shows a family's monthly expenditure on various items.



Now, answer the following questions.

- On which item did the family's expenses was the highest?
 - On which item did the family's expenses was the minimum?
 - Write the expenses of the family on each item.
2. The circle graph drawn below shows the area used to grow different vegetables in a kitchen garden.



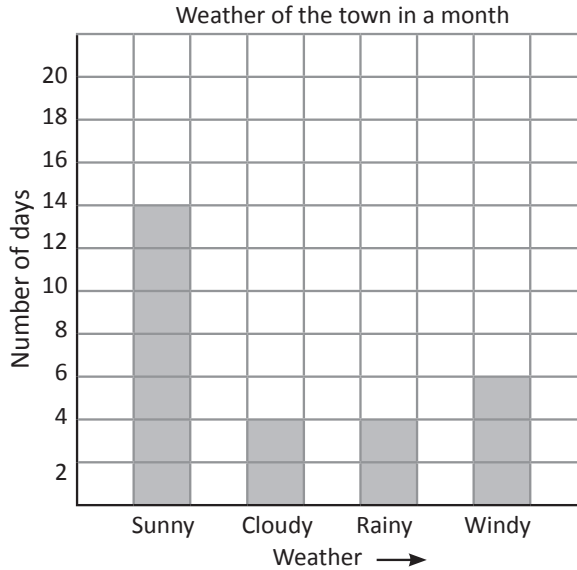
Now answer the following questions.

- Which vegetable has been grown in the maximum area?
- Which vegetable has been grown in the least area?
- Which two vegetables have been grown in the same area?



Worksheet 2

1. Read the bar graph given below which shows the weather of a town in a month.

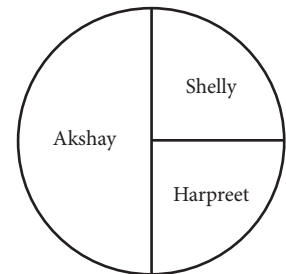


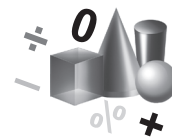
Now, answer the following questions.

- Write the number of days when there was sunshine.
 - Write the number of days when it was windy.
 - Write the number of days when it was raining.
 - How was the weather on the maximum number of days?
 - What type of weather was for minimum number of days?
2. Three friends Akshay, Shelly and Harpreet were playing the game throw a disc. Disc was thrown for a total of 80 times. The circle chart shows the fraction of catches made by each one of them.

Find the number of catches each one made.

Name	Number of catches
Akshay	
Shelly	
Harpreet	





Mathematics

Model Test Paper 2

Class 4

Time: 2 hours

Total Marks: 50

1. State whether the following statements are true or false.

(5 × 1 = 5)

(a) $\frac{3}{11} > \frac{7}{11}$

(b) $\frac{47}{10}$ can be written as 4.7 in decimal form.

(c) 1 kg = 100 g

(d) The perimeter is the total length of the outline of a closed figure.

(e) 2016 is a leap year.

2. Solve the following.

(3 × 1 = 3)

(a) $\frac{15}{19} + \frac{25}{19}$

(b) $\frac{16}{25} - \frac{14}{25}$

(c) $5\frac{7}{9} + 3\frac{2}{9}$

3. Convert the following fractions into decimals?

(4 × 2 = 8)

(a) $\frac{489}{100}$

(b) $\frac{95}{10}$

(c) $\frac{3}{100}$

(d) $\frac{5}{10}$

4. Add.

(2 × 2 = 4)

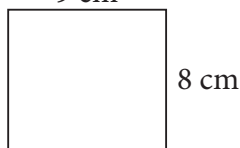
(a) 4 L 550 mL + 6 L 325 mL

(b) 393 kg 300 g + 29 kg 3 g

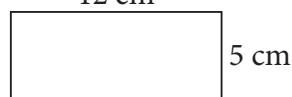
5. Find the perimeter and area of the following figures.

(3 × 2 = 6)

(a) 9 cm



(b) 12 cm



6. Multiply

(2 × 2 = 4)

(a) ₹30.50 × 20

(b) ₹275.35 × 12

7. How many hours and minutes have passed from.

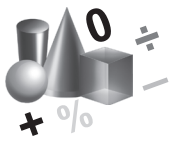
(2 × 2 = 4)

(a) 9:00 am to 5:00 pm

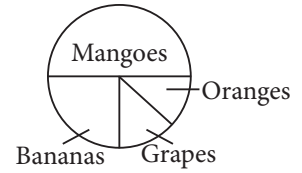
(b) 12 noon to 8:00 am

8. Read the following circle graph of the number of fruits in a fruit stall and answer the questions that follows.

(2 × 2 = 4)



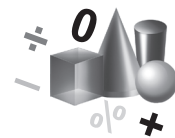
- (a) Which fruit is maximum in number?
- (b) Represent the number of bananas in fraction.



9. Solve the following word problems.

(4 × 3 = 12)

- (a) Kirti made 2 L 275 mL of apple juice to be equally distributed among 5 children. How much juice did each child get?
- (b) Girish wants to fence his garden of length 15 m and breadth 8 m. How much wire does he need to fence the garden?
- (c) Ravi bought 2 sweet boxes, each costing ₹375. How much money did he get back if he gave ₹1000 to the shopkeeper?
- (d) Sunita is planning to visit her grandmother. It takes 8 hours by car to go to her grandmother's house. What time will she reach, if she starts at 10:00 am from her house?



Answer Key

Chapter-1

Multiple Choice Questions (MCQ)

1. (c) 2. (b) 3. (d) 4. (a) 5. (d)

Worksheet-1

1. (a) 300 (b) 1,00,000 (c) 4 (d) > (e) 5000
 2. (a) Twenty-five thousand one hundred two
 (b) Three lakh forty-eight thousand four hundred eleven
 (c) Ten thousand five
 (d) Nine lakh fifty-eight thousand five hundred seventy-seven
 3. (a) 3,00,003 (b) 49,084
 4. 10058 5. (a) 580 (b) 600
 6. (a) XLVIII (b) XXX
 7. (a) X, XXV, XXIX, XXX, XL, C
 (b) C, XL, XXX, XXIX, XXV, X
 8. (a) 16 (b) 9 (c) 28 (d) 7
 (e) 29 (f) 41 (g) 500 (h) 1000

Worksheet-2

1. (a) 33043, 34043, 35043
 (b) 76081 (c) $10000 + 800 + 30$
 (d) 9998 (e) 80000 (f) 986051
 2. 121, 341, 3412, 30421, 32041, 34012, 300421
 3. 798120, 600845, 79812, 6840, 3949, 354, 53
 4. (a) Seventy-nine thousand three hundred forty-six
 (b) Fifty-one thousand eight hundred sixty-seven
 5.

	Number	to the nearest 10	to the nearest 100	to the nearest 1000
(a)	15256	15260	15300	15000
(b)	30550	30550	30600	31000

6. C, L, XXXIX, XXVIII, XXIV, XIV
 7. (a) $XII + VI = XVIII$
 (b) $VIII - II = VI$

Chapter-2

Multiple Choice Questions (MCQ)

1. (b) 2. (a) 3. (c) 4. (b) 5. (a)

Worksheet-1

1. (a) 3420 (b) 7001 (c) 33799
 (d) 78349 (e) 68887 (f) 96921
 (g) 80210 (h) 91281 (i) 968687
 (j) 555620 (k) 1084225 (l) 899998
 2. (a) 16240 (b) 7605 (c) 53591
 (d) 14996 (e) 33996 (f) 15106
 3. (a) 3331 (b) 1449 (c) 555619
 4. (a) 56, 62, 67 (b) 800, 750, 700, 650, 600

Worksheet-2

1. (a)
$$\begin{array}{r} 3 \quad \boxed{8} \quad 2 \quad 3 \\ + 1 \quad 3 \quad \boxed{3} \quad 8 \\ \hline \boxed{5} \quad 1 \quad 6 \quad \boxed{1} \end{array}$$

 (b)
$$\begin{array}{r} \boxed{2} \quad 7 \quad \boxed{4} \quad 2 \quad \boxed{3} \\ + 6 \quad \boxed{5} \quad 7 \quad \boxed{9} \quad 2 \\ \hline 9 \quad 3 \quad 2 \quad 1 \quad 5 \end{array}$$

 (c)
$$\begin{array}{r} 8 \quad 4 \quad 2 \quad 3 \quad 2 \\ + \boxed{1} \quad \boxed{0} \quad 5 \quad \boxed{1} \quad 6 \\ \hline 9 \quad 4 \quad \boxed{7} \quad 4 \quad 8 \end{array}$$

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

2. (a) 3066 (b) 101 (c) the number itself
 (d) 0
 3. (a) 2124; 9700 (b) 6644
 (c) Monday, 185 people (d) 11641

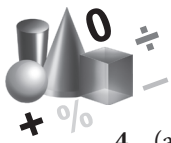
Chapter-3

Multiple Choice Questions (MCQ)

1. (c) 2. (a) 3. (d) 4. (b) 5. (a)

Worksheet-1

1. (a) 7562 (b) 36 (c) 0 (d) 365
 (e) 10 (f) 100 (g) 700 (d) 480000
 2. (a) 13824 (b) 30807 3. (a) 144 (b) 162



4. (a) 1050 (b) 245000
 5. (a) 280 (b) 9600 (c) 1800 (d) 45000
 6. (a) 70×90 | 700×9 | 900×7
 (b) 40×50 | 50×40 | 500×4
 7. 15060 seconds 8. 7250 lemons

Worksheet-2

1. (a) multiplier (b) 5
 2. (a) 3618 (b) 2592 (c) 62088
 (d) 37820 (e) 95380 (f) 157652
 (g) 34125 (h) 72233
 3. 364 days 4. 1700 shirts
 5. 728 minutes

Chapter-4

Multiple Choice Questions (MCQ)

1. (c) 2. (a) 3. (d) 4. (d) 5. (c)

Worksheet-1

1. (a) 29 (b) Undefined (c) 0 (d) 1
 2. (a) 8 (b) 8 (c) 9
 3. (a) $Q = 3, R = 20$ (b) $Q = 12, R = 0$
 (c) $Q = 121, R = 0$
 4. (a) 623 litres (b) 85 kg
 5. (c); 78 litres

Worksheet-2

1. (a) 10 (b) 40 (c) 70 (d) 300
 2. (a) 275 (b) 3500 (c) 10 (d) 0
 3. (a) 176 rows 4. 4 days
 5. (a) $Q = 21, 4 \times 21 = 84$
 (b) $Q = 5, R = 10; 16 \times 5 + 10 = 90$
 6. (a) (iii) $666 \div 18 = 37$
 (iv) $777 \div 21 = 37$
 (v) $888 \div 24 = 37$
 (b) (iv) 1234 (v) 12345

Chapter-5

Multiple Choice Questions (MCQ)

1. (d) 2. (b) 3. (d) 4. (b)

Worksheet-1

1. (a) 1 (b) countless (c) factors
 (d) 6, 12, 18, 24 (b) 21

2. (a) 45, 72, 63, 90, 27
 (b) 80, 90, 310
 (c) 45, 80, 75, 90, 310, 905
 3. (a) 7, 14, 21, 28, 35
 (b) odd multiples of 9: 9, 27, 45, 63, 81
 even multiples of 15: 30, 60, 90, 120, 150
 4. (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
 5. (a) True (b) False (c) False (d) True
 (e) True

Worksheet-2

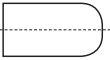
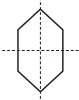
1. (a) 45: 1, 3, 5, 9, 15, 45
 (b) 28: 1, 2, 4, 7, 14, 28
 (c) 100: 1, 2, 4, 5, 10, 20, 25, 50, 100
 2. (a) 9: 1, 3, 9
 36: 1, 2, 3, 4, 6, 9, 12, 18, 36
 common factors: 1, 3, 9
 (b) 12: 1, 2, 3, 4, 6, 12
 40: 1, 2, 4, 5, 8, 10, 20, 40
 common factors: 1, 2, 4
 (c) 18: 1, 2, 3, 6, 9, 18
 54: 1, 2, 3, 6, 9, 18, 27, 54
 common factors: 1, 2, 3, 6, 9, 18
 (d) 81: 1, 3, 9, 27, 81
 90: 1, 2, 3, 6, 9, 10, 15, 30, 90
 common factors: 1, 3, 9
 3. 30, 45, 60
 4. (a) False (b) True (c) False (d) True
 (e) True (f) False (g) False
 5. (a) 50, 60, 70 (b) 4, 8, 12, 16

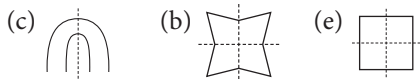
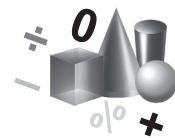
Chapter-6

Multiple Choice Questions (MCQ)

1. (c) 2. (a) 3. (a) 4. (d) 5. (c)

Worksheet-1

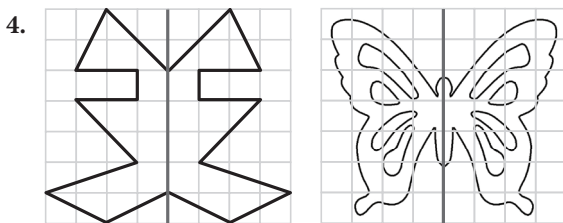
1. (a)  (b) 



2. (a) and (b)
 3. (b) and (c)
 4. (a) radius: 4 cm 5. diameter = 6 cm

Worksheet-2

1. Symmetrical = (b), (d)
 Not Symmetrical = (a), (c)
 2. (a) WELL DONE
 (b) REDUCE—18 5 4 21 35
 POLLUTION—16 15 12 12 21 20 9 15 14



Chapter-7

Multiple Choice Questions (MCQ)

1. (d) 2. (c) 3. (d) 4. (d) 5. (b)

Worksheet-1

1. (a) closed (b) open (c) closed (d) open
 2. AB Line CK Line segment
 CD Ray CB Ray
 CI Ray CA Ray
 IJ Line ML Ray
 CE Ray
 5. (a) AC, CB, BD, DA, AB, DC, OA, OB, OC, OD
 Number of line segments = 10
 (b) AB, BC, CA, OA, OB, OC
 Number of line segments = 6

Worksheet-2

1. (c) and (e)
 2. (a) True (b) True (c) False 3. (c)
 4. (a) P (b) PA, PB, PQ (c) AB

Model Test Paper 1

1. (a) 5000 (b) 4600 (c) 84000 (d) less
 (e) 20 (f) 35

2. (a) 67209 (b) 765348 (c) 638793
 3. (a) 515347 (b) 465239 (c) 463872
 4. (a) 1171070 (b) 0 (c) 79040
 5. (a) Q = 380, R = 2 (b) Q = 136, R = 26
 (c) Q = 115, R = 7

6. (a)
$$\begin{array}{r} 68 \\ 2 \overline{) 34} \\ \underline{2} \\ 17 \end{array}$$
 (b)
$$\begin{array}{r} 86 \\ 2 \overline{) 43} \end{array}$$
 (c)
$$\begin{array}{r} 98 \\ 2 \overline{) 49} \\ \underline{7} \\ 7 \end{array}$$

7. (a) GRATITUDE
7 18 1 20 9 20 21 4 5
 (b) COMPASSION
3 15 13 16 1 19 19 9 15 14
 9. (a) 3625 boys (b) 11843
 (c) 1750 students (d) No

Chapter-8

Multiple Choice Questions (MCQ)

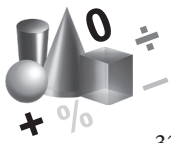
1. (c) 2. (b) 3. (a) 4. (d) 5. (c)

Worksheet-1

1. (a) greater (b) proper (c) 1
 2.
- 3.
4. $\frac{6}{8} = \frac{9}{12} = \frac{12}{16}$
 5. (a) $\frac{6}{7} = \frac{30}{35}$ (b) $\frac{2}{5} = \frac{12}{30}$ (c) $\frac{1}{8} = \frac{3}{24}$
 (d) $\frac{5}{4} = \frac{45}{36}$
 6. (a) $\frac{6}{13}$ (b) $\frac{3}{10}$ 7. (a) $\frac{11}{15}$ (b) $\frac{8}{9}$
 8. $\frac{2}{3}$

Worksheet-2

1. (a) $\frac{3}{11}, \frac{5}{11}, \frac{7}{11}, \frac{8}{11}$ (b) $\frac{1}{14}, \frac{3}{14}, \frac{5}{14}, \frac{7}{14}$
 2. (a) $\frac{7}{15}, \frac{5}{15}, \frac{3}{15}, \frac{2}{15}$ (b) $\frac{22}{23}, \frac{21}{23}, \frac{15}{23}, \frac{11}{23}$
 3. (a) 5 (b) 25 (c) ₹40 (d) 25
 (e) 250 (f) 9 (g) 75 (h) 20
 (i) 25
 4. (a) < (b) > (c) = 5. (a) $1\frac{3}{4}$ (b) $3\frac{1}{3}$



6. $\frac{32}{9}$



Chapter-9

Multiple Choice Questions (MCQ)

1. (c) 2. (a) 3. (c) 4. (b) 5. (d)

Worksheet-1

1. (a) → iv (b) → iii (c) → i (d) → ii
 2. (a) 7.04 (b) 0.8 (c) 0.14 (d) 0.9
 3. (a) 2.7, 2.8, 2.9 (b) 14.5, 13.6, 12.7
 4. (a) 9.76 (b) 0.06 (c) 532.9 (d) 0.78
 (e) 7.3 (f) 1.4 (g) 0.01 (h) 20.1
 (i) 3.23 (j) 20.05

Worksheet-2

1.

	Tens	Ones	Decimal point (.)	Tenths	Hundredths
(a)	1	0	.	5	
(b)		0	.	3	6
(c)		0	.	7	
(d)		0	.	0	9

2. (a) 0.40 (b) 3.17 (c) 0.4 (d) 11.1 (e) 0.05
 3. (a) Twenty-five and three hundredths
 (b) Sixty-five hundredths
 (c) Eight-hundredths
 (d) Two-tenths
 (e) Six and six-hundredths
 2. (a) 0.8 (b) 1.5 (c) 0.04 (d) 1.25

Chapter-10

Multiple Choice Questions (MCQ)

1. (a) 2. (c) 3. (c) 4. (b) 5. (d)

Worksheet-1

1. (a) capacity (b) 100 (c) 2025 (d) 6000
 2. (a) 10.5 m (b) 3555 (c) 0.250 L
 (d) 5305 (e) 4450 (f) 1.750 kg
 3. 27.5 m 4. 50250 mL 5. 29 kg 250 g

Worksheet-2

1. (a) 15245 (b) 3015 (c) 11000

- (d) 4050 (e) 9000 (f) 2350

2. (a) 30 km 300 m (b) 29 m 23 cm
 (c) 40 kg 200 g (d) 7 L 60 mL
 3. (a) 25 km 184 m (b) 11 m 57 cm
 (c) 53 kg 800 g (d) 3 L 900 mL
 4. Imran, 1 m 25 cm more ribbon
 5. 65 L 6. 36 kg

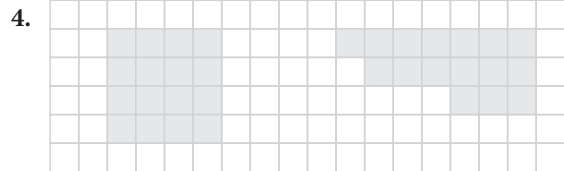
Chapter-11

Multiple Choice Questions (MCQ)

1. (c) 2. (a) 3. (c) 4. (a) 5. (d)

Worksheet-1

1. (a) 4 cm² (b) length of its boundary
 (c) area
 2. 32 cm
 3. (a) 5 unit² (b) 6 unit² (c) 4 unit²
 (d) 6 unit²



Area = 16 cm²

Perimeter = 16 cm

Area = 16 cm²

Perimeter = 20 cm

Worksheet-2

1. (a) 24 m (b) 24 cm 2. (a) 20 cm (b) 24 cm
 3. (a) 12 cm (b) 36 cm
 4. (a) 16 unit² (b) 3 unit²
 (c) 4 unit² (d) 3 unit²
 5. (a) 12 unit² (b) 15 unit²

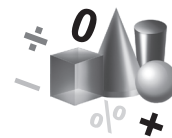
Chapter-12

Multiple Choice Questions (MCQ)

1. (c) 2. (a) 3. (b) 4. (d) 5. (d)

Worksheet-1

1. (a) ₹85.75 (b) 200 rupees and 75 paise
 (c) 144 rupees and 55 paise
 2. (a) ₹15.25 (b) ₹43.25
 3. (a) ₹183 (b) ₹282
 4. (a) ₹8.25 (b) ₹8
 5. (a) ₹1126.25 (b) ₹364.25 (c) ₹200



Worksheet-2

1. (a) ₹10 (b) ₹2.5 (c) ₹90 (d) ₹6
 2. (a) ₹119 (b) ₹25.25 (c) ₹75

S.N.	Items	Quantity	Rate	Amount
1.	Pencil	5	₹4.5	₹22.50
2.	Eraser	4	₹3	₹12
3.	Notebook	6	₹24.75	₹148.5
4.	Sharpener	2	₹6.50	₹13
			Total =	₹196

Chapter-13

Multiple Choice Questions (MCQ)

1. (b) 2. (d) 3. (d) 4. (a) 5. (d)

Worksheet-1

1. (a) 9:30 am (b) 6 hours (c) 4.45 pm
 (d) 9:40 (e) 3:30 pm (f) 11:00 hours
 2. (a) 10 days (b) 56 days
 3. (a) 10 hours (b) 4 hours 35 minutes
 (c) 6 hours 50 minutes (d) 19 hours 45 minutes
 4. (a) 90 minutes (b) 45 minutes
 (c) 95 minutes (d) 45 minutes
 5. (a) 2:45 pm, 14:45 hours



Worksheet-2

1. (a) 15 hours (b) 13:30 hours
 (c) 21:30 hours (d) 24:00 hours
 3. 2 hours 10 minutes
 4. (a) 10 minutes to 8 (b) 50 minutes past 9
 (c) 5 pm (d) 1 am (e) 2 pm (f) 4 am
 5. 6:10 hours 6. 75 minutes

Chapter-14

Multiple Choice Questions (MCQ)

1. (b) 2. (d) 3. (b) 4. (d) 5. (b)

Worksheet-1

1. (a) Food (b) cloth
 (c) Health – ₹2500
 Food – ₹4000
 Cloth – ₹1500
 Education – ₹3500
 Others – ₹2000
 2. (a) Potato (b) Brinjal
 (c) Tomato and cauliflower

Worksheet-2

1. (a) 14 (b) 6 (c) 4 (d) Sunny
 (e) Rainy

Name	Number of catches
Akshay	40
Shelly	20
Harpreet	20

Model Test Paper 2

1. (a) False (b) True (c) False (d) True
 (e) True
 2. (a) $\frac{40}{19}$ (b) $\frac{2}{25}$ (c) 9
 3. (a) 4.89 (b) 9.5 (c) 0.03 (d) 0.5
 4. (a) 10 L 875 mL (b) 422 kg 303 g
 5. (a) Perimeter = 34 cm, Area = 72 cm²
 (b) Perimeter = 34 cm, Area = 60 cm²
 6. (a) ₹610 (b) ₹3304.20
 7. (a) 8 hours (b) 20 hours
 8. (a) Mangoes (b) $\frac{1}{4}$
 9. (a) 455 mL (b) 46 m
 (c) ₹250 (d) 6 pm