

# THIRAN

(Targeted Help for Improving  
Remediation & Academic Nurturing)

# MATHEMATICS

# WORKBOOK

# 8

2025-2026



DEPARTMENT OF SCHOOL EDUCATION  
GOVERNMENT OF TAMIL NADU

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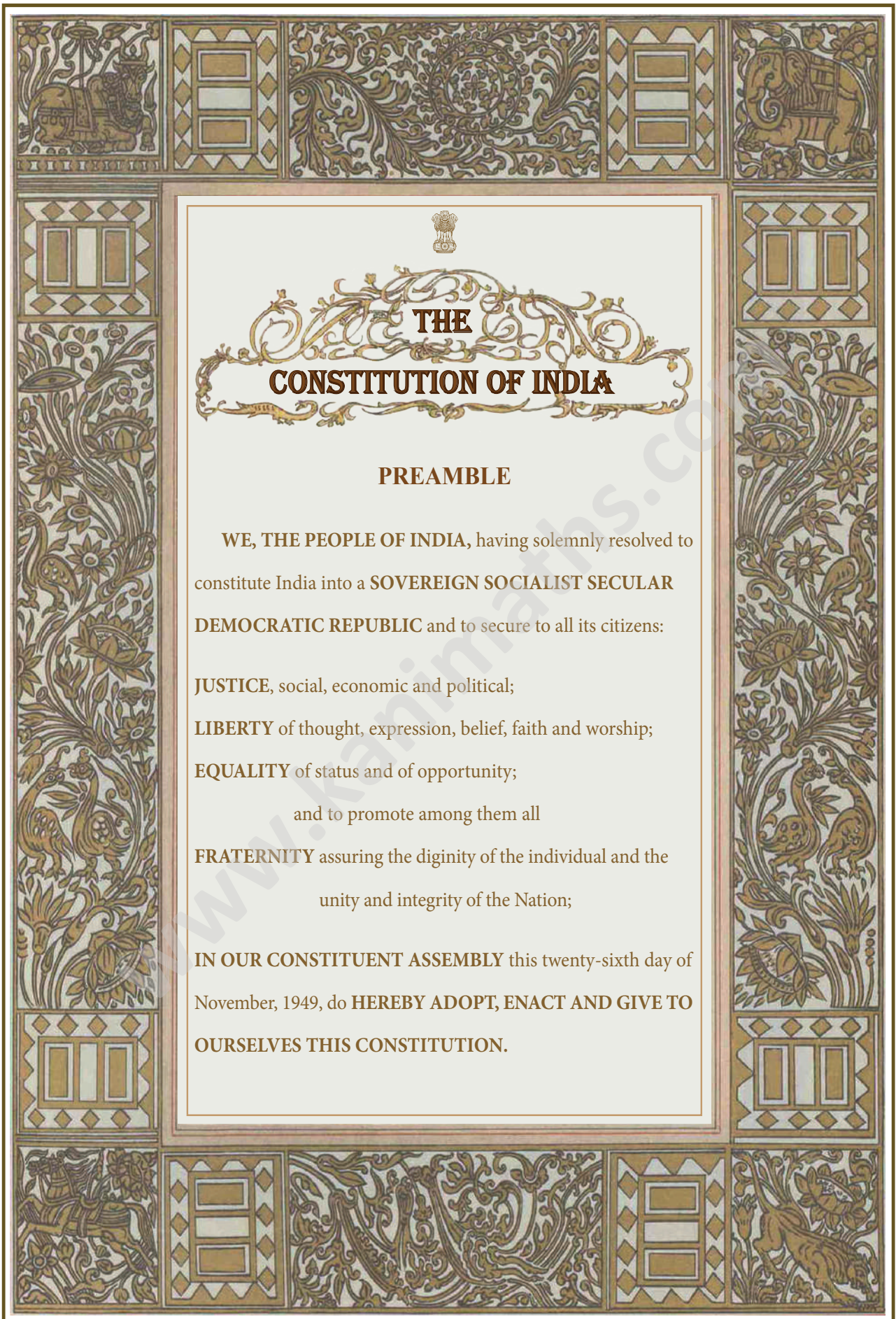


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# THE CONSTITUTION OF INDIA

## PREAMBLE

WE, THE PEOPLE OF INDIA, having solemnly resolved to constitute India into a **SOVEREIGN SOCIALIST SECULAR DEMOCRATIC REPUBLIC** and to secure to all its citizens:

**JUSTICE**, social, economic and political;

**LIBERTY** of thought, expression, belief, faith and worship;

**EQUALITY** of status and of opportunity;

and to promote among them all

**FRATERNITY** assuring the dignity of the individual and the unity and integrity of the Nation;

IN OUR CONSTITUENT ASSEMBLY this twenty-sixth day of November, 1949, do **HEREBY ADOPT, ENACT AND GIVE TO OURSELVES THIS CONSTITUTION.**



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# Fundamental Concepts



8

I Can... I Will...



15	☆	Date:
14	☆	Date:
13	☆	Date:
12	☆	Date:
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1	☆	Date:

Note: Colour the stars ☆ after completing each module



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## 1

## One, two digit numbers and place value








## 1.1 Count and write.

## 1.2 Answer the following.

- The number of fingers in your one hand is \_\_\_\_\_
- The number of members in your family is \_\_\_\_\_
- The number of people that can sit in a car is \_\_\_\_\_
- The number of wheels in a bus is \_\_\_\_\_
- The number of days in a week is \_\_\_\_\_









## 1.3 Count and write.

## 1.4 Answer the following.

- The number of students in your class is \_\_\_\_\_.
- The age of your father is \_\_\_\_\_.
- The number of people that can sit in a bus is \_\_\_\_\_.
- The number of houses on your street is \_\_\_\_\_.
- The number of days in a month is \_\_\_\_\_.

**1.5** Count and write.

Fruits	How many		Number
	Tens	Ones	
			
			
			
			
			
			
			
			

**1.6** Answer the following.

1.  $43 = \underline{\quad\quad}$  Tens +  $\underline{\quad\quad}$  Ones.

2.  $\underline{\quad\quad} = 6$  Tens +  $7$  Ones.

3.  $80 = 8$  Tens +  $\underline{\quad\quad}$  Ones.

4.  $\underline{\quad\quad} = 9$  Tens +  $4$  Ones.

5.  $59 = \underline{\quad\quad}$  Tens +  $9$  Ones.

## 2

## Comparison of two digit numbers

2.1 Compare the numbers and put the appropriate symbol ( $>$ ,  $<$ ,  $=$ ).

8	<input type="text"/>	1
9	<input type="text"/>	5
8	<input type="text"/>	4
2	<input type="text"/>	3
7	<input type="text"/>	9
2	<input type="text"/>	8
1	<input type="text"/>	1


12	<input type="text"/>	14
18	<input type="text"/>	20
45	<input type="text"/>	33
25	<input type="text"/>	52
36	<input type="text"/>	36
53	<input type="text"/>	50
11	<input type="text"/>	13

61	<input type="text"/>	16
59	<input type="text"/>	65
35	<input type="text"/>	53
64	<input type="text"/>	64
78	<input type="text"/>	67
70	<input type="text"/>	81
93	<input type="text"/>	39

2.2 Write the predecessor and successor of the given numbers.




<input type="text"/>	28	<input type="text"/>
----------------------	----	----------------------



<input type="text"/>	35	<input type="text"/>
----------------------	----	----------------------




<input type="text"/>	43	<input type="text"/>
----------------------	----	----------------------




<input type="text"/>	57	<input type="text"/>
----------------------	----	----------------------




<input type="text"/>	86	<input type="text"/>
----------------------	----	----------------------



<input type="text"/>	92	<input type="text"/>
----------------------	----	----------------------




<input type="text"/>	69	<input type="text"/>
----------------------	----	----------------------



<input type="text"/>	74	<input type="text"/>
----------------------	----	----------------------



<input type="text"/>	80	<input type="text"/>
----------------------	----	----------------------



<input type="text"/>	99	<input type="text"/>
----------------------	----	----------------------

**2.3 Write the numbers in ascending and descending order.**

2  
5 7  
9 6

Ascending order : \_\_\_\_\_

Descending order: \_\_\_\_\_

17 13  
19 14  
20

Ascending order : \_\_\_\_\_

Descending order: \_\_\_\_\_

88  
55 95  
42 10

Ascending order : \_\_\_\_\_

Descending order: \_\_\_\_\_

73  
37 82  
28 99

Ascending order : \_\_\_\_\_

Descending order: \_\_\_\_\_

**2.3 Observe the digit in the ones place and write the odd numbers and even numbers.**

84	41	8	33	87	18	9
79	14	66	21	6	30	
92	7	74	52	95	44	69

**Odd numbers**

**Even numbers**

## 3

Addition and subtraction  
of one, two digit numbers

## 3.1 Add the following.

$\begin{array}{r} 4 \\ + 3 \\ \hline \\ \hline \end{array}$	$\begin{array}{r} 6 \\ + 2 \\ \hline \\ \hline \end{array}$	$\begin{array}{r} 3 \\ + 3 \\ \hline \\ \hline \end{array}$	$\begin{array}{r} 5 \\ + 3 \\ \hline \\ \hline \end{array}$	$\begin{array}{r} 4 \\ + 4 \\ \hline \\ \hline \end{array}$	$\begin{array}{r} 2 \\ + 7 \\ \hline \\ \hline \end{array}$
$\begin{array}{r} 4 \\ + 5 \\ \hline \\ \hline \end{array}$	$\begin{array}{r} 6 \\ + 2 \\ \hline \\ \hline \end{array}$	$\begin{array}{r} 7 \\ + 3 \\ \hline \\ \hline \end{array}$	$\begin{array}{r} 8 \\ + 4 \\ \hline \\ \hline \end{array}$	$\begin{array}{r} 7 \\ + 0 \\ \hline \\ \hline \end{array}$	$\begin{array}{r} 9 \\ + 8 \\ \hline \\ \hline \end{array}$
$6 + 6 =$		$7 + 4 =$		$6 + 8 =$	
$4 + 2 =$		$9 + 6 =$		$8 + 7 =$	
$8 + 8 =$		$9 + 5 =$		$7 + 9 =$	

## 3.2 Add the following.

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

**3.3** Add the following.

T	O
1	7
+	1 5

T	O
1	6
+	1 4

T	O
1	8
+	1 3

T	O
1	9
+	1 7

T	O
2	3
+	1 9

T	O
2	8
+	2 2

T	O
3	5
+	1 7

T	O
4	2
+	3 9

T	O
5	2
+	1 8

T	O
7	5
+	1 6

T	O
7	9
+	1 7

T	O
6	8
+	2 3

T	O
5	4
+	1 9

T	O
4	5
+	3 7

T	O
8	7
+	8

**3.4** Subtract the following.

$\begin{array}{r} 4 \\ - 2 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ - 4 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ - 3 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ - 3 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ - 5 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ - 6 \\ \hline \end{array}$
$\begin{array}{r} 9 \\ - 6 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ - 4 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ - 0 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ - 2 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ - 5 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ - 8 \\ \hline \end{array}$
$6 - 5 =$	$9 - 3 =$	$8 - 4 =$			
$8 - 6 =$	$5 - 1 =$	$7 - 3 =$			
$8 - 2 =$	$6 - 3 =$	$9 - 4 =$			

## 3.5 Subtract the following.

T	O
2	6
-	1 4

T	O
2	9
-	1 7

T	O
3	5
-	2 0

T	O
3	8
-	2 1

T	O
4	3
-	1 2

T	O
4	8
-	3 2

T	O
5	1
-	3 1

T	O
6	9
-	4 6

T	O
5	6
-	2 2

T	O
3	7
-	3 1

T	O
4	5
-	2 3

T	O
5	6
-	4 0

T	O
7	2
-	4 1

T	O
8	7
-	4 3

T	O
9	4
-	5 2

## 3.6 Subtract the following.

T	O
2	1
-	8

T	O
2	5
-	1 7

T	O
3	6
-	2 9

T	O
8	2
-	5 6

T	O
4	3
-	2 5

T	O
3	1
-	1 4

T	O
4	4
-	2 9

T	O
6	3
-	1 8

T	O
7	0
-	3 2

T	O
8	8
-	6 9

T	O
7	7
-	2 9

T	O
9	6
-	2 8

T	O
6	1
-	2 5

T	O
5	6
-	3 9

T	O
9	5
-	5 8

4

# Addition and subtraction of three digit numbers



4.1 Count the boxes and write.


## 4.2 Add the following.

H	T	O	
2	3	3	
+	1	2	5

H	T	O	
3	5	4	
+	2	2	4

H	T	O	
5	8	1	
+	3	0	0

H	T	O	
7	2	1	
+	2	6	5

H	T	O	
4	2	7	
+	2	3	2

H	T	O	
6	5	1	
+	3	4	0

H	T	O	
7	9	3	
+	2	0	5

H	T	O	
8	2	6	
+	1	7	3

## 4.3 Add the following.

H	T	O	
3	4	6	
+	2	9	7

H	T	O	
4	2	8	
+	2	5	9

H	T	O	
5	2	4	
+	3	7	6

H	T	O	
6	5	7	
+	2	4	5

H	T	O	
4	3	5	
+	3	7	7

H	T	O	
5	7	9	
+	3	6	6

H	T	O	
7	1	8	
+	2	3	9

H	T	O	
3	9	9	
+	2	9	9

H	T	O	
4	3	6	
+	3	8	9

H	T	O	
4	3	7	
+	1	7	6

H	T	O	
5	4	9	
+	4	1	5

H	T	O	
6	2	8	
+	3	5	7

H	T	O	
7	2	2	
+	2	3	8

H	T	O	
1	9	8	
+	6	9	8

H	T	O	
6	5	5	
+	2	4	5

H	T	O	
8	2	9	
+	1	6	9

4.3 Subtract the following.

H	T	O	
2	7	5	
+	1	5	1

H	T	O	
2	9	2	
+	1	1	0

H	T	O	
3	2	1	
+	1	0	0

H	T	O	
4	7	8	
+	2	3	6

H	T	O	
5	4	4	
+	3	2	2

H	T	O	
7	9	1	
+	5	4	1

H	T	O	
8	9	8	
+	5	5	5

H	T	O	
9	8	4	
+	5	1	2

4.4 Subtract the following.

H	T	O	
3	7	6	
-	2	8	8

H	T	O	
4	3	0	
-	2	5	5

H	T	O	
4	8	2	
-	3	9	3

H	T	O	
4	3	6	
-	2	7	9

H	T	O	
5	2	1	
-	3	8	5

H	T	O	
6	4	2	
-	4	7	6

H	T	O	
8	0	0	
-	5	7	7

H	T	O	
9	6	8	
-	6	8	9

H	T	O	
4	6	5	
-	2	7	9

H	T	O	
6	2	1	
-	3	4	2

H	T	O	
8	7	3	
-	2	5	7

H	T	O	
9	3	2	
-	5	4	5

H	T	O	
5	1	0	
-	4	5	9

H	T	O	
8	0	5	
-	6	3	8

H	T	O	
9	0	0	
-	7	5	8

H	T	O	
9	4	7	
-	6	9	9

## 5

## Multiplication

## 5.1 Multiply.

$5 \times 3 = \square$

$9 \times 2 = \square$

$5 \times 4 = \square$

$8 \times 5 = \square$

$8 \times 7 = \square$

$7 \times 6 = \square$

$6 \times 8 = \square$

$5 \times 9 = \square$

## 5.2 Fill in the boxes.

$7 \times \square = 14$

$8 \times \square = 32$

$6 \times \square = 18$

$5 \times \square = 25$

$\square \times 6 = 42$

$\square \times 8 = 72$

$\square \times 7 = 42$

$\square \times 9 = 81$

## 5.3 Multiply.

$$\begin{array}{r} 72 \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 35 \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 47 \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 84 \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 25 \times 15 \\ \hline \end{array}$$

$$\begin{array}{r} 83 \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 26 \times 24 \\ \hline \end{array}$$

$$\begin{array}{r} 43 \times 18 \\ \hline \end{array}$$

## 6

## Square numbers

Answer the following questions.

1. Circle the square numbers:

15, 36, 48, 64, 80

2. The square number of 7 is \_\_\_\_\_.

3. 64 is the square number of \_\_\_\_\_.

4. Check whether 81 is a perfect square number.

1. Circle the square numbers:

9, 35, 121, 84, 100

2. The square number of 9 is \_\_\_\_\_.

3. 144 is the square number of \_\_\_\_\_.

4. Check whether 36 is a perfect square number.

1. Circle the square numbers:

4, 26, 81, 111, 225

2. The square number of 10 is \_\_\_\_\_.

3. 169 is the square number of \_\_\_\_\_.

4. Check whether 196 is a perfect square number.

7

## Least Common Multiple (LCM)

Answer the following questions.

1. The multiples of 5 are \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_.
2. The common multiples of 2 and 3 are \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_.
3. LCM of 4 and 5 is \_\_\_\_\_

1. The multiples of 8 are \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_.
2. The common multiples of 4 and 7 are \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_.
3. LCM of 5 and 8 is \_\_\_\_\_

1. The multiples of 9 are \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_.
2. The common multiples of 7 and 8 are \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_.
3. LCM of 8 and 11 is \_\_\_\_\_

8

## Division and Highest Common Factor (HCF)

Answer the following questions.

Find the quotient and remainder:  
 $32 \div 4$

Find the quotient and remainder:  
 $45 \div 3$

Find the quotient and remainder:  
 $28 \div 2$

Find the quotient and remainder:  
 $75 \div 5$

Find the quotient and remainder:  
 $140 \div 6$

Find the quotient and remainder:  
 $175 \div 8$

Find the quotient and remainder:  
 $179 \div 7$

Find the quotient and remainder:  
 $183 \div 9$

1. The factors of 20 are \_\_\_\_\_
2. The factors of 36 are \_\_\_\_\_
3. The HCF of 15, 25 is \_\_\_\_\_
4. The HCF of 5, 9 is \_\_\_\_\_

## 9

## Prime and composite numbers

Answer the following questions.

1. Circle the prime numbers:

27, 23, 34, 41, 53

2. Circle the composite numbers:

33, 46, 59, 64, 71

3. Is 1 a prime or composite?

1. Circle the prime numbers:

29, 38, 53, 82, 97

2. Write the prime numbers between 20 and 30.

\_\_\_\_\_

3. Are all even numbers prime?

1. Write the prime numbers between 75 and 85.

\_\_\_\_\_

2. Circle the composite numbers:

24, 19, 94, 83, 56

3. Can two consecutive numbers be prime?

10

## Divisibility



Answer the following questions.

1. Circle the numbers that are divisible by 2:

24, 35, 48, 41, 60

2. Circle the numbers that are divisible by 3:

33, 46, 57, 64, 75

3. The number 381 is divisible by \_\_\_\_\_.

1. Circle the numbers that are divisible by 2 and 4:

10, 20, 30, 40, 50

2. Circle the numbers that are divisible by 3 and 6:

30, 33, 36, 39, 42

3. The number 963 is divisible by \_\_\_\_\_ and \_\_\_\_\_.

1. Circle the numbers that are divisible by 5 and 10:

25, 30, 35, 40, 45

2. Circle the numbers that are divisible by 9 and 11:

90, 99, 108, 198, 207

3. The number 105 is divisible by \_\_\_\_\_ and \_\_\_\_\_.

11

## Number system



Answer the following questions.

1. The smallest number of whole number is \_\_\_\_\_.
2.  $18 + 0 =$  \_\_\_\_\_.
3.  $0 \times 26 =$  \_\_\_\_\_.

1. All natural numbers except \_\_\_\_\_ have a predecessor.
2. The numbers to the left of 0 are \_\_\_\_\_ integers.
3. Circle the negative integers.  
7, 0, -3, 4, 7, -2.

1. 0 is the predecessor of \_\_\_\_\_ and successor of \_\_\_\_\_
2. The product of two whole numbers is a \_\_\_\_\_ number.
3. 0 is less than every \_\_\_\_\_ integer.

12

## Operations on integers

Answer the following questions.

1)  $15 + (-7) =$  \_\_\_\_\_

2)  $32 + (-18) =$  \_\_\_\_\_

3)  $(-29) + (-16) =$  \_\_\_\_\_

1)  $8 - (-12) =$  \_\_\_\_\_

2)  $(-23) - 15 =$  \_\_\_\_\_

3)  $(-17) - (-28) =$  \_\_\_\_\_

1)  $(-8) \times 4 =$  \_\_\_\_\_

2)  $(-10) \times (-7) =$  \_\_\_\_\_

3)  $20 \times (-8) =$  \_\_\_\_\_

1)  $12 \div (-3) =$  \_\_\_\_\_

2)  $(-35) \div 7 =$  \_\_\_\_\_


3)  $(-65) \div (-13) =$  \_\_\_\_\_


13

## Fractions



Answer the following questions.

1. Fraction represented by the shaded portions in the picture  is \_\_\_\_\_.
2. In  $\frac{5}{7}$  \_\_\_\_\_ is numerator and \_\_\_\_\_ is denominator.
3. If the numerator is smaller than the denominator, then it is called as a \_\_\_\_\_ fraction.

1. Fraction represented by the unshaded portion in the picture  is \_\_\_\_\_.
2. If the numerator is greater than the denominator, then it is called as a \_\_\_\_\_ fraction.
3.  $1\frac{1}{4}$  is a \_\_\_\_\_ fraction.

1. Circle the proper fractions.  $\frac{1}{5}, \frac{3}{2}, \frac{4}{7}, \frac{7}{5}, \frac{3}{8}$
2. Circle the improper fractions.  $\frac{2}{7}, \frac{6}{5}, \frac{5}{3}, \frac{1}{4}, \frac{8}{5}$
3. Write a proper and an improper fraction with denominator 7.

\_\_\_\_\_

14

## Addition and subtraction of fractions

Answer the following questions.

$$\frac{3}{7} + \frac{2}{7} = ?$$

$$\frac{3}{5} + \frac{4}{5} = ?$$

$$\frac{1}{4} + \frac{2}{5} = ?$$

$$\frac{3}{5} + \frac{2}{9} = ?$$

$$\frac{3}{5} - \frac{1}{5} = ?$$

$$\frac{5}{9} - \frac{4}{9} = ?$$

$$\frac{1}{3} - \frac{2}{7} = ?$$

$$\frac{4}{7} - \frac{1}{11} = ?$$

15

## Decimal numbers



Answer the following questions.

1. The decimal form of  $\frac{12}{10}$  is \_\_\_\_\_.

2. The decimal form of  $\frac{8}{5}$  is \_\_\_\_\_.

3. The decimal form of  $\frac{7}{2}$  is \_\_\_\_\_.

1. The decimal form of  $\frac{5}{10}$  is \_\_\_\_\_.

2. The decimal form of  $\frac{3}{4}$  is \_\_\_\_\_.

3. The decimal form of  $\frac{4}{16}$  is \_\_\_\_\_.

1. The decimal form of  $\frac{3}{10}$  is \_\_\_\_\_.

2. The decimal form of  $\frac{15}{100}$  is \_\_\_\_\_.

3. The decimal form of  $\frac{1370}{1000}$  is \_\_\_\_\_.

## I can do

Choose the correct answer.

Marks :  $10 \times 1 = 10$ 

1) Which is the biggest three digit number?

- a) 999                      b) 900                      c) 100                      d) 101

2)  $485 + 237 = ?$ 

- a) 622                      b) 722                      c) 612                      d) 712

3)  $937 - 689 = ?$ 

- a) 248                      b) 348                      c) 448                      d) 498

4)  $48 \times 15 = ?$ 

- a) 620                      b) 820                      c) 720                      d) 7120

5) LCM of 8 and 9 is \_\_\_\_\_

- a) 72                      b) 89                      c) 16                      d) 1

6)  $135 \div 9 = ?$ 

- a) 12                      b) 13                      c) 14                      d) 15

7) The number 121 is divisible by \_\_\_\_\_

- a) 5                      b) 7                      c) 9                      d) 11

8)  $(-15) \times 7 =$  \_\_\_\_\_

- a) 105                      b) -105                      c) -8                      d) 8

9)  $\frac{1}{2} - \frac{3}{7} = ?$ 

- a)  $\frac{13}{27}$                       b)  $\frac{2}{5}$                       c)  $\frac{1}{14}$                       d)  $\frac{3}{14}$

10) The decimal form of  $\frac{1532}{100}$  is \_\_\_\_\_

- a) 1.532                      b) 15.32                      c) 153.2                      d) 1532



# NOTE

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# Grade Level Concepts

8



I Can... I Will...



20	☆	Date:
19	☆	Date:
18	☆	Date:
17	☆	Date:
16	☆	Date:
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5	☆	Date:
4	☆	Date:
3	☆	Date:
2	☆	Date:
1	☆	Date:

Note: Colour the stars ☆ after completing each module

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1

# Addition and Subtraction of Integers

Answer the following questions.

1. Add 7 and 5 using number line.

2. Subtract  $(-6)$  from  $(-14)$ .

1. The additive inverse of  $-4$  is \_\_\_\_\_.

2. Verify 3, 4 and 5 are associative under addition.

## 2

## Multiplication and Division of Integers

Answer the following questions.

1. Find the value of  $(-9) \times (-7)$ .

2. Find the product of  $(-11)$  and  $9$ .

1. Find the value of  $\left(-\frac{36}{12}\right)$ .

2. Divide  $(-72)$  by  $(-8)$ .

3

## Fractions and Decimals

Answer the following questions.

1. 2.3 lies between the integers \_\_\_\_\_ and \_\_\_\_\_.

2. Put the appropriate symbol (< or >)

25.32 \_\_\_\_\_ 25.23

1. The place value of 4 in 38.64 is \_\_\_\_\_

2. The decimal expression of  $4\frac{1}{2}$  litre is \_\_\_\_\_

4

## Fundamental operations on decimal numbers

Answer the following questions.

1. Simplify:  $48.3 - 6.85 + 16.27 - 9.5$

2. Fill it:  $47.201 \div 7 = \underline{\hspace{2cm}}$

1. Find the product of  $97.24 \times 10$

2. Divide:  $375.8 \div 100$

5

## Percentage

Answer the following questions.

1. Convert the following fractions into percent:

a)  $\frac{36}{100}$

b)  $\frac{4}{5}$

2. Convert the following decimals into percentage:

a) 0.06

b) 0.52

1. A fruitseller bought fruits for ₹ 2,000 and sold it for ₹ 2180. Find the profit percentage?

2. Ramu bought a watch for ₹ 2,800 and sold it for ₹ 2500. Find the loss percentage?

6

## Addition and subtraction of algebraic expressions and simple linear equations

Answer the following questions.

1. Fill in the blanks:

(i) The variable in the expression  $5x - 2$  is \_\_\_\_\_

(ii) The constant term of the expression  $8y - 4$  is \_\_\_\_\_

2. Fill in the blanks:

(i) The numerical co-efficient of the term  $4xy$  is \_\_\_\_\_

(ii) If you subtract  $2a$  from  $10a$ , then you will get \_\_\_\_\_

1. Find two consecutive natural numbers whose sum is 55.

2. 6 added to thrice a whole number gives 36. Find the number.

## 7

## Exponents and Laws of Exponents

Answer the following questions.

1. Simplify the following using law of exponents.

(i)  $x \times x \times x$

(ii)  $a \times a \times a \times a \times a$

2. Simplify the following using law of exponents.

(i)  $3^5 \times 3^8$

(ii)  $2^5 \div 2^3$

1. Simplify:  $4^5 \times 4^2 \times 4^4$

2. Find the value of  $(-2)^3 \times (-10)^3$

## 8

## Degree of algebraic expression

Answer the following questions.

1. Find the degree of the following expressions.

(i)  $y^5 - 9$

(ii)  $x^3 + x^2 - 7$

(iii)  $7g^8 h^2 + 3g^9 h^3 - 2$

1. Find the degree of the following expressions.

(i)  $3x^3 y^2 + 16c^3 x^4 - 7x^2$

(ii)  $xyz^3 + x^2 y^2 + 6y^4$

## 9

## Algebraic identities



Answer the following questions.

1. Expand the following:

(i)  $(b - 7)^2$

(ii)  $(4x + 3y)(4x + 5y)$

(iii)  $(2x + 5)^2$

1. Simplify by using identity.

(i)  $x^2 - 8x + 16$

(ii)  $36m^2 + 60m + 25$

10

## Inequations



Answer the following questions.

1. Solve:  $4x - 9 > -33$ , where  $x$  is a negative integer.

2. Represent in a number line:  $-7 \leq y$ , where  $y$  is a negative integer.

1. Can  $x < -y$  be rewritten as  $-y < x$ ? Justify.

2. Write an inequation for a bottle which holds 5 litres of water.

## I can do

Choose the correct answer.

Marks :  $10 \times 1 = 10$ 1. Find the value of  $-7 + 12 = ?$ 

- a) -19                      b) 19                      c) 5                      d) -5

2.  $(-4) \times (-3) = ?$ 

- a) -12                      b) 7                      c) 12                      d) -7

3. Find  $\frac{3}{4} + \frac{2}{4}$ 

- a) 1                      b)  $1\frac{1}{4}$                       c)  $1\frac{1}{2}$                       d)  $\frac{1}{2}$

4.  $2.4 \div 0.2 = ?$ 

- a) 1.2                      b) 12                      c) 0.12                      d) 2.6

5. A fruitseller bought fruits for ₹ 2,000 and sold it for ₹ 2180, then the profit percentage?

- a) 10%                      b) 9%                      c) 8%                      d) 180%

6. If  $x + 5 = -9$ , then  $x = ?$ 

- a) 5                      b) -4                      c) -14                      d) 4

7.  $a^5 \div a^2 = ?$ 

- a)  $a^2$                       b)  $a^3$                       c)  $a^7$                       d)  $a^8$

8. The degree of the expression  $3x^2y + 5xy^2$  is.

- a) 1                      b) 2                      c) 3                      d) 4

9.  $(a + b)^2 = ?$ 

- a)  $a^2 + b^2$                       b)  $a^2 + 2ab + b^2$                       c)  $a^2 - 2ab + b^2$                       d)  $ab + b^2$

10. Which of the following is true?

- a)  $5 > 10$                       b)  $3 < 2$                       c)  $6 < 7$                       d)  $7 \geq 8$

11

## Angle sum property of triangles and congruence of triangles

Answer the following questions.

1. Can  $30^\circ$ ,  $70^\circ$  and  $80^\circ$  be the angles of a triangle? Justify.
2. If the sum of two interior angles of a triangle is  $120^\circ$ , then what will be the exterior angle of the opposite side?

1. If  $\triangle ABC \cong \triangle DEF$ , then find
  - i) corresponding congruent sides
  - ii) corresponding congruent angles.
2. If three angles of a triangle are  $x$ ,  $3x$  and  $112^\circ$ , then find the value of  $x$ .

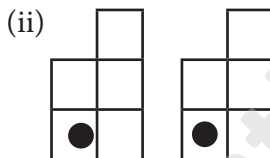
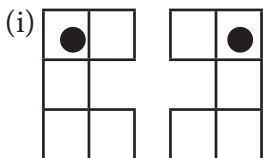
## 12

## Symmetry

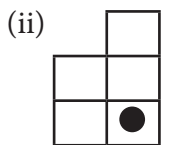
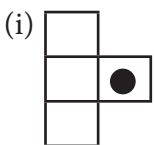


Answer the following questions.

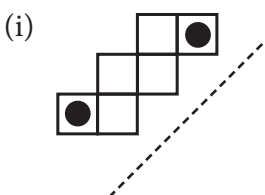
- The line that divides any figure into two equal halves such that each half exactly coincides with the other is known as \_\_\_\_\_
- Describe the transformation involved in the following pair of figures. Write translation, reflection or rotation.



- Reflect the shape in each of the following pictures with given line of reflection.



- Reflect the shape in each of the following pictures with given line of reflection.



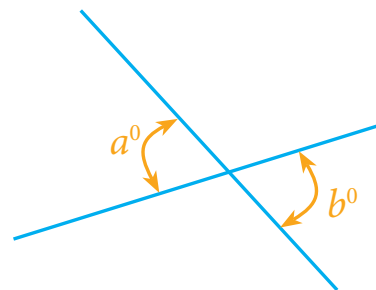
13

## Pair of angles formed by Intersecting lines and Transversal

Answer the following questions.

- Vertically opposite angles are \_\_\_\_\_
  - Not equal in size
  - Complementary angles
  - Supplementary angles
  - Equal in size
- The sum of all the angles formed at a point is \_\_\_\_\_
  - $360^\circ$
  - $180^\circ$
  - $90^\circ$
  - $0^\circ$

- \_\_\_\_\_ line (s) which intersects two or more lines in different point.
  - Parallel
  - Transversal
  - Not parallel
  - Intersecting
- In the figure,  $a$  and  $b$  are \_\_\_\_\_.
  - Alternate exterior angles
  - Corresponding angles
  - Alternate interior angles
  - Opposite angles.



14

## Perpendicular bisector, angle bisector

Answer the following questions.

1. What is meant by perpendicular bisector?
2. Draw a line segment of length 10cm and construct a perpendicular bisector of the line segment using scale and compass.

1. Construct an angle  $90^\circ$  and draw a bisector of the angle.
2. Construct an angle  $60^\circ$  using ruler and compass only.

15

# Tetromino



Answer the following questions.

1. A tetromino is a shape obtained by joining \_\_\_\_\_ squares.
2. Use 5 tetrominoes twice, complete the rectangle of size  $14 \times 4$ .

Match the following:

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

16


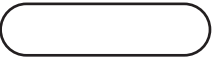
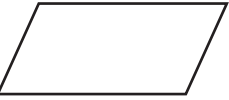

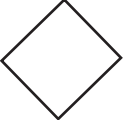
## Flow chart



Answer the following questions.

1. What are the types of a flow chart?
2. Write an algorithm for finding the smallest number among the set of given numbers and construct its flow chart.

Match the following:

	SHAPES	USES / NAME
(i)		$C = a + b$
(ii)		Processing
(iii)		Input / Output
(iv)		Decision
(v)		Flow line

17

## Mean, Median and Mode

Answer the following questions.

1. Find the mean of first 6 odd numbers.

2. Find the median of 7, 8, 9, 10, 11, 12.

1. Find the mode of 10, 2, 5, 7, 3, 8, 8, 7, 5, 8.

2. Find the Mean of 15, 17, 13, 10, 25, 20.

18

## Perimeter and Area of special Quadrilaterals

Answer the following questions.

- The sum of the parallel sides of a trapezium is 60m and its height is 20m. Find its area.
- The diagonals of a rhombus are 5cm and 7cm. Find its area.

- What is the greatest possible height of a rhombus whose side is 10cm?
- Complete the table

S.No.	Base	Height	Area of the parallelogram
(i)	10 m	6 m	
(ii)		15 cm	300 sq.cm.
(iii)	30 feet		450 sq.feet

19

## Area of Circular Path



Answer the following questions.

1. The approximate value of  $\pi$  \_\_\_\_\_.
2. Find the radius of a circle, when a wire of length 88cm is bent and made into a circle.

1. Find the area of circular path, if the radius of the outer circle is 70cm and the radius of inner circle is 56cm.
2. Find the width of the circular path, if radii of outer circle and inner circle are 70.5 m and 41.7 m respectively.

20

## Direct and Inverse Proportion



Answer the following questions.

1. Two quantities are in inverse proportion. If one quantity increases, then the other \_\_\_\_\_ .

2. If the cost of 6kg grapes is ₹ 480, then find the cost of 10kg grapes.

1. If a car covers 80kms in 2 litres of petrol, then find the distance covered in 5 litres of petrol.

2. 5 men complete a work in 4 days. How many men can finish the same work in 2 days?

## I can do

Choose the correct answer.

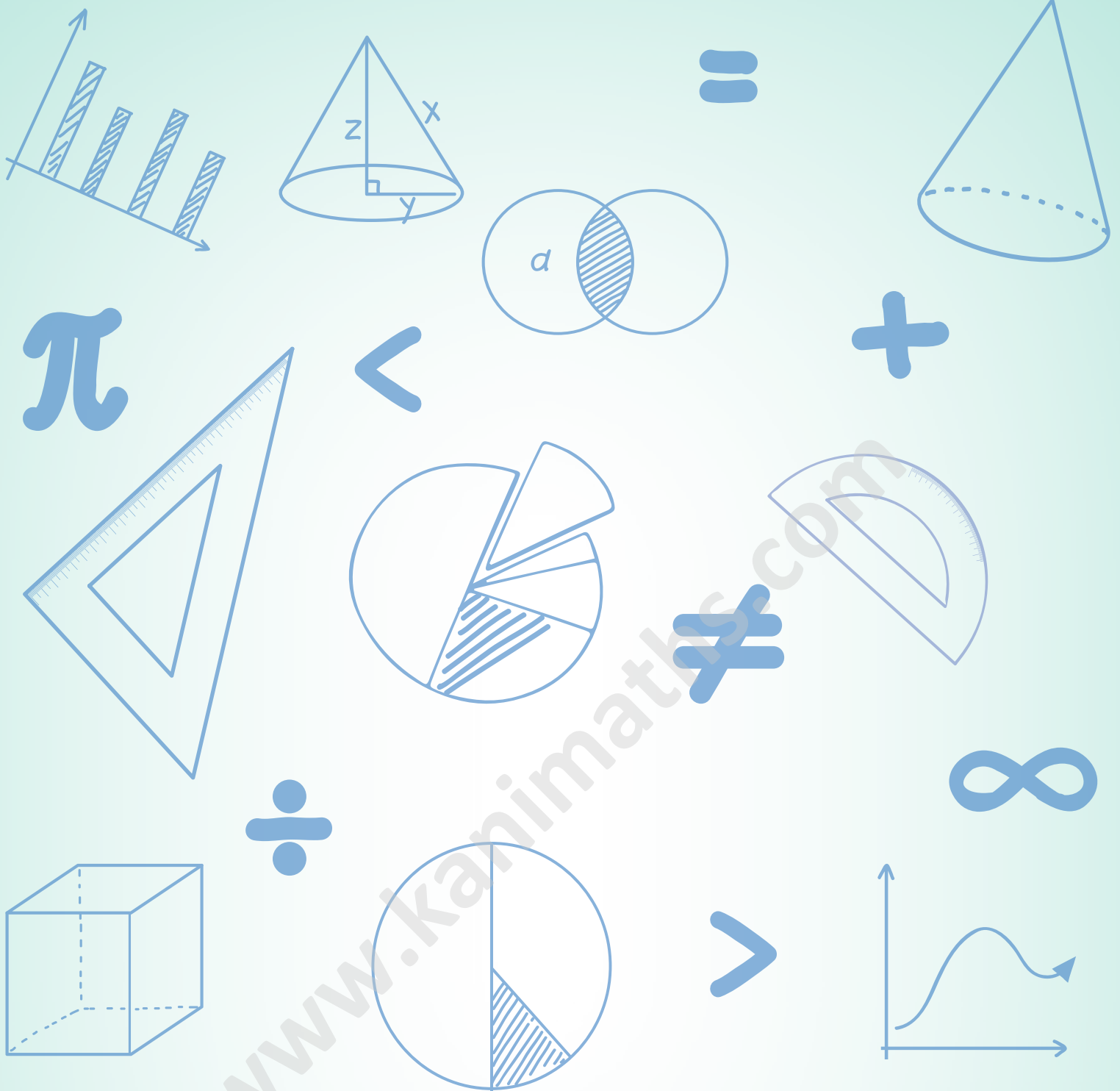
Marks :  $10 \times 1 = 10$ 

- Sum of angles in a triangle is
  - $90^\circ$
  - $180^\circ$
  - $270^\circ$
  - $360^\circ$
- Concentric circles have
  - Same radius
  - Different centres
  - Same centre
  - Same diameter
- If two angles form a linear pair, their sum is
  - $90^\circ$
  - $180^\circ$
  - $360^\circ$
  - $45^\circ$
- Angle formed by a perpendicular bisector is
  - $45^\circ$
  - $90^\circ$
  - $180^\circ$
  - $60^\circ$
- Which of the following is not a tetromino shape?
  - L-shape
  - T-shape
  - S-shape
  - Hexagon
- Mean of 2, 4, 6 is \_\_\_\_\_
  - 12
  - 4
  - 3
  - 2
- Mode of 3, 4, 4, 5 is \_\_\_\_\_
  - 3
  - 4
  - 5
  - 6
- Perimeter of square with side 6 cm is \_\_\_\_\_
  - 24 cm
  - 12 cm
  - 18 cm
  - 36 cm
- Area of a rectangle = ?
  - $2 \times (l + b)$
  - $l \times b$
  - $\frac{(l \times b)}{2}$
  - $(l - b)$
- If 4 people can complete a work in 10 days, how many days will it take 8 people to complete the work?
  - 5 days
  - 10 days
  - 20 days
  - 40 days

## Note

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