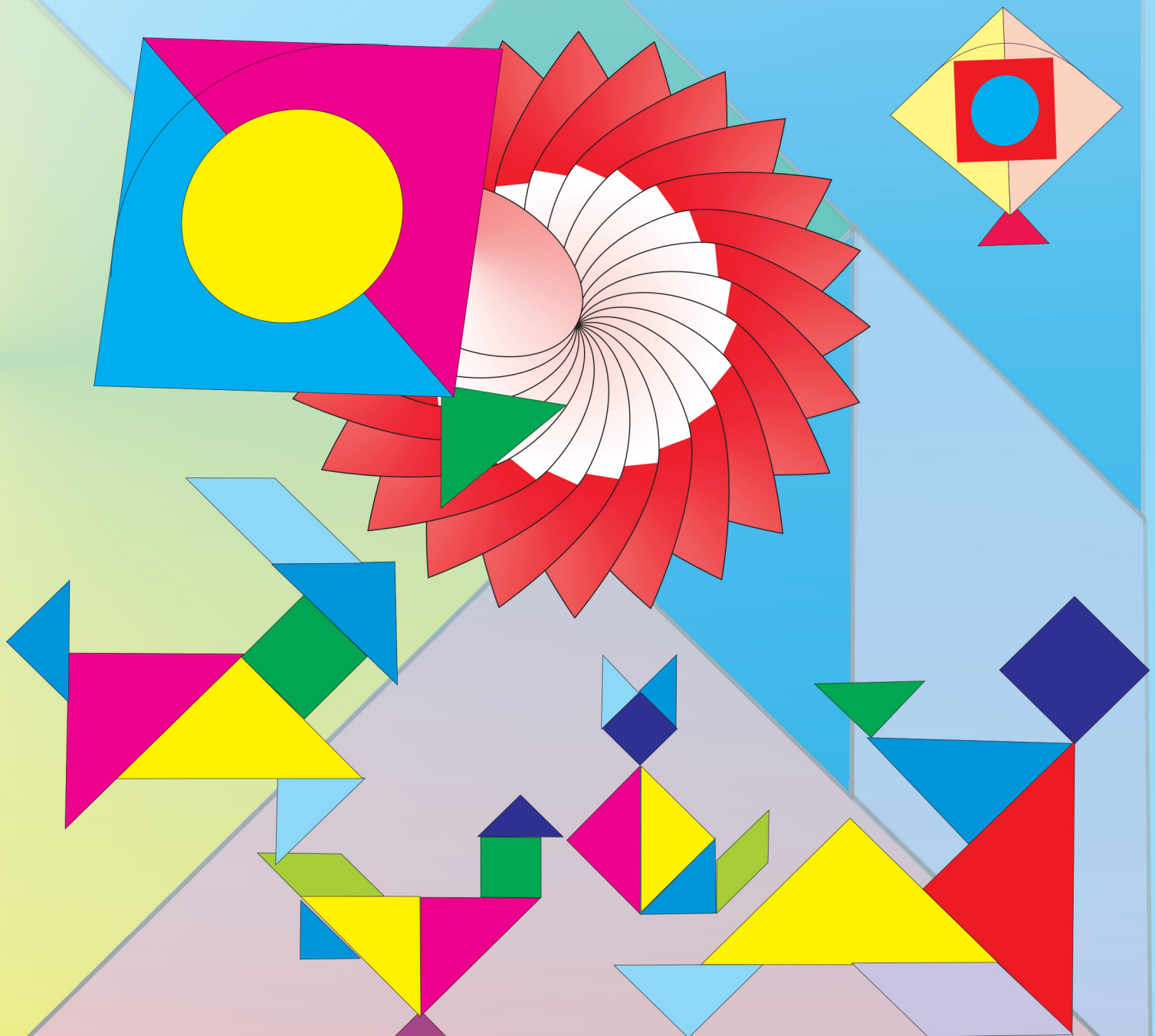


# MENTAL MATHS

QUESTION BANK  
CLASS 5



DIRECTORATE OF EDUCATION Govt. of N.C.T. of DELHI

**MENTAL**

**MATHS**

**CLASS**

**V**

**2022-23**

**DIRECTORATE OF EDUCATION  
GOVT. OF NCT OF DELHI**

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Dt. 19/5/2022

### **MESSAGE**

They say, 'Numbers are not just symbols on paper; numbers have life!'

It is not an exaggeration to place on record that numbers have played a pivotal role in the development and growth of human civilisation.

Numerical skills are very useful for students in their future life, especially when they appear in competitive exams.

Our Mental Maths Project aims at gradually developing and nurturing foundational numerical skills among our budding mathematicians. It started nearly two decades ago, and is striding, each passing year, on the path of progress.

Incidentally, I had an opportunity to witness the State Level Mental Maths Quiz Competition recently and I was spellbound by the speed, confidence and enthusiasm exhibited by the students. Indeed, it was to be seen to be believed!

I appreciate the dedication and hard work put in by the State Core Committee members and the Subject Experts under the able guidance of the Project Director (Mental Maths) in preparing the Question Banks and carrying this project forward with great zeal & fervour.

**(HIMANSHU GUPTA)**



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VIKAS KALIA  
PROJECT DIRECTOR (MENTAL MATHS)  
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No. PD/MMP/609

Dated 02/01/2023

### 'A Few Interesting Facts About Maths'

The word 'Mathematics' has its origin in the Greek word "Mathema" which means 'something that is learnt' or 'something that one gets to know'. In the same country (Greece), an ancient scholar Archimedes is considered to be the 'Father of Mathema' as he discovered methods to measure the areas of different shapes.

However, in our own country, we consider Aryabhatta as Father of Mathematics because of his original contributions made in Spherical Trigonometry. Some people believe that Aryabhatta invented Zero also, while some others credit another Vedic scholar Brahmgupta for this landmark discovery. The Western Scholars believe that Zero was first invented by the 'Mayans' (Mesopotamia) and a little later, by the Indians from which places, Zero travelled gradually to Cambodia, China and to the Arab world.

By the way, 'Arab' reminds me of an important branch of Maths named 'Algebra' which has its roots in the Arabian word 'Al-jabr' which means 'reunion of broken parts' (also used for reuniting broken bones)!

Algebra seeks to find out 'the missing values' and restoring them, just like restoring broken bones by providing missing links. In Algebra, we first 'imagine' values in the form of symbols like 'x' or 'y' and then, manipulate them to find out the 'actual' values. This is how even today, we find the 'missing' values or links through Algebra.

In short, we can conclude that unlike the 'inventions' of bulb, printing press or pen which were made by certain individuals, Mathematics is not an invention made by one person or by one civilisation. Its various branches were cultivated and nurtured by various individuals across various continents & civilizations and through different millennia.

As for Mental Maths, one can master Mental Maths through rigorous practice. Apart from learning Tables and Formulae by heart, one needs to learn various tricks for breaking longer calculations into smaller parts and making numbers 'round'. I am sure, our Maths Teachers will be able to identify students who have aptitude for numbers and groom them for Mental Maths Quiz Competitions.

I take this opportunity to thank all our Maths Teachers who devote so much of their extra time to prepare our students to sit for these competitions. I am also indebted to our Maths Teachers who have 'written' and 'reviewed' these question banks.

I thank my HoSs, Coordinators and the Core Team who, I think, are devoted much more than their Project Director to promoting Mental Maths among students!

Finally, I thank DBTB for the efforts they made for successful publication of these Question Banks.

Above all, I am indebted to my superior, the Director of Education, for his consistent support & guidance.

  
02/01/23  
(VIKAS KALIA)  
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**SCHEDULE OF MENTAL MATHS QUIZ COMPETITIONS  
FOR THE YEAR 2022-2023  
DIRECTORATE OF EDUCATION  
GOVT OF NCT OF DELHI**

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- |   |                          |
|---|--------------------------|
| ▪ Practice to students from Question Bank | 01.04.2022 to 15.10.2022 |
| ▪ School level Quiz Competition           | 17.10.2022 to 07.11.2022 |
| ▪ Cluster level Quiz Competition          | 08.11.2022 to 14.11.2022 |
| ▪ Zonal level Quiz Competition            | 21.11.2022 to 30.11.2022 |
| ▪ District level Quiz Competition         | 07.12.2022 to 14.12.2022 |
| ▪ Regional level Quiz Competition         | 26.12.2022 to 31.12.2022 |
| ▪ State level Quiz Competition            | 18.01.2023 to 31.01.2023 |

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# Chapter-1

## Numbers

### Points to remember

➤ **Face Value:-**

Face value of a digit in a numeral is the value of the digit itself, whatever place it occupies in the place value chart.

**For example:**

The face value of 8 in 28656 is 8

The face value of 7 in 23725 is 7

➤ **Place Value:-**

Place value of a digit in a numeral depends on the place it occupies in the place value chart.

Place value of a digit = (Face value of the digit) × (Value of the Place)

**For example:**

The place value of 9 in 19386 is 9000

*i.e.*  $9 \times 1000 = 9000$

- The place value of Zero is always '0' irrespective of the place it occupies.
- Expanded form of a number is the sum of the place values of its digits.

**For Example:**  $29358 = 20000 + 9000 + 300 + 50 + 8$

Or

$29358 = 2 \times 10000 + 9 \times 1000 + 3 \times 100 + 5 \times 10 + 8 \times 1$

➤ **Predecessor:**

The predecessor of a number is 1 less than the number or (*Number* – 1)

➤ **Successor:**

The successor of a number is 1 more than the number or (*Number* + 1)

➤ **Greater number:**

A number having more digit is always greater but if the numbers to be compared have same number of digits, always begin comparing with the left most place.

**For Example:**

H	T	O
9	7	5
9	7	8

In the shown example, 975 and 978 have the same digit at hundred and tens place.

The digit at ones place differ since 978 has greater digit. *i.e.* 8 at ones place or unit place.

Therefore  $978 > 975$

- Ascending Order means arranging numbers from smallest to the greatest.
- Descending Order means arranging numbers from greatest to smallest.
- To make the greatest number with given digits we arrange the given digits in the *Descending Order*.
- To make the smallest number with the given digits we arrange the given digits in the *Ascending Order*.
- As 0 on the extreme left of a number has no value, so smallest five digit number using digits, 6,1,2,0,8 is 10268 not 01268

➤ Greatest & Smallest

<u>Numbers</u>	<u>Smallest</u>	<u>Greatest</u>
1 Digit	1	9
2 Digit	10	99
3 Digit	100	999
4 Digit	1000	9999

Total numbers in all

Number	
1 Digit	9
2 Digit	90
3 Digit	900
4 Digit	9000
5 Digit	90000

Number of Zeroes In:-

One	-	
Ten	-	1
Hundred	-	2
Thousand	-	3
Ten Thousand	-	4
Lakh	-	5
Ten Lakh	-	6
Crore	-	7

## QUESTIONS:

1. What is the greatest 3 digit number?
2. Find the smallest number of 4 digit.
3. What is the successor of 99?
4. Find the predecessor of the smallest 3 digit number.
5. Find the successor of the greatest 4- digit number.
6. How many numbers exactly have only 2 digits?
7. How many 3 digits numbers are there in all?
8. Find the smallest 4 digit number having 4 different digits.
9. Form the smallest 5 digit number using 4, 3, 0, 7 and 6. Each digit should be used only once.
10. Find the greatest 6 digit number formed by the digits 2, 3, 6, 9, 4, 1.
11. Using only two different digits, find the smallest four digit number.
12. Change the position of digits in 89724 to get the smallest number of 5 digits.
13. Find one less than ten thousand.
14. Find the number 1000 less than the greatest 5 digit number.
15. Find the number 1000 less than the smallest 5 digit number.
16. Find the number 100 less than the greatest 3 digit number.
17. Find  $10000 - 435$
18. How many digits are there in two lakh eighty five?
19. How many zeroes are there in one lakh?
20. How many digits are there in ten lakh?
21. How many digits are there in thirty five lakh?
22. Find the place value of 3 in 23245.
23. Find the place value and face value of 7 in 72941.
24. Find the sum of place values of 7's in 776429.
25. Find the sum of place value and face value of 2 in 24367.
26. Find the sum of place values of 4 and 5 in 43257.
27. Find the difference of place values of two 4's in 46249.
28. Find the difference of place value and face value of 7 in 67459.
29. Find the product of place value and face value of 5 in 2564.
30. In 92631 the greatest digit is at which place?

31. In five thousand eight hundred twenty four, which digit is at tens place?
  32. Find the product of successor of 9 and predecessor of 101.
  33. Find the product of successor of 99 and predecessor of 11.
  34. How many tens are there in 6000?
  35. How many hundreds are there in 8946?
  36. How many thousands are there in 26729?
  37. Counting by hundreds, find the number next to 2527.
  38. Looking at the given pattern find the next numbers in the given series  
7267, 7367, 7467 \_\_\_\_\_
  39. Find the value of  $x$  :-  
$$3000 + 600 + 20 + 7 = x$$
  40. Find:- 72 thousand + 16 hundreds.
  41. If 7 hundreds 3 tens and 2 ones =  $700 + x + 2$ , find the value of  $x$ .
  42. If  $70000 + x + 4 = 70504$ , find the value of  $x$ .
  43. I am a two digit number. I have 5 in ones place. I am less than 40 but more than 30, Tell who am I?
  44. I am a three digit number. I have 4 in my ones place, 6 at hundreds place and 2 at tens place. Tell who am I?
  45. Find:- 9 thousand 7 tens and 6 ones.
- [46-50] find the value of  $x$
46. Four tens =  $x$  Ones
  47. One lakh =  $x$  Thousand
  48. One crore =  $x$  Ten thousand
  49. Hundred =  $x$  tens
  50. Ten lakh =  $x$  hundred

## ANSWERS:

- |   |                  |
|---|------------------|
| 1. 999                                  | 26. 40050        |
| 2. 1000                                 | 27. 39960        |
| 3. 100                                  | 28. 6993         |
| 4. 99                                   | 29. 2500         |
| 5. 10000                                | 30. Ten thousand |
| 6. 90                                   | 31. 2            |
| 7. 900                                  | 32. 1000         |
| 8. 1023                                 | 33. 1000         |
| 9. 30467                                | 34. 600          |
| 10. 964321                              | 35. 89           |
| 11. 1000                                | 36. 26           |
| 12. 24789                               | 37. 2627         |
| 13. 9999                                | 38. 7567         |
| 14. 98999                               | 39. 3627         |
| 15. 9000                                | 40. 73600        |
| 16. 899                                 | 41. 30           |
| 17. 9565                                | 42. 500          |
| 18. 6                                   | 43. 35           |
| 19. 5                                   | 44. 624          |
| 20. 7                                   | 45. 9076         |
| 21. 7                                   | 46. 40           |
| 22. 3000                                | 47. 100          |
| 23. Place Value- 70000<br>Face value -7 | 48. 1000         |
| 24. 770 000                             | 49. 10           |
| 25. 20002                               | 50. 10000        |

# Chapter-2

## Operations on Numbers

### Points to remember:

- When 1 is added to number, we get the next number called its successor.

For example:  $12 + 1 = 13$

- When 0 is added to a number, the number remains the same

for example:  $31 + 0 = 31$

- Numbers added in any order give the same sum

For example:  $18 + 2 = 2 + 18 = 20$

### ➤ About subtraction:

- When 1 is subtracted from a number, we get the previous number called its predecessor.

For example:  $25 - 1 = 24$

- When 0 is subtracted from a number, the difference is the number itself.

For example:  $46 - 0 = 46$

- When we subtract a number from itself, the number is always 0

For example:  $94 - 94 = 0$

### ➤ Addition and Subtraction are Inverse Operation:

Let's see  $3245 + 4153 = 7398$

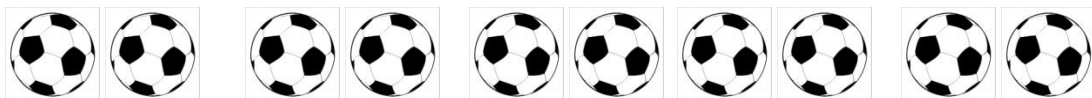
Then  $7398 - 4153 = 3245$

And  $7398 - 3245 = 4153$

### About multiplication:

Multiplication is "REPEATED ADDITION". It means we can write numbers in multiplicative form if same number is added many times

For example: If we add 2 five times



$$2 + 2 + 2 + 2 + 2 = 10$$

it is same as:  $2 \times 5 = 10$

- When a number is multiplied by one, the product is the number itself.

For example:  $924 \times 1 = 924$



- When a number is multiplied by zero the product is always zero.

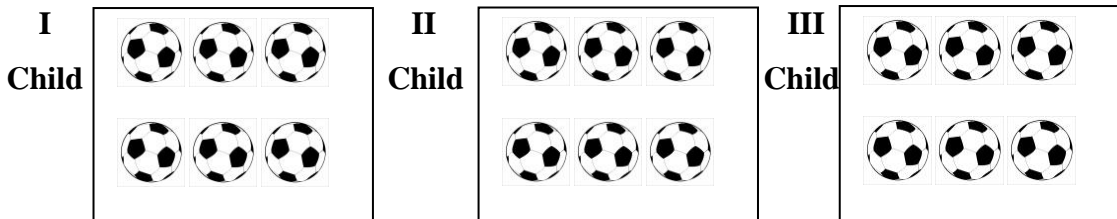
For example:  $735 \times 0 = 0$

- Two numbers multiplied in any order give the same product

For example:  $13 \times 7 = 91$  or  $7 \times 13 = 91$

### About division:

- Division is “REPEATED SUBTRACTION” If 18 items are to be distributed equally among 3 children, 3 items will be taken from 18 repeatedly to know how many items each child will get.



Or we can divide 18 by 3 i.e.,  $18 \div 3 = 6$

- When a number is divided by one, the answer is the number itself.

For example:  $23 \div 1 = 23$

- When a number is divided by itself, the answer is one.

For example:  $18 \div 18 = 1$

- When zero is divided by any number the answer is zero.

For example:  $0 \div 4 = 0$

**Multiplication and  
Division are Inverse  
Operations**

Let's see  $20 \times 2 = 40$

Then  $40 \div 2 = 20$

And  $40 \div 20 = 2$

$25 \times 25$	$=$	$625$
$35 \times 35$	$=$	$1225$
$45 \times 45$	$=$	$2025$
$65 \times 65$	$=$	$4225$
$75 \times 75$	$=$	$5625$
$85 \times 85$	$=$	$7225$
$95 \times 95$	$=$	$9025$

➤ Short method of Addition and Subtraction.

➤ **Expanding the Second Addend or Subtrahend:**

For addition  $28 + 17 = 28 + 10 + 7 = 38 + 7 = 45$

For Subtraction  $28 - 17 = 28 - 10 - 7 = 18 - 7 = 11$

➤ Front - End Adding:

For example:  $65 + 26 = ?$

Need to think  $60 + 20 = 80$  and  $5 + 6 = 11$ ,  $80 + 11 = 91$

➤ Compensation for 8 and 9

For example:  $67 - 19 = 67 - 20 + 1 = 68 - 20 = 48$

$$67 - 18 = 67 - 20 + 2 = 69 - 20 = 49$$

$$43 + 29 = 43 + 30 - 1 = 42 + 30 = 72$$

$$43 + 28 = 43 + 30 - 2 = 41 + 30 = 71$$

➤ Common Zeroes:

For addition and subtraction operations, complete the operation leaving zero and then take the 0 back

For example:  $120 - 70 = ?$

Think  $12 - 7 = 5$

Add the common zero, so the answer is 50

### Short method of Multiplication and division

- Multiply by 4, by doubling twice

e.g. to find  $16 \times 4$

$$16 \times 4 = 16 \times 2 \times 2 = 32 \times 2 = 64$$

- Multiply by 8, by doubling thrice.

e.g.  $12 \times 8 = 12 \times 2 \times 2 \times 2 = 24 \times 2 \times 2 = 48 \times 2 = 96$

- Divided by 4, by halving twice

e. g. To find  $104 \div 4$

$$104 \div 2 = 52$$

$$52 \div 2 = 26$$

Thus  $104 \div 4 = 26$

- Divided by 8, by halving thrice.

e.g.

To find  $104 \div 8$

$$104 \div 2 = 52$$

$$52 \div 2 = 26$$

$$26 \div 2 = 13$$

Thus  $104 \div 8 = 13$

- Multiply by 5, by multiplying by 10 then halving

e.g.  $18 \times 5$

$$18 \times 10 = 180$$

$$180 \div 2 = 90$$

Thus  $18 \times 5 = 90$

- Multiply by 20, by doubling then multiplying 10

e.g.  $53 \times 20$

$$53 \times 2 = 106$$

$$106 \times 10 = 1060$$

Thus  $53 \times 20 = 1060$

- Multiply by 50, by multiplying by 100 and halving

e.g.  $46 \times 50$

$$46 \times 100 = 4600$$

$$4600 \div 2 = 2300$$

Thus  $46 \times 50 = 2300$

- Multiply by 25, by multiplying by 100 and halving twice.

e.g.  $98 \times 25$

$$98 \times 100 = 9800$$

$$9800 \div 2 = 4900$$

$$4900 \div 2 = 2450$$

Thus  $98 \times 25 = 2450$

## QUESTIONS:

Find the value of  $x$

1.  $6700 - x = 6000$

2.  $10 \times 6 - x = 40$

3.  $12 \times 10 \times 10 = 12 \times x$

4.  $900 \div 100 = x$
5.  $639 \div x = 3$
6.  $84659 + 728 + 100 = 728 + 84659 + x$
7.  $49256 + 100 = 49256 + 50 + x$
8.  $34755 + 712 + 20 = 33755 + 712 + 20 + x$
9.  $625 + 175 + 200 = 700 + x$
10.  $400 \times 10 \times 10 \times 10 = 400 \times x$
11. How many times we can subtract 25 from 625?
12. Meena bought 6 copies for ₹ 66 and a book for ₹ 35. How many rupees did she have to pay to the shopkeeper?
13. How many oranges are there in 15 dozens?
14. How many cars are needed for 145 persons if 5 persons can sit in one car?
15. Ravi purchased 5 shirts each costing ₹ 350. What is the total cost of 5 shirts?
16. Madhu reads 9 pages daily from a book which has 72 pages. After 5 days, how many pages remain unread?
17. Find the value of-  
 $64 - 60 + 86 - 82 + 96 - 92 + 39 - 35$
18. Find the value of-  
 $86 - 81 + 74 - 69 + 34$
19. 60 flowers are needed to make a garland. How many flowers are needed to make 20 such garlands?
20. How many chocolates are there in 22 boxes, if there are 22 chocolates in each box?
21. The product of two number is 729. If one of the number is 9, find the other.
22. A hall has total 888 seats in 222 rows. How many seats are there in one row?
23. There are 979 packets of milk in a dairy. 878 packets were sold. How many packets were left?
24. How many sides are there in 9 hexagons?
25. How many sides are there in 8 pentagons?
26. How many minutes are there in 1800seconds?

27. The monthly salary of Neha is ₹ 6000. Find her annual salary.
28. How many beds can be arranged in 23 rooms of a hospital if there are 23 beds in each room?
29. Find the sum of the biggest 3 digit number, the smallest 2 digit number and greatest 1 digit number.
30. In a garden, there were 72 Coconut trees and 18 Neem trees and 40 Mango trees. How many trees were there in all in the garden?
31. What number should be added to 961 to make it 3000?
32. By how much is 123 greater than 99?
33. There are 157 books on one shelf and 243 books on other shelf of an almirah. How many books are there in all?
34. If the sum of numbers from 1 to 10 is 55, then what is the sum of numbers from 101 to 110?
35. If  $75 + 35 = 110$ , find  $750 + 350 = ?$
36. What number should be added to 39 to get 100?
37. A cycle costs ₹ 6000. Find the cost of 10 such cycles?
38. There are 80 balloons in a packet. Find the number of packets needed for 2400 balloons?
39. Find :- 5 dozen + 48
40. Calculate:  $170 - 120 + 80 - 60 + 70 - 50$
41. If  $x + x + x + x = 80$  then find the value of  $x$
42. Calculate:  $-50 + 75 - 25 + 35 - 20$ .
- [43-50] Find the value of  $y$
43.  $95000 \div 19 = y$
44.  $8000 - y = 7998$
45.  $9345 \times 62 \times 0 \times 4 = y$
46.  $5325 + y = 5375$
47.  $9278 - y = 9250$
48.  $275 + y = 500$
49.  $650 + 950 + 250 = y$
50.  $1300 + 1400 + 373 = y$

## ANSWERS:

- |     |        |     |         |
|-----|--------|-----|---------|
| 1.  | 700    | 26. | 30      |
| 2.  | 20     | 27. | ₹ 72000 |
| 3.  | 100    | 28. | 529     |
| 4.  | 9      | 29. | 1018    |
| 5.  | 213    | 30. | 130     |
| 6.  | 100    | 31. | 2039    |
| 7.  | 50     | 32. | 24      |
| 8.  | 1000   | 33. | 400     |
| 9.  | 300    | 34. | 1055    |
| 10. | 1000   | 35. | 1100    |
| 11. | 25     | 36. | 61      |
| 12. | ₹ 101  | 37. | ₹ 60000 |
| 13. | 180    | 38. | 30      |
| 14. | 29     | 39. | 108     |
| 15. | ₹ 1750 | 40. | 90      |
| 16. | 27     | 41. | 20      |
| 17. | 16     | 42. | 85      |
| 18. | 44     | 43. | 5000    |
| 19. | 1200   | 44. | 2       |
| 20. | 484    | 45. | 0       |
| 21. | 81     | 46. | 50      |
| 22. | 4      | 47. | 28      |
| 23. | 101    | 48. | 225     |
| 24. | 54     | 49. | 1850    |
| 25. | 40     | 50. | 3073    |



## CHAPER- 3

# Roman Numerals

### Points to remember:

- Hundred years ago, the Romans had a system of numbers with only seven symbols.
- Each symbol had a different value and there was no symbol for '0'. These symbols are I, V, X, L, C, D and M. The values of these symbols are given below:

Roman Numerals	I	V	X	L	C	D	M
Hindu- Arabic Numerals	1	5	10	50	100	500	1000

Romans used different combination of symbols to write numbers using addition and subtraction.

### Addition rule of ROMAN NUMBERS:

1. When a symbol is repeated in succession, we add the value of the numeral by the number of time it is repeated. A symbol cannot be repeated more than 3 times in succession.

For example:  $III = 1 + 1 + 1 = 3$

$XX = 10 + 10 = 20$

$XXX = 10 + 10 + 10 = 30$

**BUT XXXX = 40 IS NOT CORRECT. 40 is written as XL**

2. A smaller Roman numeral written to the right of a larger Roman numeral is added to the greater numeral.

For example:  $VI = 5 + 1 = 6$

$XI = 10 + 1 = 11$

$XXIV = 10 + 10 + 4 = 24$

2. Symbol V, L and D are never repeated.

## **SUBTRACTION RULE:**

A smaller Roman numeral written on the left of a larger numeral is subtracted from the larger numeral.

For example:  $IV = 5 - 1 = 4$

$IX = 10 - 1 = 9$

$XL = 50 - 10 = 40$

$XC = 100 - 10 = 90$

- I can be subtracted from V and X only.
- V and L are never subtracted and repeated.
- X can be subtracted from L and C only.
- C can be subtracted from D and M only.

## **CONVERSION OF INDO ARABIC NUMERALS INTO ROMAN NUMERALS:**

To convert a number given in Indo- Arabic numerals into Roman numerals, convert one digit at a time and proceed as follows:

For example:  $217 = 200 + 10 + 7$

$= CC + X + VII$

$= CCXVII$

## **CONVERSION OF ROMAN NUMERALS INTO INDO -ARABIC NUMERALS:**

For example:  $CCCLIX = 100 + 100 + 100 + 50 + 9$

$= 300 + 50 + 9$

$= 359$

$MDCCCLVI = 1000 + 500 + 100 + 100 + 50 + 6$

$= 1756$

- A line above a Roman numeral means “multiply by 1000”

For example:  $\overline{V} = 5 \times 1000 = 5000$

$\overline{X} = 10 \times 1000 = 10000$

- The Roman numeral I does not take an overbar since the value 1000 is already represented by M.

### QUESTIONS:

[1-10] What will be the Indo- Arabic numeral for each of the following Roman Numerals:

1. LX
2. XII
3. XIX
4. XCV
5. LXXIV
6. CM
7. MCDLXIX
8. MMDV
9. DCXLVI
10.  $\overline{\text{V}}\text{DXCIII}$

[11-15] Replace the given incorrect Roman numerals with the correct ones:

11. CCCC
12.  $\overline{\text{II}}$
13. LL
14. IIII
15. XD

[16-23] State the Roman numerals for the following Indo-Arabic numerals:

16. 15
17. 79
18. 990
19. 205
20. 979
21. 1340
22. 5651
23. 2021

**[24-33] Find the value in Roman numerals:-**

24. IX - X
25. XL - XIV
26. XV + XIII
27. XXXV - XVIII
28. CCLX – CLX
29. XC + L
30. XXV ÷ V
31. C × L
32. L ÷ V + V × IV
33. X + C – L

**[34-38] Find the value in Indo-Arabic Numerals:**

34. CDL - CCCLX
35. LXXI + XXVIII
36. CIV ÷ VIII
37. MCMX - CM
38. XLIX + L + CI
39. Which Roman numeral should be subtracted from L to get XXXV?
40. Which Roman numeral should be added to XLII to get LV?
41. Find the quotient in Roman numeral when XXVII is divided by IX.
42. By which Roman numeral should we divide LX to get X as quotient?
43. Find the value of  $(30 \times 4 + 30)$  in Roman numeral.
44. By which Roman numeral should XII be multiplied to get the product XCVI?
45. Express the value  $(\frac{2020}{5})$  in Roman numerals.

## ANSWERS:

- |     |                |     |           |
|-----|----------------|-----|-----------|
| 1.  | 60             | 24. | XIX       |
| 2.  | 12             | 25. | XXVI      |
| 3.  | 19             | 26. | XXVIII    |
| 4.  | 95             | 27. | XVII      |
| 5.  | 74             | 28. | C         |
| 6.  | 900            | 29. | CXL       |
| 7.  | 1469           | 30. | V         |
| 8.  | 2505           | 31. | $\bar{V}$ |
| 9.  | 646            | 32. | XXX       |
| 10. | 5593           | 33. | LX        |
| 11. | CD             | 34. | 90        |
| 12. | MM             | 35. | 99        |
| 13. | C              | 36. | 13        |
| 14. | IV             | 37. | 1010      |
| 15. | CDXC           | 38. | 200       |
| 16. | XV             | 39. | XV        |
| 17. | LXXIX          | 40. | XIII      |
| 18. | CMXC           | 41. | III       |
| 19. | CCV            | 42. | VI        |
| 20. | CMLXXIX        | 43. | CL        |
| 21. | MCCCXL         | 44. | VIII      |
| 22. | $\bar{V}$ DCLI | 45. | CDIV      |
| 23. | MMXXI          |     |           |

# CHAPTER- 4

## ESTIMATION

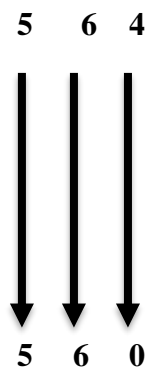
### Points to remember:

- Estimation means not to give the exact value or number of things but the “approximate” value or number of things.
- This approximate value is the nearest multiple of 10 or 100 or 1000 etc.
- This is known as the *Rounding off the numbers* to the nearest ten or hundred or thousand etc.
- To round off the given number to the nearest ten, observe the digit at *units* place.

*If it is less than 5*

*If it is equal to or more than 5*

For example



So 564 is rounded off to 560

For example



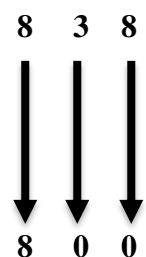
So 568 is rounded off to 570

- To round off the given number to the nearest *hundred*, observe the digit at *tens* place.

*If it is less than 5*

*If it is equal to or more than 5*

For example



So 838 is rounded off to 800

For example



So 876 is rounded off to 900



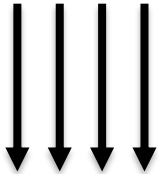
- To round off the given number to the nearest thousand, observe the digit at *hundreds* place.

*If it is less than 5*

*If it is equal to or more than 5*

For example:

7 2 5 9

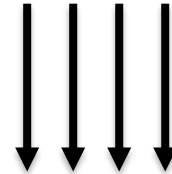


7 0 0 0

So 7259 is rounded off to 7000

For example

4 6 4 9



5 0 0 0

So 4649 is rounded off to 5000

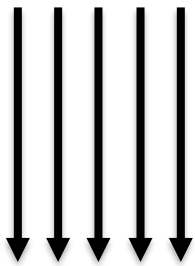
- To round off the given number to the nearest ten thousand, observe the digit at *thousands* place.

*If it is less than 5*

*If it is equal to or more than 5*

For example

6 4 5 9 5

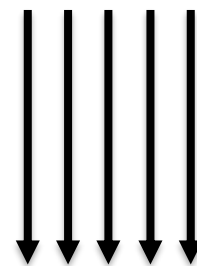


6 0 0 0 0

So 64595 is rounded off to 60000

For example

8 5 4 5 3



9 0 0 0 0

So 85453 is rounded off to 90000

## QUESTIONS:

[1-5] Round off the following numbers to the nearest ten:

1. 49
2. 352
3. 7565
4. 65893
5. 48752

[6-10] Round off the following numbers to the nearest hundred:

6. 846
7. 782
8. 4876
9. 93725
10. 98459

[11-15] Round off the following numbers to the nearest thousand:

11. 7234
12. 5632
13. 87654
14. 88356
15. 99845

[16-20] Round off the following numbers to the nearest thousand:

16. 52352
17. 84345
18. 48934
19. 67302
20. 89560
21. A shark is 39 m long. Find its approximate length if rounded off to nearest ten.
22. A ground is 83 m long. Find its approximate length if rounded off to the nearest ten.
23. Vaibhav earns ₹ 59259 per month. Round off his salary to the nearest thousand.
24. Population of a city is 48372. Round off the population of the city to the nearest thousand.

25. The cost price of a refrigerator is ₹ 27850. Find its estimated value if the cost price is round off to the nearest ten thousand.
26. Lakshay lives in a rented flat in Delhi. He pays ₹42924 as rent per year. How much money does he pay as rent if rounded off to the nearest ten thousand?
27. Arman weighs 152 kg and Mohan weighs 118 kg. What is the difference of their weights if the weight of each is rounded off to the nearest hundred?
28. Meera drinks 230 millilitre of milk every day. How much milk does she drink in 2 days? Round of your answer to the nearest hundred.
29. My height is 135 centimetres and my sister's height is 159 centimetres. Find the sum of our heights if the height of each is rounded off to the nearest ten.
30. Arjun drinks 175 millilitre of milk every day. Round off the quantity of milk to the nearest hundred and now find how much milk does he drink in a week?

## ANSWERS:

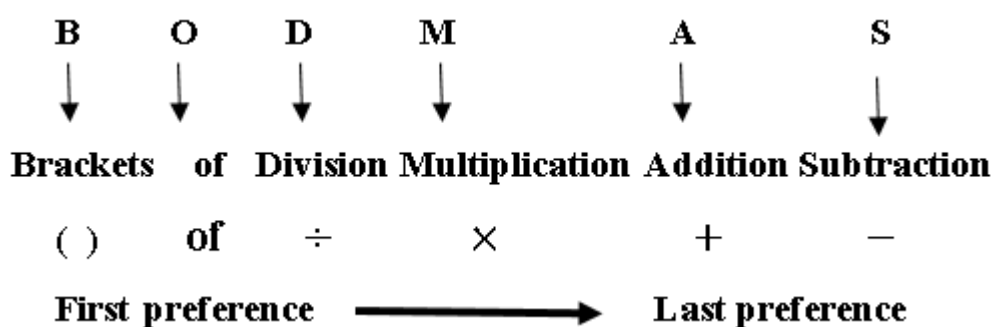
- |            |                         |
|------------|-------------------------|
| 1. 50      | 16. 50000               |
| 2. 350     | 17. 80000               |
| 3. 7570    | 18. 50000               |
| 4. 65890   | 19. 70000               |
| 5. 48750   | 20. 90000               |
| 6. 800     | 21. 40 metre            |
| 7. 800     | 22. 80 metre            |
| 8. 4900    | 23. ₹59000              |
| 9. 93700   | 24. 48000               |
| 10. 98500  | 25. ₹ 30000             |
| 11. 7000   | 26. ₹ 40000             |
| 12. 6000   | 27. 100 kg              |
| 13. 88000  | 28. 500 ml.             |
| 14. 88000  | 29. 300 cm              |
| 15. 100000 | 30. 1400ml or 1.4 litre |

# CHAPTER-5

## DODGING TABLES AND SIMPLIFICATION

### Points to remember:

- In simplifying an expression containing more than one operation, the order of performing various operations must be maintained in the following manner:



- A numerical expression within a bracket is solved in the order ODMAS (ODMAS → of ÷ × + −)
- If there is no symbol of operation between a number and a bracket, make a symbol of multiplication
- If there is a symbol of subtraction (−) before a bracket and the bracket is removed (without simplifying the inner terms), symbol of plus and minus of inner terms are changed to minus and plus respectively.
- A symbol of plus (+) before the bracket does not change the symbols of the inner terms.

For example:-

$$\begin{aligned}
 & 35 - 20 \div 10 + 4 \times 3 \\
 & = 35 - 2 + 12 && \text{(Performed } \div \text{ and } \times \text{)} \\
 & = 47 - 2 && \text{(Performed } + \text{)} \\
 & = 45 && \text{(Performed } - \text{)}
 \end{aligned}$$

➤ Interesting Patterns:-

- $(1 \times 8) + 1 = 9$   
 $(12 \times 8) + 2 = 98$   
 $(123 \times 8) + 3 = 987$   
 $(1234 \times 8) + 4 = 9876$
  
- $(0 \times 9) + 1 = 1$   
 $(1 \times 9) + 2 = 11$   
 $(12 \times 9) + 3 = 111$   
 $(123 \times 9) + 4 = 1111$

➤ Short Method of multiplication

$$28 \times 102$$

Break up 102 as  $100 + 2$

$$102 = 100 + 2$$

$$28 \times 100 = 2800$$

$$28 \times 2 = 56$$

$$\text{Thus, } 28 \times 102 = 2856$$

$$8 \times 29$$

Break up 29 as  $30 - 1$

$$29 = 30 - 1$$

$$8 \times 30 = 240$$

$$8 \times 1 = 8$$

$$8 \times 29 = 240 - 8 = 232$$

**QUESTIONS:**

[1-20] Simplify the following

1.  $25 \times 8 \times 0 + 20$
2.  $12 \times 6 \times 20 \div 2$
3.  $74 \div 37 + 8 \times 9$
4.  $40 \div 4 \times 8 - 5$
5.  $27 \times 2 \div 1 + 6$
6.  $200 - (65 \div 13 + 20)$
7.  $600 - (14 + 8 - 2)$
8.  $15 + (9 \times 20)$



9.  $14 + 12 \times 12$
10.  $95 - 160 \div 40$
11.  $650 \div 65 \times 74$
12.  $(9000 \div 90) - 16$
13.  $550 \div 55 - 7$
14.  $18 \times 4 + 16 \div 2$
15.  $50 \div 5 + 20 - 6 \times 2$
16.  $84 \div 14 \times 20 + 10 - 5$
17.  $133 \div 19 + 9 \times 7$
18.  $84 \div 42 + 8 \div 4$
19.  $90 \times 4 \div 4 + 60 \div 2$
20.  $42 + 8 \div 2 + 6 \times 3$

[21-24] Find the value of  $z$  :-

21.  $65 - 15 \text{ twos} = z$
22.  $95 - 5 \text{ threes} = z$
23.  $32 - 3 \text{ twos} = z$
24.  $110 - 5 \text{ twos} = z$

[25-30] Find the value of  $y$  :-

25.  $\text{One thousand} \times \text{One hundred} = y$
26.  $\text{One Lakh} \times \text{One hundred} = y$
27.  $\text{Ten Lakh} \times \text{One Ten} = y$
28.  $\text{One thousand} \times \text{One thousand} = y$
29.  $\text{One hundred} \times \text{One thousand} = y$
30.  $\text{Ten thousand} \times \text{One thousand} = y$

[31-40] Find the value of  $x$

31.  $16 \times x = 112$
32.  $135 \div x = 15$
33.  $160 \times x = 32000$
34.  $68 \times 1000 = x \times 100$
35.  $95 \times 10 = x \times 5 \times 2$
36.  $250 \times x = 75000$
37.  $18 \times 20 = x \times 10$
38.  $90 \times 90 = 100 \times x$

39.  $x \times 200 = 6000$
40.  $90 \times 10 = 9 \times x$
41. Find :-  $888888 \div 88$
42. Find :-  $60000 \div 60$
43. Find :-  $5050 \div 50$
44. Find 4 times  $18\frac{1}{4}$
45. If  $17658 \div 9 = 1962$  then find  $17658 \div 1962$
46. How many times will you add 13 to get 143?
47. If  $250 \times 15 = 3750$ , then find  $250 \times 16$
48. If  $250 \times 10 = 2500$ , then find  $250 \times 12$
49. If  $35 \times 20 = 700$ , then find  $35 \times 22$
50. If  $550 \times 20 = 11000$ , then find  $550 \times 200$
51. If  $65 \times 10 = 650$ , then find  $65 \times 8$
- [52-55] Find the value of  $x$
52.  $25 \times 65 = (25 \times 60) + (25 \times x)$
53.  $98 \times 13 = (98 \times 15) - (98 \times x)$
54.  $46 \times 19 = (46 \times x) - 46$
55.  $17 + 17 + 17 + 17 + 17 = x$

## ANSWERS:

- |     |           |     |           |
|-----|-----------|-----|-----------|
| 1.  | 20        | 29. | One Lakh  |
| 2.  | 720       | 30. | One Crore |
| 3.  | 74        | 31. | 7         |
| 4.  | 75        | 32. | 9         |
| 5.  | 60        | 33. | 200       |
| 6.  | 175       | 34. | 680       |
| 7.  | 580       | 35. | 95        |
| 8.  | 195       | 36. | 300       |
| 9.  | 158       | 37. | 36        |
| 10. | 91        | 38. | 81        |
| 11. | 740       | 39. | 30        |
| 12. | 84        | 40. | 100       |
| 13. | 3         | 41. | 10101     |
| 14. | 80        | 42. | 1000      |
| 15. | 18        | 43. | 101       |
| 16. | 125       | 44. | 73        |
| 17. | 70        | 45. | 9         |
| 18. | 4         | 46. | 11        |
| 19. | 120       | 47. | 4000      |
| 20. | 64        | 48. | 3000      |
| 21. | 35        | 49. | 770       |
| 22. | 80        | 50. | 110000    |
| 23. | 26        | 51. | 520       |
| 24. | 100       | 52. | 5         |
| 25. | One Lakh  | 53. | 2         |
| 26. | One Crore | 54. | 20        |
| 27. | One Crore | 55. | 85        |
| 28. | Ten Lakh  |     |           |

# CHAPTER – 6

## Factors and Multiples

### Points to remember:

#### ➤ **Factors :**

- A factor of a number is a number which divides the number completely leaving no remainder. For example: 2 divides 8 leaving no remainder.  
So 2 is a factor of 8.
- 1 is a factor of every number.
- Every number except 1, has at least two factors : 1 and the number itself.
- A number has limited number of factors.  
For example: the factors of 9 are 1, 3, 9.
- A factor of a number is either less than or equal to the number.

#### ➤ **Multiples**

- Multiples of a given number are those numbers which when divided by the given number leave no remainder.
- Multiple of a number is obtained by multiplying the number by another number.  
For example: multiples of 3 are obtained by multiplying 3 with 1,2,3,4 and so on.
- Every number is a multiple of 1 and itself.
- Every multiple of a number is either greater than or equal to the number.
- A number can have unlimited number of multiples.  
For example: the multiples of 8 are 8, 16, 24,..... so on.

➤ **Classification of factors and multiples :**

On the basis of divisibility, factors and multiples of a number can be classified into various types.

- a) **Even number:** A number exactly divisible by 2 is called an even number.  
For example – 2, 4, 48, 76, 358 are all even numbers.
- b) **Odd number:** A number when divided by 2 leaves remainder 1, is called an odd number.  
For example – 1,3,5,11,17,139 are all odd numbers.
- c) **Prime number:** A number which has exactly two factors, 1 and the number itself, is called a prime number.  
For example: 2, 3,7,11 are prime numbers.  
9 is not a prime number because it has three factors 1, 3 and 9.
- d) **Composite number:** A number which has three or more factors is called a composite number.  
For example: 4,8,12 are composite numbers.
- 1 is neither prime nor composite number.
  - 2 is the only even number which is also prime number.

**QUESTIONS:**

1. Find all the factors of 18.
2. Find the least factors of 63.
3. Find the greatest factor of 55.
4. How many prime numbers are there between 30 and 50?
5. Find the sum of least multiples of 30 and 35.
6. Find the product of second multiples of 4 and 5.
7. Which least number should be added to 3976 to make it divisible by 9?
8. Which least number should be subtracted from 7468 to make it divisible by 10?
9. Find the sixth multiple of 13.
10. How much will be the quotient when greatest factor of 72 is divided by 8?
11. Find the greatest prime number which is less than 50.
12. How many prime numbers are less than 40?

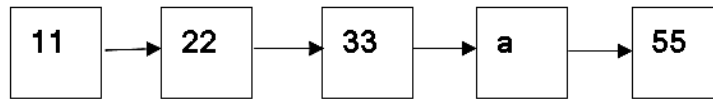
13. How many composite numbers are there between 40 and 50?
14. Find the prime factorization of 54.
15. Find all the common factors of 12 and 30.
16. Find product of all common factors of 20 and 24.
17. Find product of all common prime factors of 18 and 24.
18. How much is the sum of fifth multiple of 14 and third multiple of 12?
19. Find the least common multiple of 6 and 7.
20. Find the least number which is exactly divisible by 11.
21. Find the multiples of 7, which are greater than 40 and less than 50.
22. Find the greatest common factor of 16, 24 and 48.
23. Find the greatest number which exactly divides 15 and 25.
24. Find the product of greatest factor of 22 and least factor of 16.
25. Find the sum of common factors of 10 and 15.
26. Find the greatest multiple of 5, which is less than 62.
27. Find the greatest common factor of 18, 27 and 45.
28. Find the least multiple of 5 and 7.
29. Shivam has a certain number of balls that he could arrange in rows of 5 or 9. How many least number of balls he has?
30. 35 m and 42 m long ribbons are cut into small pieces of equal length. Find the maximum length of each piece.
31. Which least number should be added to 5653 so that number is exactly divisible by 5?
32. Which least number should be subtracted from 8723, so that number is exactly divisible by 5?
33. Find the difference between greatest factor of 24 and least factor of 15.
34. Find all the factors of 24.

[35-40] Fill in the blanks:

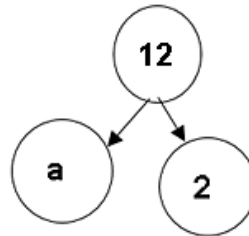
35. \_\_\_\_\_ numbers are multiples of 2
36. \_\_\_\_\_ numbers are not multiple of 2
37. \_\_\_\_\_ numbers have more than two factors.
38. \_\_\_\_\_ numbers have exactly two factors.
39. \_\_\_\_\_ is the only even prime number.
40. \_\_\_\_\_ number is neither composite not prime number.

[41-45] Find the value of a:

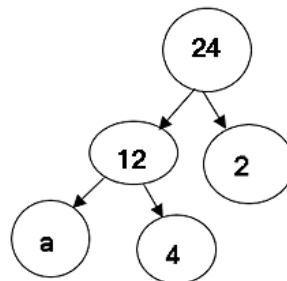
41.



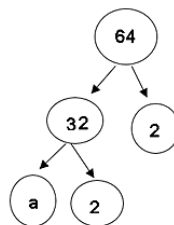
42.



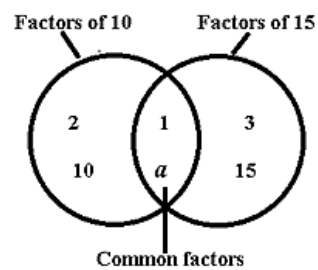
43.



44.



45.



## ANSWERS:

- |     |                                |     |                      |
|-----|--------------------------------|-----|----------------------|
| 1.  | 1, 2, 3, 6, 9, 18              | 24. | $22 \times 1=22$     |
| 2.  | 1                              | 25. | $5+1=6$              |
| 3.  | 55                             | 26. | 60                   |
| 4.  | 5                              | 27. | 9                    |
| 5.  | 65                             | 28. | 35                   |
| 6.  | 80                             | 29. | 45 Balls             |
| 7.  | 2                              | 30. | 7 m                  |
| 8.  | 8                              | 31. | 2                    |
| 9.  | 78                             | 32. | 3                    |
| 10. | 9                              | 33. | 23                   |
| 11. | 47                             | 34. | 1, 2, 3, 4, 6, 8, 24 |
| 12. | 12                             | 35. | Even                 |
| 13. | 6                              | 36. | Odd                  |
| 14. | $2 \times 3 \times 3 \times 3$ | 37. | Composite            |
| 15. | 1, 2, 3, 6                     | 38. | Prime                |
| 16. | $2 \times 4=8$                 | 39. | 2                    |
| 17. | 6                              | 40. | 1                    |
| 18. | $70+36=106$                    | 41. | 44                   |
| 19. | 42                             | 42. | 6                    |
| 20. | 0                              | 43. | 3                    |
| 21. | 42, 49                         | 44. | 16                   |
| 22. | 8                              | 45. | 5                    |
| 23. | 5                              |     |                      |



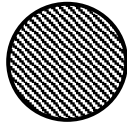
# Chapter - 7

## Fractions

### Points to remember:

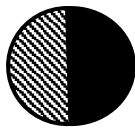
- Whole thing is represented as 1.
- A fraction indicates one or more equal parts of a whole.

One



This is a whole. It is written as 1.

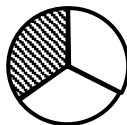
One half



If we divide the whole into 2 equal parts.

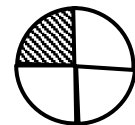
Each part is called one-half. It is written as  $\frac{1}{2}$ .

One-third



If we divide the whole into 3 equal parts, each part is called one-third. It is written as  $\frac{1}{3}$ .

One-fourth



If we divide the whole into 4 equal parts, each part is called one-fourth or quarter. It is written as  $\frac{1}{4}$ .

- The numbers such as quarter, one-fifth, two-third are called Fractional Numbers and their symbols  $\frac{1}{4}$ ,  $\frac{1}{5}$ ,  $\frac{2}{3}$  are called Fractions.

A fraction has two parts Numerator and Denominator.

For example: In  $\frac{3}{5}$ ,

3 is numerator

5 is denominator

- The form  $7 \div 3$  can be written as  $\frac{7}{3}$ .
- Every whole number is written as a fraction by putting 1 in place of denominator

e.g.  $7 = \frac{7}{1}$

- Fractions with the same denominator are called Like Fractions.  
For example -  $\frac{2}{9}, \frac{5}{9}, \frac{3}{9}$
- Fractions with different denominators are called Unlike Fractions.  
For example -  $\frac{1}{3}, \frac{2}{5}, \frac{7}{9}$
- Fractions with numerator 1 are called Unit Fraction. For example :  $\frac{1}{3}, \frac{1}{8}, \frac{1}{12}$
- A fraction whose numerator is smaller than its denominator is called Proper Fraction. For example :  $\frac{2}{5}, \frac{7}{9}, \frac{8}{13}$
- A fraction whose numerator is greater than its denominator is called Improper Fraction. For example :  $\frac{9}{7}, \frac{5}{2}, \frac{11}{2}$
- When an improper fraction is expressed as a combination of a whole number and a proper fraction, it is called Mixed Fraction or a Mixed Number.

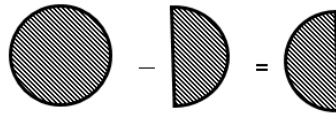
For example:  $3\frac{2}{7}$

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

- Two or more fractions which represent the same part of the whole are called Equivalent Fractions. For example :  $\frac{1}{3}, \frac{3}{9}, \frac{6}{18}$
- Reciprocal of a fraction can be obtained by interchanging the numerator and denominator of the fraction. For example: Reciprocal of  $\frac{2}{3}$  is  $\frac{3}{2}$ .
- **RELATION BETWEEN WHOLE AND ITS PARTS:**

- |               |   |               |   |     |
|---------------|---|---------------|---|-----|
| Half          | + | Half          | = | One |
|               | + |               | = |     |
| $\frac{1}{2}$ | + | $\frac{1}{2}$ | = | 1   |

• **One - Half = Half**



$$1 - \frac{1}{2} = \frac{1}{2}$$

• **One-third + One-third + One-third = One**



$$\frac{1}{3} + \frac{1}{3} + \frac{1}{3} = 1$$

• **One - One-third = Two-third**



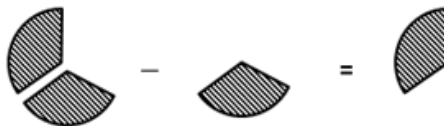
$$1 - \frac{1}{3} = \frac{2}{3}$$

• **One - two-third = One-third**



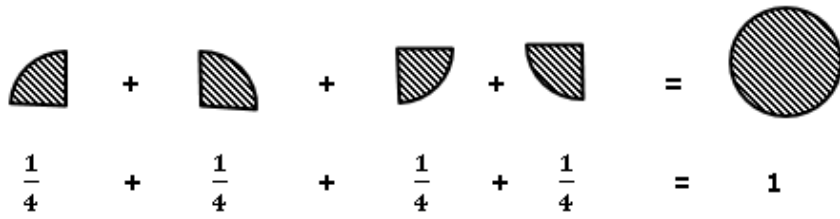
$$1 - \frac{2}{3} = \frac{1}{3}$$

• **Two-third - One-third = One third**

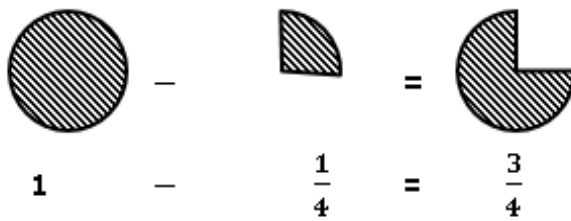


$$\frac{2}{3} - \frac{1}{3} = \frac{1}{3}$$

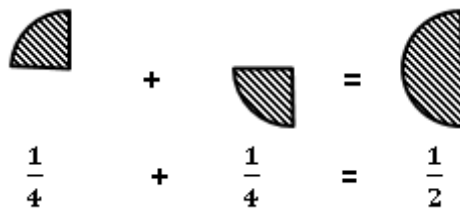
- **One-Fourth + One-fourth + One-fourth + One-fourth = One**



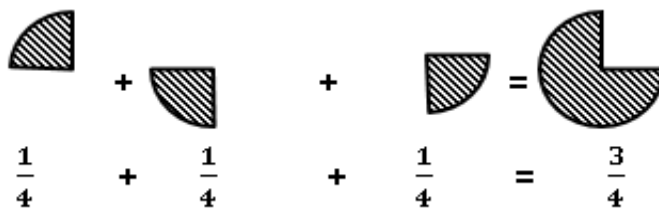
- **One-whole - One-fourth = Three-fourth**



- **One fourth + one fourth = Half**



- **One-fourth + One-fourth + One-fourth = Three-fourth**



- **One whole - Three-fourth = One-fourth**

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

- **Half + one-fourth = Three-fourth**

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

- **How many  $\frac{1}{4}$  in  $\frac{1}{2}$ ?**

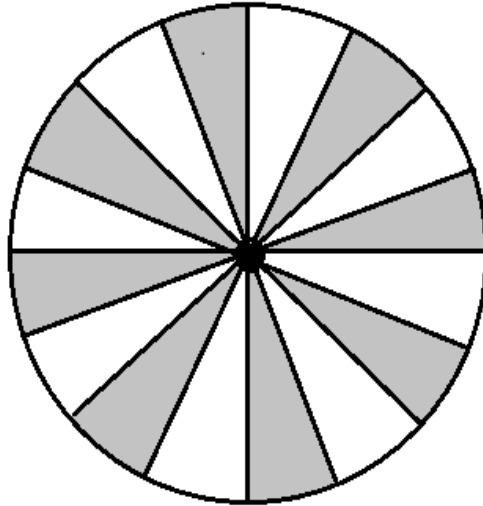
$$\frac{1}{2} \div \frac{1}{4} = 2$$

### QUESTIONS:

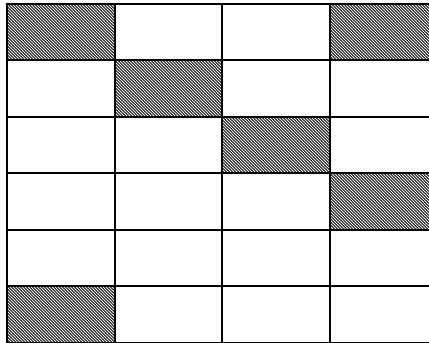
1. Find the numerical value for the fractional number two – fifth.
2. Express  $\frac{11}{5}$  as a mixed fraction.
3. Find the fractional form of  $9 \div 13$ .
4. Find the fractional form of  $7 \div 9$ .
5. Convert  $\frac{5}{7}$  in the form of a fraction having 45 as a numerator.
6. Convert  $\frac{2}{7}$  in the form of a fraction, whose denominator will be 28.

[7-8] For shaded portion, find the fraction in lowest form.

7.

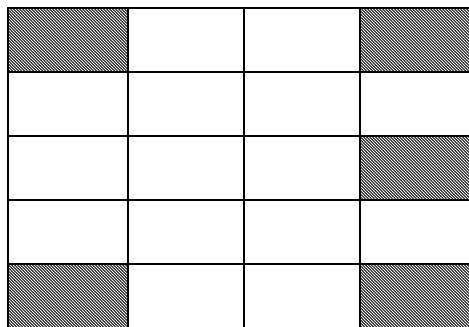


8.

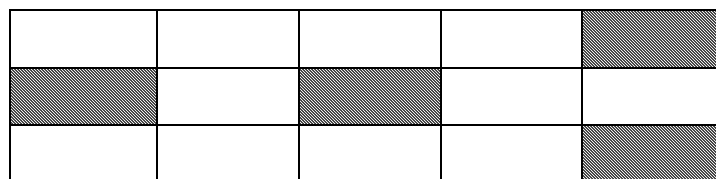


[9-10] In the given figure, how much part is unshaded?

9.



10.



11. Find the value of  $\frac{1}{6}$  of 96.

12. Find the value of  $\frac{1}{4}$  of 120.

[13-15] Arrange the following fractions in descending order.

13.  $\frac{7}{12}$ ,  $\frac{5}{12}$ ,  $\frac{9}{12}$ ,  $\frac{1}{12}$ ,  $\frac{2}{12}$

14.  $\frac{6}{15}$ ,  $\frac{9}{15}$ ,  $\frac{12}{15}$ ,  $\frac{4}{15}$ ,  $\frac{11}{15}$

15.  $\frac{7}{12}$ ,  $\frac{7}{15}$ ,  $\frac{7}{16}$ ,  $\frac{7}{10}$

[16-18] Arrange the following fractions in ascending order.

16.  $\frac{4}{7}$ ,  $\frac{3}{7}$ ,  $\frac{2}{7}$ ,  $\frac{5}{7}$ ,  $\frac{6}{7}$

17.  $\frac{5}{13}$ ,  $\frac{7}{13}$ ,  $\frac{1}{13}$ ,  $\frac{4}{13}$ ,  $\frac{6}{13}$

18.  $\frac{10}{2}$ ,  $\frac{10}{7}$ ,  $\frac{10}{6}$ ,  $\frac{10}{3}$ ,  $\frac{10}{5}$

19. Express  $\frac{45}{120}$  in simplest form.

20. Express  $\frac{48}{96}$  in simplest form.

21. Express  $5\frac{2}{7}$  as an improper fraction.

22. Find  $\frac{3}{5}$  of a kilogram.

23. How much will be  $\frac{2}{5}$  of a rupee?

24. Find  $\frac{1}{2}$  of a metre.

25. Express  $\frac{1}{5}$  m as centimeter.

26. Find the reciprocal of  $5\frac{1}{6}$ .

27. Find the sum of  $\frac{1}{5}$  and  $\frac{3}{5}$ .

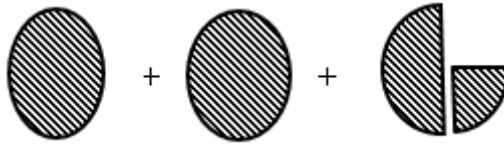
28. Subtract  $\frac{4}{7}$  from  $\frac{6}{7}$ .

29. Find the value of  $15\frac{1}{6} + 10\frac{5}{6}$ .

30. Find the value of  $4\frac{1}{7} + 5\frac{2}{7}$ .

31. An  $8\frac{1}{3}$  m long rope is divided into 5 small pieces of equal length. Find the length of each piece.

32. Express the shaded part of following in mixed fraction.



33. How much will be  $\frac{3}{12}$ th of 5 dozen oranges?
34. How much should be added to  $\frac{3}{5}$  to get  $4\frac{1}{5}$ ?
35. Yashika studies  $4\frac{1}{4}$  hours on Monday and  $3\frac{3}{4}$  hours on Tuesday. How many hours she studied in both days?
36. How many  $\frac{1}{4}$  are there in  $7\frac{1}{4}$ ?
37. 8 months is how much part of a year?
38. 5 days are how much part of a week?
39. How many hours are there in  $\frac{1}{3}$ rd of a week?
40.  $\frac{1}{4}$  of a number is 16. Find the number.
41. One metre cloth costs ₹ 80. Find the cost of  $5\frac{1}{4}$  m cloth.
42. How many minutes are there in  $\frac{1}{4}$  of an hour?
43. Product of two numbers is  $\frac{12}{8}$ . If one of them is  $\frac{3}{8}$ , find the other.
44. Sum of two numbers is  $\frac{7}{15}$ . If one of them is  $\frac{3}{15}$ , find the other.
45. Find the value of  $\frac{3}{4} \times \frac{3}{4} \times \frac{3}{4}$ .
46. How many  $\frac{1}{6}$  are there in  $\frac{5}{13}$ ?
47. What should be added to  $\frac{3}{8}$  to make it 1?
48. Find the value of  $\frac{4}{5} + \frac{6}{10}$ .
49. Find the value of  $\frac{8}{15} - \frac{5}{30}$ .
50. What should be subtracted from  $11\frac{4}{5}$  to get  $8\frac{2}{5}$ ?



[51-55] Add:

51.  $\frac{4}{5} + \frac{6}{5} + \frac{7}{5}$

52.  $\frac{4}{6} + \frac{8}{3} + \frac{7}{6}$

53.  $\frac{4}{5} + \frac{6}{5} + \frac{6}{10}$

54.  $\frac{7}{10} + \frac{8}{10} + \frac{7}{5}$

55.  $\frac{14}{10} + \frac{8}{5} + \frac{3}{5}$

[56-60] Subtract :

56.  $\frac{9}{10} - \frac{2}{10}$

57.  $\frac{19}{20} - \frac{5}{10}$

58.  $\frac{5}{4} - \frac{1}{2}$

59.  $\frac{7}{12} - \frac{3}{6}$

60.  $\frac{5}{6} - \frac{1}{3}$

**ANSWERS:**

1.  $\frac{2}{5}$
2.  $2\frac{1}{5}$
3.  $\frac{9}{13}$
4.  $\frac{7}{9}$
5.  $\frac{45}{63}$
6.  $\frac{8}{28}$
7.  $\frac{1}{2}$
8.  $\frac{1}{4}$
9.  $\frac{15}{20}$  or  $\frac{3}{4}$
10.  $\frac{11}{15}$
11. 16
12. 30
13.  $\frac{9}{12}, \frac{7}{12}, \frac{5}{12}, \frac{2}{12}, \frac{1}{12}$
14.  $\frac{12}{15}, \frac{11}{15}, \frac{9}{15}, \frac{6}{15}, \frac{4}{15}$
15.  $\frac{7}{10}, \frac{7}{12}, \frac{7}{15}, \frac{7}{16}$
16.  $\frac{2}{7}, \frac{3}{7}, \frac{4}{7}, \frac{5}{7}, \frac{6}{7}$
17.  $\frac{1}{13}, \frac{4}{13}, \frac{5}{13}, \frac{6}{13}, \frac{7}{13}$
18.  $\frac{10}{7}, \frac{10}{6}, \frac{10}{5}, \frac{10}{3}, \frac{10}{2}$
19.  $\frac{3}{8}$
20.  $\frac{1}{2}$
21.  $\frac{37}{7}$
22. 600 gram
23. 40 paise
24. 50 cm
25. 20 cm
26.  $\frac{6}{31}$
27.  $\frac{4}{5}$
28.  $\frac{2}{7}$
29. 26
30.  $9\frac{3}{7}$
31.  $\frac{5}{3}$  m or  $1\frac{2}{3}$  m
32.  $2\frac{3}{4}$
33. 15
34.  $3\frac{3}{5}$
35. 8 hours
36. 29
37.  $\frac{2}{3}$
38.  $\frac{5}{7}$
39. 56 hours
40. 64
41. ₹ 420
42. 15 minutes
43. 4
44.  $\frac{4}{15}$
45.  $\frac{27}{64}$
46.  $\frac{30}{13}$  or  $2\frac{4}{13}$

47.

$$\frac{5}{8}$$

48.  $\frac{14}{10}$  or  $\frac{7}{5}$  or  $1\frac{2}{5}$

49.  $\frac{11}{30}$

50.  $3\frac{2}{5}$

51.  $\frac{17}{5}$  or  $3\frac{2}{5}$

52.  $\frac{27}{6}$  or  $\frac{9}{2}$  or  $4\frac{1}{2}$

53.  $\frac{13}{5}$  or  $2\frac{3}{5}$

54.  $\frac{29}{10}$  or  $2\frac{9}{10}$

55.  $\frac{18}{5}$  or  $3\frac{3}{5}$

56.  $\frac{7}{10}$

57.  $\frac{9}{20}$

58.  $\frac{3}{4}$

59.  $\frac{1}{12}$

60.  $\frac{3}{6}$  or  $\frac{1}{2}$

# Chapter - 8

## Decimals

### Points to remember:

- The fraction in which the denominator is a multiple of 10, (10, 100, 1000.....) are called Decimals/decimal fraction.

e.g.  $\frac{3}{10}$  ,  $\frac{9}{100}$  are Decimal Fractions

0.3, 0.09 are Decimals

- When we change the decimal fraction into its decimal form, the number of digits on the right side of the decimal (point) is equal to the number of zeroes in the denominator of the fraction.

e.g.  $\frac{3}{100}$   $\longrightarrow$  0.03

(Two zeroes in denominator)                      (Two digits after decimal point)

- The digits after the decimal point are always read one by one, e.g. 0.438 is read as 'point four three eight' or 'decimal four three eight'.

- Mixed fraction : A mixed fraction is a combination of a whole number and a decimal number

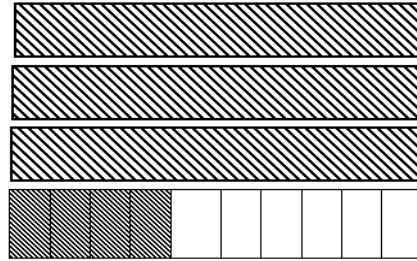
e.g.  $6.06 = 6 + 0.6$

(Mixed fraction] = (whole number) + (decimal number)

- Decimal places: In a decimal number, the number of digits on the right side of the decimal (point) is known as the number of decimal places.

Ones	Decimal	Tenths	Hundredths	Thousandths	Decimal number
6	.	$\frac{1}{10}$	$\frac{1}{100}$	$\frac{1}{1000}$	6.111
5	.	$\frac{7}{10}$			5.7

- **Representing 3.4 or  $3\frac{4}{10}$**



- **Equivalent decimals:** In decimal numbers any number of zeroes to the extreme right of the 'decimal part' do not change the value of the decimal e.g. 0.87, 0.870, 0.8700 are equivalent decimals.
- **Like decimals:** Decimals having the same number of decimal places are called like decimals.

Decimal numbers	Whole number	Decimal	tenths	hundredths
0.81	0	.	8	1
0.04	0	.	0	4
1.45	1	.	4	5

So 0.81, 0.04 and 1.45 are like decimals as each one has two places of decimals.

- **Unlike decimals:** Decimals having different number of decimal places are called unlike decimals.

Decimal numbers	Whole number	Decimal	tenths	hundredths	Thousandths
1.9	1	.	9	-	-
0.70	0	.	7	0	-
4.157	4	.	1	5	7

So, 1.9, 0.70 and 4.157 are unlike decimals as each one has different number of decimal places.

- We can change the unlike decimals into like decimals by adding zero/zeroes to the decimal part, thus making the decimal places equal.

**Example:**

Unlike decimals	Like decimal
1.8	1.800
0.70	0.700
4.256	4.256

- **Multiplying decimals with 10, 100 and 1000 :** we move the decimal to the right according to the number of zeroes.

For example:  $1.564 \times 10$  (10 has one zero so the decimal moves/jumps one digit to the right side)

Thus  $1.564 \times 10 = 15.64$

$1.564 \times 100$  (100 has two zeroes so the decimal moves/jumps two digit to the right side)

Thus  $1.564 \times 100 = 156.4$

- **Dividing decimals by 10, 100 and 1000:** we move the decimal to the left according to the number of zeroes.

For example:  $764.5 \div 100$  (100 has two zeroes so the decimal moves/jumps two digit to the left side)

Thus  $764.5 \div 100 = 7.645$

### QUESTIONS:

1. Find the decimal form of  $\frac{7}{10}$  .
2. Find the decimal form of  $\frac{673}{100}$  .
3. Find the simplest fractional form of 0.02
4. Find the simplest fractional form of 0.075.
5. Find the decimal form of  $\frac{25}{2}$  .
6. Find the decimal form of  $\frac{4}{50}$  .
7. Find the whole number part of 39.321.
8. Find the place value of 9 in 378.09.
9. Arrange the following numbers in decreasing order 0.04 , 0.004 , 0.4 , 4.00

10. Arrange the following numbers in increasing order 154.45 , 0.47 , 8.7 , 25.47

11. Express ₹ 78 and 45 paise in decimal form.

12. Find the value of  $7 + \frac{3}{10} + \frac{9}{100}$  .

[13-22] Find the value:-

13.  $0.45 + 3.3$

14.  $10 - 2.22$

15.  $36.7 \times 10$

16.  $1.2 \times 0.6$

17.  $14 + 0.4 \times 10$

18.  $15.4 - 1.32 \times 10$

19.  $\frac{845}{100} - 3.25$

20.  $3.5 + \frac{7}{10}$

21.  $2.5 \times 0.4$

22.  $0.783 \times 100$

23. Express 575 cm into metre.

24. How much should be added to 44.15 to get 50?

25. How much should be subtracted from 28 to get 23.65?

26. How many times is 527.8 of 5.278?

27. Find the product of  $0.5 \times 0.05$  .

28. Find the value of  $3.37 \div 1000$ .

29. Find the value of  $77.77 \div 100$ .

30. If  $21 \times 21 = 441$  then find the value of  $0.21 \times 2.1$ .

31. Find the sum of place value of 4 and 2 in 153.452.

32. Find the product of place value of 4 and 5 in 2.54.

33. Find the decimal form of 5 tenths + 5 hundredths.

34. By how much should 1.25 be divided to get 2.5?

35. By how much should 1.4 be multiplied to get 0.084?

[36 – 40] Find the value of following:

36.  $8.5 + \frac{9}{100}$

37.  $6.26 + 34.6$

38.  $8.01 + 24.1$

39.  $20.0 - 10.92$
40.  $\frac{389}{100} - \frac{4.4}{10}$
41. A 45 m long ribbon is divided into 10 equal parts. How long is each piece?
42. If 4 metres of cloth costs ₹ 70.50, then find the cost of 12 metre of cloth.
43. If cost of 3 dozen bananas is ₹ 50.20, then find the cost of 15 dozen bananas ?
44. Cost of one kilogram sugar is ₹ 32.35, find the cost of 4 kg of sugar.
45. Length of a rectangle is 2.5 cm and breadth is 1.2 cm. Find its area.
46. A car travels 55.25 km in 5 hours, then how much distance does car travel in 1 hour?
47. Each side of a square is 4.25 m. Find its perimeter.
48. 3 pens costs ₹ 45.75. Find the cost of one pen.
49. If  $\frac{1}{10}$  of a stick is 180 cm long. How long is the stick?
50. If  $\frac{1}{1000}$  of a number is 7.5. Find the number.



## ANSWERS:

1. 0.7
2. 6.73
3.  $\frac{1}{50}$
4.  $\frac{3}{40}$
5. 12.5
6. 0.08
7. 39
8. Nine Hundredths
9. 4.00, 0.4, 0.04, 0.004
10. 0.47, 8.7, 25.47, 154.45
11. ₹ 78.45
12. 7.39
13. 3.75
14. 7.78
15. 367
16. 0.72
17. 18
18. 2.2
19. 5.2
20. 4.2
21. 1.00=1
22. 78.3
23. 5.75m
24. 5.85
25. 4.35
26. 100 times
27. 0.025
28. 0.00337
29. 0.7777
30. 0.441
31. 0.402
32. 0.020=0.02
33. 0.55
34. 0.5
35. 0.06
36. 8.59
37. 40.86
38. 32.11
39. 9.08
40. 3.45
41. 4.5m
42. ₹ 211.50
43. ₹ 251
44. ₹ 129.40
45. 3 sq cm
46. 11.05 km
47. 17 m
48. ₹ 15.25
49. 1800 cm=18m
50. 7500

# CHAPTER – 9

## CONVERSIONS

### Points to remember:

#### ➤ Time related Conversions

1 year	=	52 weeks
1 year	=	12 months
1 year	=	365 days
1 leap year	=	366 days
1 week	=	7 days
1 Day	=	24 hours
1 hour	=	60 minutes
1 minute	=	60 seconds
1 hour	=	$60 \times 60 = 3600$ seconds
1 second	=	$\frac{1}{3600}$ hour
1 second	=	$\frac{1}{60}$ minute

#### ➤ Length related conversions :

1 metre	=	100 centimetres
1 cm	=	$\frac{1}{100}$ metre
1 km	=	1000 metre
1 metre	=	$\frac{1}{1000}$ km
1 foot	=	30 cm [approx.]

#### ➤ Mass related conversions :

1 kilogram	=	1000 grams
1 g	=	$\frac{1}{1000}$ kg

➤ **Capacity related conversions :**

$$1 \text{ litre} = 1000 \text{ millilitres}$$

$$1 \text{ ml} = \frac{1}{1000} \text{ litre}$$

➤ **Other conversions :**

$$1 \text{ dozen} : 12 \text{ objects}$$

$$1 \text{ score} : 20 \text{ objects}$$

### QUESTIONS:

- How many seconds are there in
  - 7 minutes
  - 14 minutes
- Convert 6 minutes 15 seconds into seconds.
- Convert 95 minutes into hours and minutes.
- How many minutes are there in 9 hours?
- How many seconds are there in 2 hours?
- Count the total minutes in :
  - 5 hours 35 minutes
  - 120 minutes + 2 hours
- Convert 7 hours and 25 minutes into minutes.
- How many hours are there in 360 minutes?
- What will be the sum of :-
  - 25 min 45 sec and 15 min 45 sec
  - 16 hours 35 min and 15 hours 25 min
- How many centimetres are there in 10 m?
- Convert 14 feet 65 cm into centimetres.
- How many months are there in  $5\frac{1}{2}$  years?
- Convert 74 months into years and months.
- Change 13 km 50 m into metres.
- Convert 10 metre 8 centimetre into centimetres.

16. How many weeks are there in 3 years?
17. Convert 2508 centimetres into metres and centimetres.
18. Convert 450 cm into feet.
19. How many metres are there in 7.515 km?
20. Add 11 km 35 metre and 27 km 55 m
21. Express 4.9 km in metres
22. Convert 7050 metre into kilometres
23. What will be the sum of :-
  - i) 2 m 30 cm and 70 cm
  - ii) 3 kg 75 gm and 25 gm
24. Express 9.3 kg + 50 g +250 g in kilograms.
25. Convert 2.09 kilogram into grams.
26. Convert 980 grams into kg.
27. How many grams are there in  $\frac{3}{4}$  kilograms?
28. Add: - 5.5 kg and 6320 g.
29. Convert 6 kg and 75 grams into grams.
30. How many grams are there in 9.35 kg?
31. Add
  - i)  $9\frac{1}{2}$  kilogram +  $7\frac{1}{2}$  kilogram + 500 g
  - ii)  $5\frac{1}{4}$  kilogram +  $1\frac{1}{8}$  kilogram
32. Convert 3 litre and 1560 millilitres into litre.
33. Convert 4404 millilitres into litres.
34. What is the sum of 6 litre 200 millilitres and 500 millilitres?
35. How many millilitres are there in 0.03 litre?
36. How many feet are there in 150 centimetre?
37. How many years are there in 208 weeks?
38. How many centimetres are there in 2 kilometers?
39. I have 3 pieces of cloth whose lengths are 5 metre 25 centimetre, 3 metre 75 centimetre and 6 metre 30 centimetre respectively. Find the total length of all pieces.
40. 3 m 80 cm long cloth is used to make a dress. How much cloth will be used to stich 4 such dresses of same size?

41. What should be added to 650 g to make it 2 kg?
42. How many notebooks shall I have if I buy  $1\frac{3}{4}$  scores of notebooks?
43. How many ml of water does the bucket have, if it contains 3 litre 75 ml of water?
44. How many oranges are there in  $2\frac{1}{4}$  dozen oranges?
45. How many days will be there in the month of February in the year 2024?
46. A container contains 2 litre 50 ml of milk. How many litres of milk does the container have?
47. What will be the total number of days in the first four months of the year 2022?
48. 675 ml is how much less than 1 litre?
49. 2222 ml is equal to how many litres?
50. How many milliliters are there in 5.31 litre?

## ANSWERS:

1. i) 420 sec ii) 840 sec
2. 375 Seconds
3. 1 Hour 35 minutes
4. 540 minutes
5. 7200 seconds
6. i) 335 minutes ii) 240 minutes
7. 445 minutes
8. 6 hours
9. i) 41 min 30 sec ii) 32 hours
10. 1000 cm
11. 485 cm
12. 66 months
13. 6 years 2 months
14. 13050 m
15. 1008 cm
16. 156 weeks
17. 25m 8cm
18. 15 feet
19. 7515 m
20. 38 km 90 m or 38.090 km
21. 4900 m
22. 7.05 km
23. i) 3 m ii) 3kg 100 g or 3.1 kg
24. 9.6 kg
25. 2090 grams
26. 0.98kg
27. 750 grams
28. 11820 g or 11.82kg
29. 6075 g
30. 9350g
31. I)  $17\frac{1}{2}$  kg ii)  $6\frac{3}{8}$  kg
32. 4.56 litre
33. 4.404 litre
34. 6 l 700ml or 6700ml or 6.7 l
35. 30 ml
36. 5 feet
37. 4 years
38. 200000 cm
39. 15.30 m or 15m 30cm
40. 15.20 m or 15 m 20cm
41. 1350g
42. 35 notebooks
43. 3075 ml
44. 27 oranges
45. 29 days
46. 2.050 litres
47. 120 days
48. 325 ml
49. 2.222 l
50. 5310 ml



## CHAPTER – 10

# MONEY



### Points to remember:

- Money is also called currency. Indian currency is 'Rupee' (₹)

$$₹ 1 = 100 \text{ paise}$$

$$1 \text{ paise} = ₹ \frac{1}{100} = ₹ 0.01$$

- Decimal notation for money :

- Any given amount of money can be written in the decimal form as rupees.  
For example: ₹ 78 = ₹ 78.00
- Rupees are written as whole numbers on the left side of the decimal and paise are written as a two-digit number on the right side of the decimal.

For example:

$$₹ 78 \text{ and } 5 \text{ paise} = ₹ 78.05$$

$$₹ 78 \text{ and } 50 \text{ paise} = ₹ 78.50$$

- Simple tricks of conversion :

- To change paise into rupees, count from right to left and put a decimal after two digits.

For example:

$$500 \text{ paise} = ₹ 5.00$$

$$60 \text{ paise} = ₹ 0.60$$

- To change rupees into paise, we multiply the given amount (in ₹) by 100.

For example :

$$₹ 75 = 75 \times 100 = 7500 \text{ paise}$$

$$₹ 95.25 = 95.25 \times 100 = 9525 \text{ paise}$$

➤ We could simply remove the decimal to get paise from rupees  
 $\text{₹ } 95.25 = 9525 \text{ paise}$

How many 50 paise can 9525 paise have?

9525 paise can have  $95 \times 2 = 190$  coins of 50 paise

### QUESTIONS:

[1 - 4] Convert the following amounts into decimal form:

1. ₹ 240 paise 50
2. ₹ 780
3. ₹ 719 paise 10
4. ₹ 75 paise 75

[5 - 8] Convert the following paise into rupees:

5. Paise 70
6. Paise 180
7. Paise 5
8. Paise 745

[9 -13] Convert the given rupees into paise.

9. ₹ 79
10. ₹ 106.75
11. ₹ 135.80
12. ₹ 120 paise 5
13. ₹ 11.50
14. How many 20 paise coins are there in ₹ 12?
15. How many 25 paise coins make ₹ 30?
16. How many 50 paise coins make ₹ 50.50?
17. How many 10 paise coins make ₹ 15?
18. How many 10 rupee notes can be there in ₹ 568?
19. How many 20 rupee notes can be there in ₹ 994?
20. How many 50 rupee notes can be there in ₹ 1755?
21. How many 2 rupee coins can be there in ₹ 539?
22. How many ₹ 100 notes can be there in ₹ 6020?



23. How many ₹ 200 notes can be there in ₹ 1530?
24. How many ₹ 500 notes can be there in ₹ 9125?
25. How many ₹ 2000 notes can be there in ₹ 9999?
26. How many 50 paise coins make ₹ 199?
27. How many 5 rupees coins can be there in ₹ 799?

[28 – 30] How much will be the total amount.

28. 20 (₹2) + 7 (50p) + 18 (25p)

29. 17 (₹5) + 9 (₹2) + 16 (50p)

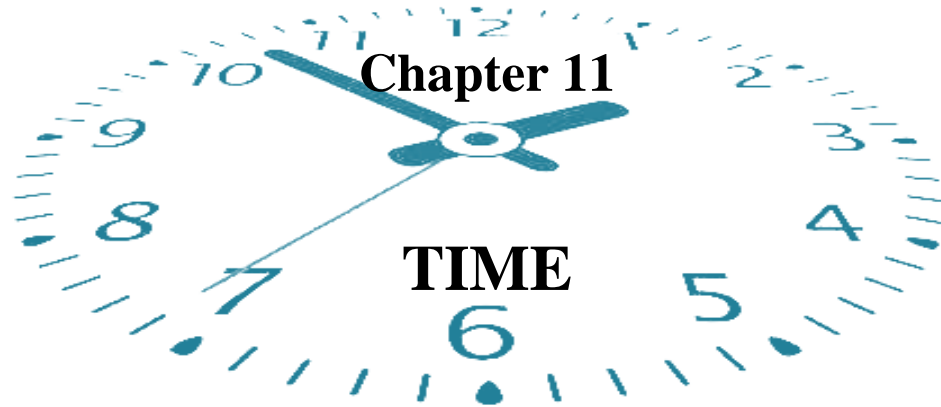
30. 7 (₹10) + 11 (50p) + 24 (25p)

31. A notebook costs ₹ 25.50 and a pen costs ₹ 18. By what amount does the notebook costs more than the pen?
32. Gaurav received ₹ 510 whereas Deepti received ₹ 605.50 from their father. How much more money was received by Deepti as compared to Gaurav?
33. Akash bought two chocolates each costing ₹65. He gave ₹ 200 to the shopkeeper, how much money did he get back?
34. Cost of a toy is ₹ 45.50. What will be the cost of 20 such toys?
35. If a table lamp costs ₹ 215.50, what will be the cost of 2 such table lamps?
36. Rakhi purchased candles for ₹65.50, balloons for ₹15.50 and a cap for ₹12. How much money is spent by Rakhi ?
37. Chavvi had ₹200. She bought a toy for ₹55, a notebook for ₹25.50 and a greeting card for ₹22.50. How much money is now left with Chavvi?
38. Rahul bought a pencil for ₹5.50, a sharpener for ₹ 7 and a scale for ₹ 4.75. How much money did Rahul has to pay?
39. Maninder purchased pizza base for ₹25, bread for ₹21.75 and biscuits for ₹12. She gave a 100 rupee note to the shopkeeper. What amount will she get back?
40. How many rupees does Julie have, if she has 15 coins of 50 paise?
41. The cost of a mug is ₹15. How many mugs can be bought for ₹ 315?
42. How many rupees does Mohan have, if he has 25 coins of ₹5?

43. The cost of a bag is ₹75. What will be the cost of 3 such bags?
44. The costs of a kite is ₹8. How many kites can be bought for ₹ 152?
45. Garima received ₹500 as her pocket money. If she spends ₹288, how much money did she save?
46. Cost of 30 toffees is ₹ 90, find the cost of 20 toffees.
47. Shivi had 20 notes of ₹ 500. How much money she possess?
48. The cost of a notebook is ₹15.75. Find the cost of 4 such note books.
49. The cost of 20 pens is ₹120. Find the cost of 15 such pens.
50. The cost of 5 dozen bananas is ₹250. Find the cost of  $1\frac{1}{2}$  dozen bananas.

**ANSWERS:**

- |                  |               |
|------------------|---------------|
| 1. ₹240.50       | 26. 398 coins |
| 2. ₹780.00       | 27. 159 coins |
| 3. ₹719.10       | 28. ₹48       |
| 4. ₹75.75        | 29. ₹111      |
| 5. ₹ 0.70= ₹ 0.7 | 30. ₹81.50    |
| 6. ₹1.80=₹1.8    | 31. ₹ 7.50    |
| 7. ₹0.05         | 32. ₹95.50    |
| 8. ₹7.45         | 33. ₹ 70      |
| 9. 7900 Paise    | 34. ₹910      |
| 10. 10675 Paise  | 35. ₹ 431     |
| 11. 13580 Paise  | 36. ₹93       |
| 12. 12005 Paise  | 37. ₹97       |
| 13. 1150 Paise   | 38. ₹17.25    |
| 14. 60 coins     | 39. ₹41.25    |
| 15. 120 coins    | 40. ₹7.50     |
| 16. 101 coins    | 41. 21        |
| 17. 150 coins    | 42. ₹125      |
| 18. 56 notes     | 43. ₹225      |
| 19. 49 notes     | 44. 19 kites  |
| 20. 35 notes     | 45. ₹212      |
| 21. 269 coins    | 46. ₹60       |
| 22. 60notes      | 47. ₹10000    |
| 23. 7 notes      | 48. ₹63       |
| 24. 18 notes     | 49. ₹90       |
| 25. 4 notes      | 50. ₹75       |



**Points to remember:**

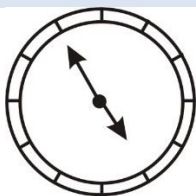
➤ **12-HOUR CLOCK:**

A day is divided into two periods of 12 hours each.

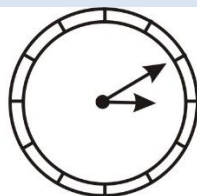
A.M. [ Ante Meridiem]	P.M. [ Post Meridiem]
<ul style="list-style-type: none"> <li>• 12 midnight to 12 noon</li> <li>• Before 12 noon</li> </ul>	<ul style="list-style-type: none"> <li>• 12 noon to 12 midnight</li> <li>• After 12 noon</li> </ul>

We prefer to write '12 midnight' instead of '12 a.m.' and '12 noon' instead of '12 p.m.' to avoid confusion.

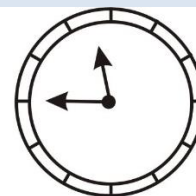
➤ **READING TIME:**



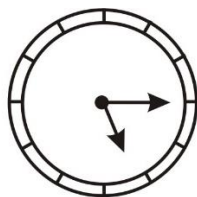
5 minutes to 5



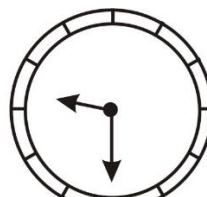
10 minutes past 3



Quarter to 12



Quarter past 5



Half past 9

➤ **ADDING HOURS AND MINUTES:**

$$\begin{array}{r} 4 \text{ hours } 50 \text{ minutes} \\ + 2 \text{ hours } 20 \text{ minutes} \\ \hline 6 \text{ hours } 70 \text{ minutes} \\ \hline \end{array}$$

**Whenever total of minutes becomes 60 or greater than 60, carry forward 60 minutes as 1 hour.**

For example: 6 hours 70 minutes should be  
7 hours 10 minutes

- **Leap year:** - A year that contains 29 days in the month of February. A leap year has 366 days instead of 365 and it occurs almost every four years.

**QUESTIONS:**

[1-7] Tell the time using a.m. or p.m.:

1. Half past ten in the night.
2. Quarter to 12 in the afternoon.
3. 7 O'clock in the morning.
4. 11:25 before noon.
5. Quarter past 6 in the evening.
6. 12 midnight.
7. 3:30 after noon.

[8-12] How many minutes are there in?

8. A quarter of an hour.
9. 10:20 p.m. to 11:05 p.m.
10. Half past 3 to quarter past 4
11. One and three quarter of an hour.
12. 7:35 am to 8:10 a.m.

**[13-15] How much time has passed from?**

- 13. 9:40 a.m. to 1:10 p.m.**
- 14. 11:25 p.m. to 12:45 a.m.**
- 15. 3:15 p.m. to 5:20 p.m.**

**[16-19] What is the time?**

- 16. 4 hours before 2:20 p.m.**
- 17. 2 hours 30 minutes after 9:30 a.m.**
- 18.  $6\frac{1}{2}$  hours after 6:00 a.m.**
- 19. 3 hours 15 minutes after 10:35 p.m.**

**[20-22] Identify which date is it:**

- 20. 18 days before May 18**
- 21. 15 days before Feb 15**
- 22. 21 days after Dec. 13**

**[23-25] How many days will be there in?**

- 23. February 2023**
- 24. July 2022**
- 25. February 2032**

**26. Which hand of the clock completes one round in 60 minutes?**

**27. How many times does the hour hand goes round the clock face in one day?**

**28. In 2021, 3rd July is Saturday. On which date with 3rd Saturday of this month fall in the same year?**

**29. If in this year, 26th December falls on Sunday, then which day will be the last day of this year?**

**30. Cooking class of Aparna started at 4:10 p.m. and finished at 5:25 p.m. For how long did the class last?**

**31. A school starts at 7:30 a.m. and finishes at 1:45 p.m. How many hours and minutes does the school work every day?**

**32. A TV series start at 7:35 p.m. and lasts for 35 minutes. At what time does it end?**

**33. The duration of a movie was 1 hour 35 minutes. It was played non-stop without any break and it finished at 11:15 p.m. At what time would it have started?**

34. A train starts daily at 6:45 a.m. and reaches its destination at 1:05 p.m. How long does it take to complete its journey?
35. Anita covers some distance in 1 hour 25 minutes. If she starts at 9:45 a.m., at what time did she finish?
36. Rajdhani express reaches Mumbai at 2:30 p.m. On Monday, it reached Mumbai 45 minutes late. At what time did it reach there?
37. A truck carrying vegetables reaches New Delhi at 10:30 p.m. Today it reached 55 minutes before time. At what time did the truck reach New Delhi?
38. A bus carrying school students was expected to reach the picnic spot at 11:30 a.m., but the bus reached 40 minutes earlier. At what time did the bus reach?
39. Duration of a function was 3 hours 40 minutes. If the function finished at 9:45 p.m., at what time did it start?
40. Anil participated in a marathon and finished it in 75 minutes. If he started at 6:45 a.m., at what time did he finish?
41. A Maths test lasted for 45 minutes. If it started at 8:35 a.m., at what time did it end?
42. Shivani went to a Mall for shopping at 4:15 p.m. and returned at 6:55 p.m. How much time did she spend in shopping?
43. This year Diwali is on November 5. If today is July 21, after how many days shall we celebrate Diwali?
44. Sonia went for her job at 8:30 a.m. and returned at 4:15 p.m.. For how much time did she stay out?
45. Ajay covers some distance in 1 hours 5 minutes Rahul covers the same distance in 75 minutes. How much extra time is taken by Rahul for covering the same distance?

## ANSWERS:

- |     |                    |     |                    |
|-----|--------------------|-----|--------------------|
| 1.  | 10:30 p.m.         | 24. | 31                 |
| 2.  | 11 :45 a.m.        | 25. | 29                 |
| 3.  | 7:00 a.m.          | 26. | Minute hand        |
| 4.  | 11:25 a.m.         | 27. | Two times/Twice    |
| 5.  | 6:15 p.m.          | 28. | July17             |
| 6.  | 12:00 a.m.         | 29. | Friday             |
| 7.  | 3:30 p.m.          | 30. | 1 hour 15 minutes  |
| 8.  | 15                 | 31. | 6 hours 15 minutes |
| 9.  | 45                 | 32. | 8:10 p.m.          |
| 10. | 45                 | 33. | 9:40 p.m.          |
| 11. | 105                | 34. | 6 hours 20 minutes |
| 12. | 35                 | 35. | 11:10 a.m.         |
| 13. | 3 hours 30 minutes | 36. | 3:15 p.m.          |
| 14. | 1 hour 20 minutes  | 37. | 9:35 p.m.          |
| 15. | 2 hours 5 minutes  | 38. | 10:50 a.m.         |
| 16. | 10:20 a.m.         | 39. | 6:05 p.m.          |
| 17. | 12 noon / 12 p.m.  | 40. | 8:00 a.m.          |
| 18. | 12:30 p.m.         | 41. | 9:20 a.m.          |
| 19. | 01:50 a.m.         | 42. | 2 hours 40 minutes |
| 20. | April 30           | 43. | 106 days           |
| 21. | January 31         | 44. | 7 hours 45 minutes |
| 22. | January 3          | 45. | 10 minutes         |
| 23. | 28                 |     |                    |



## CHAPTER – 12

# SPEED



### Points to remember:

- If a man walks 9 km in 1 hour, it is said that his rate of walking or speed is 9 km per hour.
- The distance travelled by a vehicle or a person in a unit of time is called its SPEED. We divide the travelled distance by the time taken.

$$\text{SPEED} = \frac{\text{DISTANCE}}{\text{TIME}}$$

- $\frac{\text{Kilometre}}{\text{Hour}}$  Is written as km per hour or km / hour.
- The unit of speed is km per hour. We also measure it in metre per minute or metre per second.
- $\text{DISTANCE} = \text{SPEED} \times \text{TIME}$
- $\text{TIME} = \frac{\text{DISTANCE}}{\text{SPEED}}$
- $\text{Average SPEED} = \frac{\text{Total Distance}}{\text{Total Time}}$

- If a man walks 24 km in 2 hours or 6 km in 30 minutes, his speed is 12 km per hour (That means even if the distance covered and time taken are doubled or halved, speed remain the same.)

- Conversion of km/hr into m/sec.

- 1 km = 1000 m, 1 hr = 3600 sec.

- $1 \text{ km/hr} = \frac{1000}{3600} \text{ m/sec.} = \frac{5}{18} \text{ m/sec.}$

- To convert km/ hr into m/sec., multiply the given speed by 5 and then divide it by 18.

- Convert 72 km/ hr into m/sec.

$$\frac{72 \times 5}{18} = 20 \text{ m/sec}$$

- Conversion of m/s into km/hr.

$$1\text{m} = \frac{1}{1000} \text{ km, } 1 \text{ sec.} = \frac{1}{3600} \text{ hr.}$$

$$1\text{m/sec.} = \frac{\frac{1}{1000}}{\frac{1}{3600}} \text{ km/hr}$$

$$= \frac{3600}{1000} \text{ km/hr.} = \frac{18}{5} \text{ km/hr.}$$

To convert m/sec. into km/hr, multiply the given speed by 18 and then divide it by 5.

- Convert 20m/sec. into km/ hr

$$\frac{20 \times 18}{5} = 72 \text{ km/hr}$$

## QUESTIONS:

[1-5] Calculate / find the speed, when:

1. Distance = 90 km                      Time = 3 hours
2. Distance = 140 km                    Time = 7 hours
3. Distance = 40 km                     Time = 20 Minutes
4. Distance = 25 km                     Time = 30 Minutes
5. Distance = 6 km                       Time = 10 Minutes

[6-10] Find the distance, when:

6. Speed = 600 km per hour            Time = 3 hours
7. Speed = 40 km per hour             Time =  $3\frac{1}{2}$  hours
8. Speed = 90 km per hour             Time = 20 minutes
9. Speed = 48 km per hour             Time = 2 hours
10. Speed = 45 km per hour            Time = 30 minutes

[11-15) What is the time taken, when?

11. Distance = 200 km                    Speed = 20 km per hour
12. Distance = 800 km                    Speed = 100 km per hour
13. Distance = 600 km                    Speed = 200 km per hour
14. Distance = 50 km                     Speed = 20 km per hour
15. Distance = 90 km                     Speed = 20 km per hour
16. Find the speed of a car that covers 75 km in 30 minutes.
17. Find the speed of a bus that covers 200 km in 2 hours
18. An athlete walks 5 km in 20 minutes. Find his speed in km per hour.
19. Find the speed of a car that covers 100 km in 4 hours.
20. Amit jogs  $6\frac{1}{2}$  km in 15 minutes. Find his speed.
21. Ravi walks 10 km in one hour. Find the distance he would cover in  $3\frac{1}{2}$  hours.
22. Find the distance covered by a car in 3 hours, if the speed of a car is 24 km per hour.
23. The speed of a radio taxi is 75 km per hour. Find the distance covered by it in 3 hours.
24. A bus goes with a speed of 16 km per hour. How much distance will it go in 4 hours 30 minutes?

25. The speed of an aeroplane is 750 km per hour. Radhika travels for 3 hours by it. How much distance did she travel with it?
26. Arpita drives her car for 4 hours 30 minutes at a speed of 60 km. per hour. How much distance does she travel?
27. The speed of a car is 75 km per hour. How much distance will it cover in 20 minutes?
28. A bus travels at a speed of 120 km per hour. How many kilometres does it travel from 6 a.m. to 7:30 a.m.?
29. The speed of a train is 130 km per hour. How much distance would it cover in  $1\frac{1}{2}$  hour?
30. During a journey, a car travels at a speed of 70 km per hour. If the time taken in journey is  $2\frac{1}{2}$  hour, find the distance covered during the journey.
31. Find the distance covered in a minute if a cyclist covers 6000 m in 20 minutes.
32. A radio taxi moves at a speed of 80 km. per hour. How much time will it take to travel 560 km?
33. A man walks at a speed of 8 km per hour. Find the the time taken to walk 44 km.
34. Sonia travelled a distance of 340 km with a speed of 68 km per hour by her car. How much time did she take to travel this distance?
35. Find the time taken by a truck to cover a distance of 950 km, if it covers 50 km in an hour.
36. Ajay walks 8 km in 1 hours. How long will he take to walk a distance of 52 km?
37. The distance between two towns is 3600km. A car takes 20 hours to cover this distance. Find the speed of the car.
38. The speed of a train is 180 km per hour. Find its speed in metre per second.
39. A bus travels at a speed of 40 m/s. Find its speed in km/hr.
40. Raman covers a distance of 120 km by car in 4 hours and 80 km by train in 1 hour. Find his average speed.

## ANSWERS:

- |                                   |                          |
|-----------------------------------|--------------------------|
| 1. 30 km per hour                 | 21. 35 km                |
| 2. 20 km per hour                 | 22. 72 km                |
| 3. 120 km per hour                | 23. 225 km               |
| 4. 50 km per hour                 | 24. 72 km                |
| 5. 36 km per hour                 | 25. 2250 km              |
| 6. 1800km                         | 26. 270 km               |
| 7. 140km                          | 27. 25 km                |
| 8. 30 km                          | 28. 180 km               |
| 9. 96 km                          | 29. 195 km               |
| 10. 22.5 km or $22\frac{1}{2}$ km | 30. 175 km               |
| 11. 10 hours                      | 31. 300 m or 300 metre   |
| 12. 8 hours                       | 32. 7 hours              |
| 13. 3 hours                       | 33. $5\frac{1}{2}$ hours |
| 14. $2\frac{1}{2}$ hours          | 34. 5 hours              |
| 15. $4\frac{1}{2}$ hours          | 35. 19 hours             |
| 16. 150 km per hour               | 36. $6\frac{1}{2}$ hours |
| 17. 100 km per hour               | 37. 180 km per hour      |
| 18. 15 km per hour                | 38. 50 metre per second  |
| 19. 25 km per hour                | 39. 144 km per hour      |
| 20. 26 km per hour                | 40. 40 km per hour       |

# CHAPTER – 13

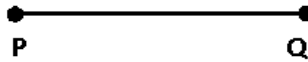
## GEOMETRICAL FIGURES

### Points to remember:

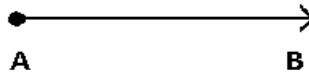
- A line has no end points and it can be extended indefinitely in both directions.



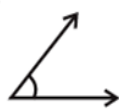
- A line – segment is a part of a line and has two end-points.



- A line-segment extended endlessly in one direction is called a ray.



- An angle is made by two rays with a common initial point.



(a)



(b)



(c)



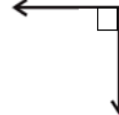
(d)



(e)



(f)



(g)

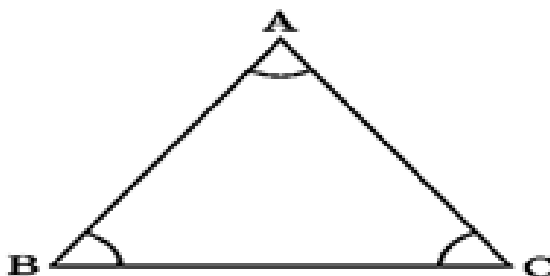


(h)

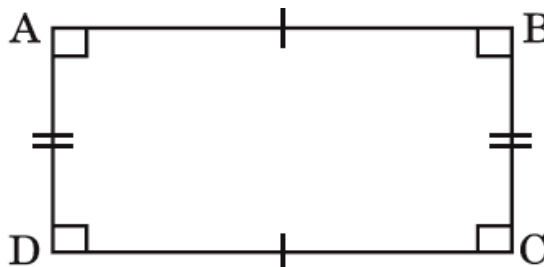
- **Right Angle:** - An angle of shape L is a right angle. Its measure is  $90^\circ$ .  
Figures (b), (c), (g) are right angles.

- **Acute Angle:** - An acute angle measures more than  $0^\circ$  but less than  $90^\circ$ . Figures (a), (d), (e) are acute angles.

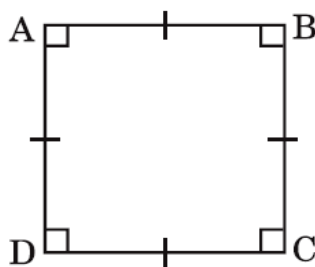
- **Obtuse Angle:** -An obtuse angle measures more than  $90^\circ$  but less than  $180^\circ$ . Figure (f) is an obtuse angle.
- **Straight Angle:** -Figure (h) is a straight angle. Its measure is  $180^\circ$ .
- Two angles sum of whose measures is  $90^\circ$  are called complementary angles.
- Two angles sum of whose measures is  $180^\circ$  are called supplementary angles.
- **TRIANGLE:** A simple closed figure having three sides is a triangle.



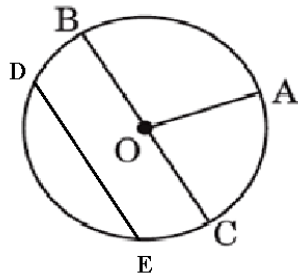
- A triangle has three angles, whose sum is  $180^\circ$ .
- **RECTANGLE:** A rectangle is a four-sided closed figure having four right angles. Its opposite sides are equal.



- **SQUARE:** A square is a special type of rectangle in which all the four sides are equal.



➤ **CIRCLE:** A circle is a closed loop.

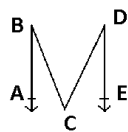


- Distance between the Centre O of a circle and any point on the circle is called its radius (OA, OB, OC are radii)
- A line segment passing through the center and having its end- points on the circle is called its diameter. BC is a diameter.
- Diameter is double the radius, or  $\text{radius} = \frac{1}{2} \times \text{diameter}$ .
- Chord is a straight line segment whose both the end points lie on the circle Example: DE is a chord. Diameter of the circle is the largest chord of the circle.

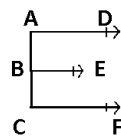
### QUESTIONS:

1. Name the line segments and rays in the following figures :-

(i)



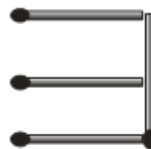
(ii)



2. Which of the following are closed figures made of match sticks?



(i)



(ii)



(iii)





(iv)



(v)

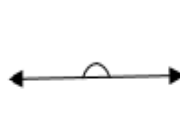
3. Identify the type of angle:



(i)



(ii)



(iii)



(iv)

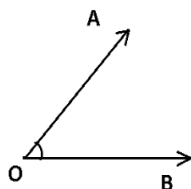
4. How many right angles are there in the word 'MEERA'?

5. In the word 'MATHS' how many angles measure:

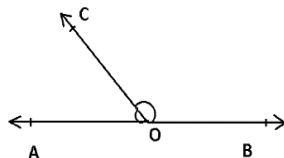
(i) Less than  $90^\circ$ ?

(ii) More than  $90^\circ$ ?

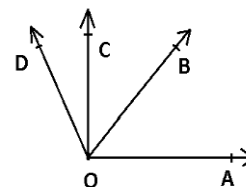
[6-8] How many angles are there in each of the following figures?



6.



7.



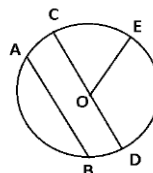
8.

9. In the given figure, name all

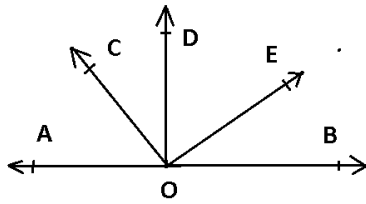
(i) radii

(ii) chords

(iii) diameters



10. Look at the following figure and answer:-

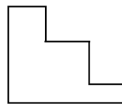


- (i) How many right angles are there?
- (ii) How many acute angle are there?
- (iii) How many obtuse angle are there?
- (iv) What is the total number of angles?

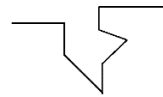
[11-13] How many angles are there in each of the following figures?



11.



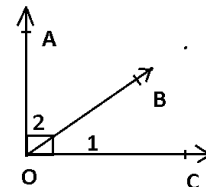
12.



13.

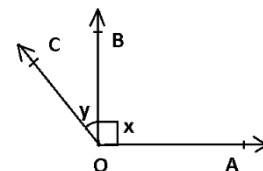
14. In the given figure.

- (i) What type of angle is  $\angle 1$  ?
- (ii) What type of angle is  $\angle 2$  ?
- (iii) What type of angle will you get if both  $\angle 1$  and  $\angle 2$  are added?

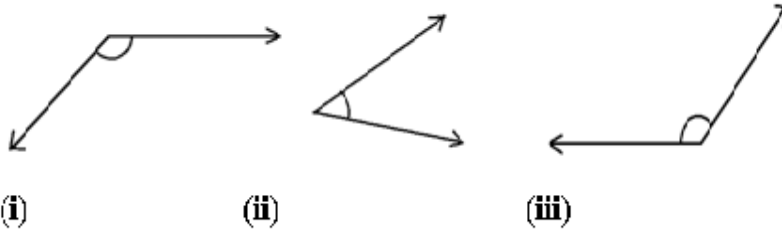


15. In the given figure.

- (i) What type of angle is  $\angle x$  ?
- (ii) What type of angle is  $\angle y$  ?
- (iii) What type of angle will you get if both  $\angle x$  and  $\angle y$  are added?



16. Identify the obtuse angles:



17. What will be the complementary angle of:

(i)  $55^\circ$  (ii)  $32^\circ$

18. What should be the measure of supplementary angle of:-

(i)  $135^\circ$  (ii)  $50^\circ$

19. What is the measure of an angle at the corner of a room?

20. At 6:15 a.m., what is the measure of the angle between the minute and the hour hands of a clock?

21. What is the measure of the angle between the minute and the hour hand of a clock when it strikes six?

22. What figure is obtained if a square sheet is folded into half from the middle?

23. What figure is obtained if a square sheet is folded into half by joining its opposite corner?

[24-25] What will be the radius of a circle, whose diameter is:

24. 28 cm?

25. 13 cm?

[26-27] What will be the diameter of a circle, whose diameter is:

26. 13.5 cm?

27. 10.2 cm?

28. Name the type of angle formed by the minute and hour hands of a clock when it is:-

(i) Five minutes to three.

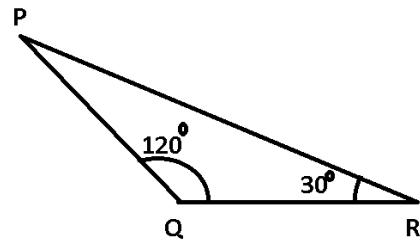
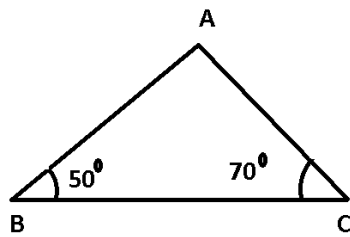
(ii) Twenty minutes past six.

(iii) Half past twelve.

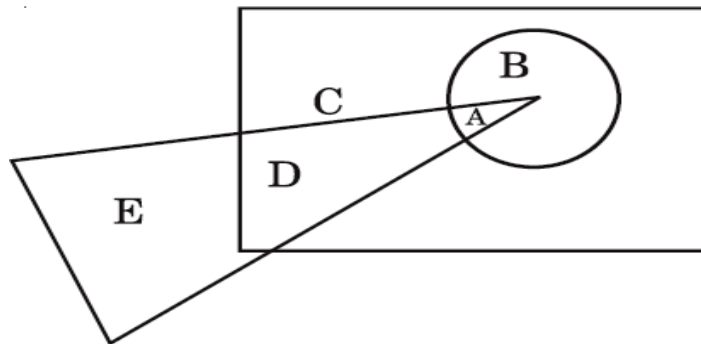
(iv) Quarter to twelve.

(v) Ten minutes to eleven

29. What will be the measure of the third angle of the given triangle?



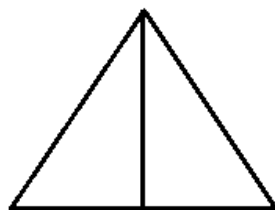
30. Look at the given figure carefully and answer:



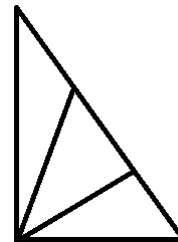
- (i) Which alphabet is in the rectangle only?
- (ii) Which alphabet occupies place in all the three figures?
- (iii) Which alphabets cover two figures?
- (iv) Which alphabet are placed in only one figure?

[31-35] Find the number of triangles in each of the following figures

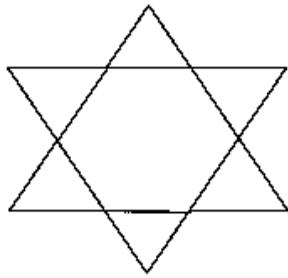
31.



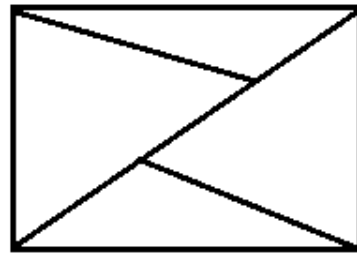
32.



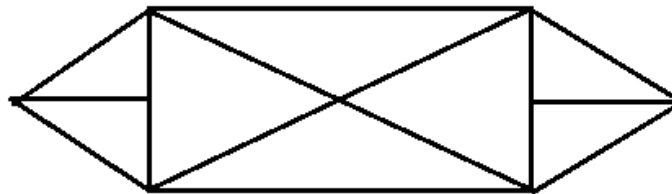
33.



34.



35.



## ANSWERS:

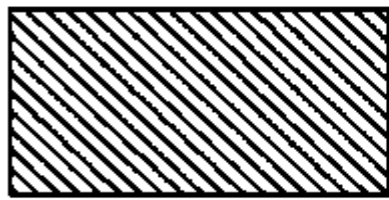
1. (i) Line segments : BC, CD  
Rays : BA, DE  
(ii) Line segments: AB, BC, AC  
Rays : AD, BE, CF
2. (i), (iii), (iv)
3. (i) Right angle  
(ii) Obtuse angle  
(iii) Straight angle  
(iv) Acute angle
4. 8.
5. (i) 6  
(ii) 2
6. 1
7. 3
8. 6
9. (i) OC, OE, OD  
(ii) AB, CD  
(iii) CD
10. (i) 2  
(i) 4  
(ii) 3  
(iii) 10
11. 5
12. 8
13. 7
14. (i) Acute angle  
(ii) Acute angle  
(iii) Right angle
15. (i) Right angle  
(i) Acute angle  
(ii) Obtuse angle
16. (i), (iii)
17. (i)  $35^\circ$   
(ii)  $58^\circ$
18. (i)  $45^\circ$   
(ii)  $130^\circ$
19.  $90^\circ$
20.  $90^\circ$
21.  $180^\circ$
22. Rectangle
23. Triangle
24. 14 cm.
25. 6.5 cm
26. 27 cm
27. 20.4 cm
28. (i) Obtuse angle  
(i) Acute angle  
(ii) straight angle  
(iii) Right angle  
(iv) Acute angle
29. (i)  $60^\circ$   
(ii)  $30^\circ$
30. (i) C  
(ii) A  
(iii) B, D  
(iv) C, E
31. 3
32. 6
33. 8
34. 6
35. 14

## CHAPTER – 14

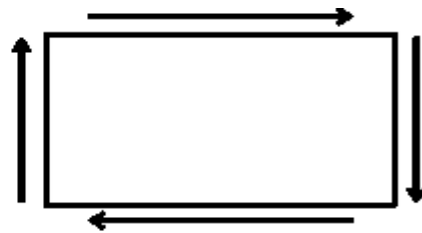
# PERIMETER AND AREA

### Points to remember:

- Area is the surface covered while Perimeter is the boundary that encloses area.



AREA



PERIMETER

- **Perimeter** is measured in the same units as that of length i.e. cm, m, km
- Perimeter of a rectangle or a square = Sum of measure of its 4 sides.

You can use  $(2 \times \text{length}) + (2 \times \text{breadth})$  to calculate the perimeter of a rectangle, and  $(4 \times \text{length of a side})$  to calculate the perimeter of a square.

- Area is measured in square units i.e., sq. cm, sq. m, sq. km
- **Area of a rectangle** = Product of its length and breadth

$$= \underline{\text{Length} \times \text{breadth}}$$

$$\text{Area of a square} = \underline{\text{Side} \times \text{side}}$$

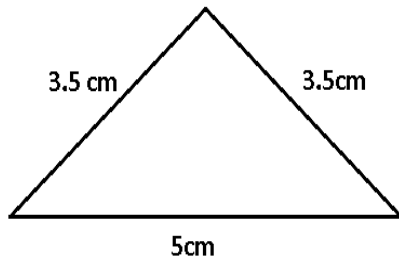
### QUESTIONS:

1. What is the perimeter of a triangle whose sides are 6cm, 8cm and 11cm respectively?
2. Find the perimeter of a square whose one side is 6cm long.
3. Find the perimeter of a rectangle whose sides are 6 cm and 2 cm long.

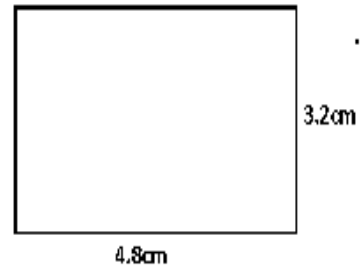
4. What be the perimeter of a triangle whose all sides are 4.5cm long?

[5-10] Find the perimeter of the figures given below:-

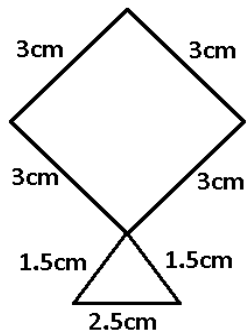
5.



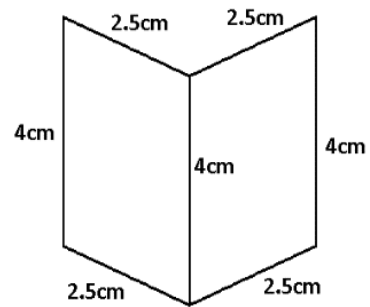
6.



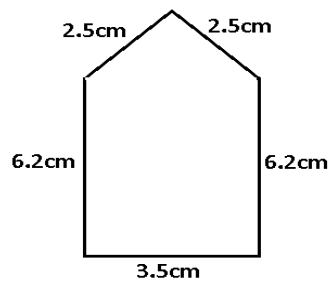
7.



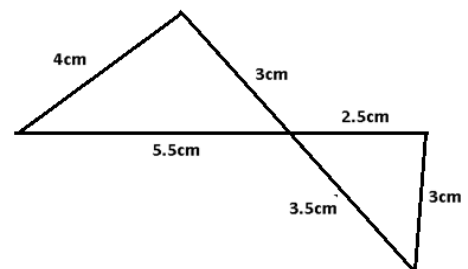
8.



9.



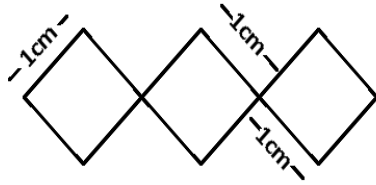
10.



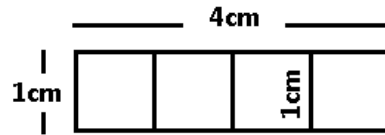


[11-14] Find the perimeter of each figure.

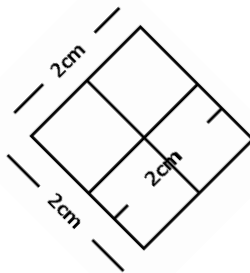
11.



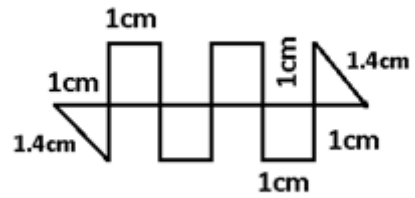
12.



13.

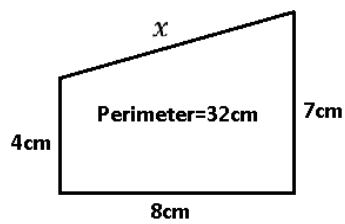


14.

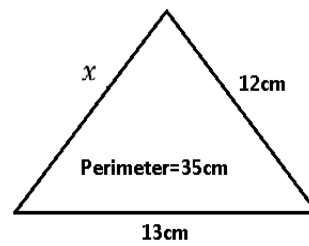


[15-17] Find the length of  $x$ .

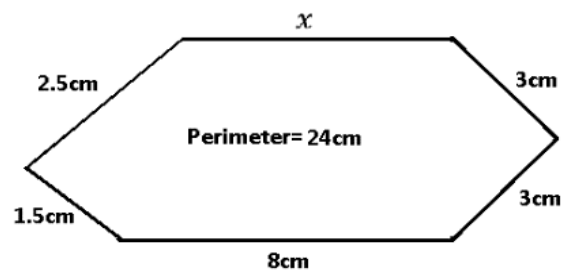
15.



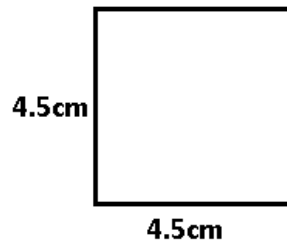
16.



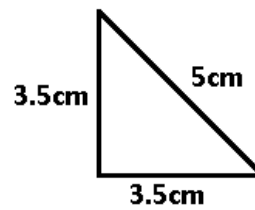
17.



18. Which of the following figures has greater perimeter and by how much?

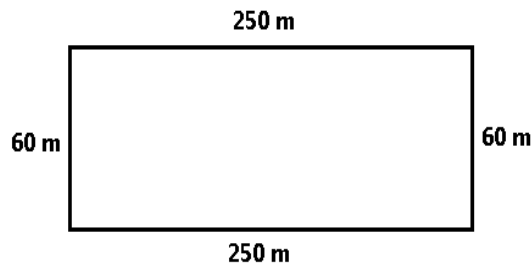


(i)



(ii)

[19-20] What will be the distance covered by Sonu, if he runs around the given playground



19. Once?

20. Three times?

21. A field is 27 m long and 23 m wide. How many meters of wire is required for fencing the field twice?

22. The side of a square park is 30 m. What distance is covered by a boy who goes round it five times?

[23-24] Find the perimeter of a rectangle whose:-

23. Length is 25cm and breadth is 20cm.

24. Length is 54cm and breadth is 36cm.

[25-26] Find the perimeter of a square whose side is:-

25. 29cm.

26. 96cm

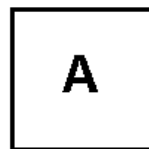
[27-28] Find the area of a square whose side is:-

27. 22cm

28. 42cm

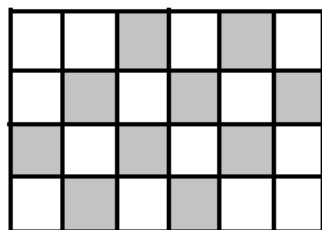
[29-30] Find the area of a rectangle whose:

29. Length =14cm, Breadth=9cm
30. Length =25cm, Breadth=12cm
31. The area of a rectangle is 208 sq.cm and its length is 16cm, find its breadth.
32. Find the length of a rectangular park whose area is 475 sq. m and breadth is 19m.
33. What is the area of a square whose perimeter is 84 cm?
34. If the area of square A and rectangle B are same, find the side of square A.

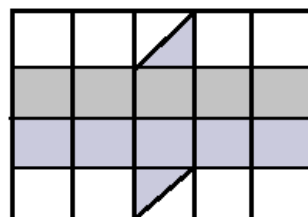


[35-37] Find the area of the shaded region if side of each square is 1cm.

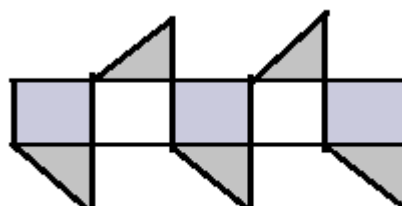
35.



36.

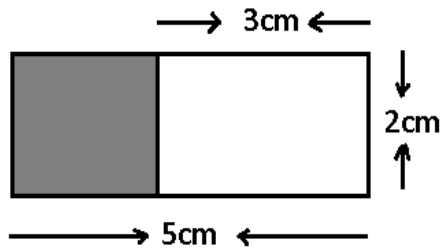


37.

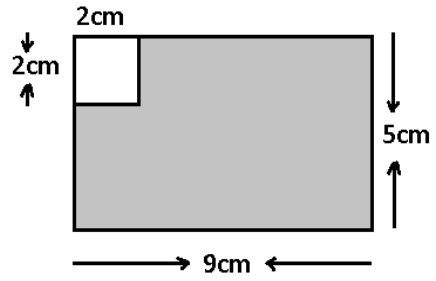


[38-41] Find the area of the shaded region:

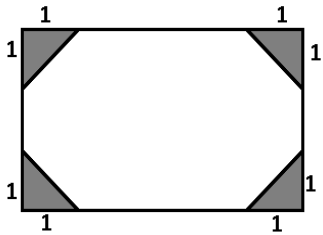
38.



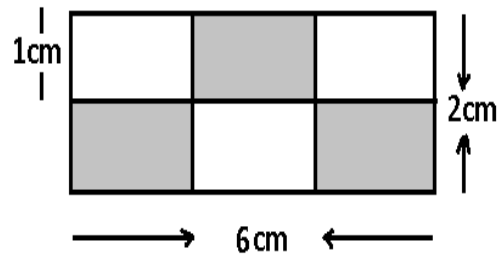
39.



40.

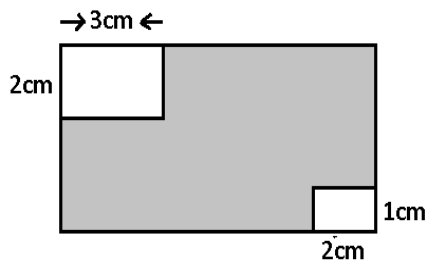


41.

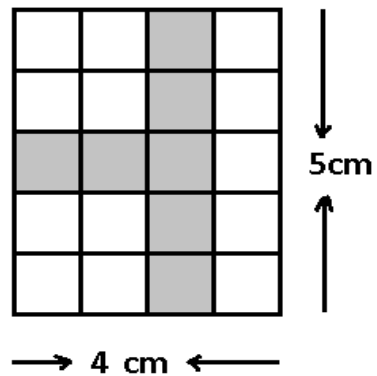


[42-43] Find the area of the unshaded region:

42.



43.



44. Find the area of a tile which is 25cm long and 11cm wide.
45. the cost of fencing a square park of side 150m at the rate of ₹ 9 per metre.
46. The floor of a hall is completely covered by 40 carpets each measuring 2 m by 1.5m. What is the area of the floor of the hall?
47. A floor is 5m long and 3m wide. A square carpet of side 3m is laid on the floor. Find the area of the floor which is not carpeted.
48. The side of a square tile is 12cm. How many such tiles would be required to cover the floor of a square bathroom of side 120cm?
49. A rectangular park is 40 m long and 20 m wide. Find the cost of :
- (i) levelling the park at ₹ 9.50 per sq. m.
  - (ii) fencing the park at ₹ 8 per m.
50. (i) The length of a rectangular park is thrice its breadth. If the breadth is 10m, what would be the perimeter of the park?
- (ii) A man covers 136m while going round a square park twice. What is the length of the side of this park?

## ANSWERS:

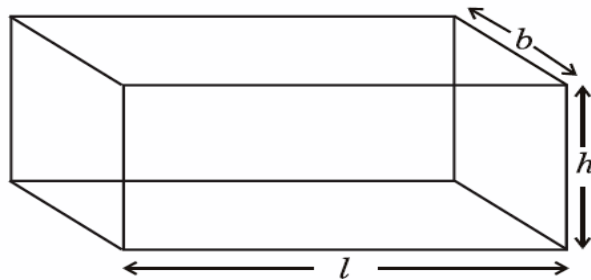
- |     |                 |     |             |
|-----|-----------------|-----|-------------|
| 1.  | 25 cm           | 27. | 484 sq. cm  |
| 2.  | 24 cm           | 28. | 1764 sq. cm |
| 3.  | 16 cm           | 29. | 126 sq. cm  |
| 4.  | 13.5 cm         | 30. | 300 sq. cm  |
| 5.  | 12 cm           | 31. | 13 cm       |
| 6.  | 16 cm           | 32. | 25 m        |
| 7.  | 17.5 cm         | 33. | 441 sq. cm  |
| 8.  | 18 cm           | 34. | 3cm         |
| 9.  | 20.9 cm         | 35. | 10 sq.cm    |
| 10. | 21.5 cm         | 36. | 11 sq.cm    |
| 11. | 12 cm           | 37. | 5.5 sq cm   |
| 12. | 10 cm           | 38. | 4 sq. cm    |
| 13. | 8 cm            | 39. | 41 sq. cm   |
| 14. | 22.8 cm         | 40. | 2 sq. units |
| 15. | 13 cm           | 41. | 6 sq.cm     |
| 16. | 10 cm           | 42. | 8 sq. cm    |
| 17. | 6 cm            | 43. | 13 sq. cm   |
| 18. | (i) figure,6 cm | 44. | 275 sq. cm  |
| 19. | 620 m           | 45. | ₹ 5400      |
| 20. | 1860 m          | 46. | 120 sq. m   |
| 21. | 200 m           | 47. | 6 sq. m     |
| 22. | 600 m           | 48. | 100         |
| 23. | 90 cm           | 49. | (i) ₹ 7600  |
| 24. | 180 cm          |     | (ii) ₹960   |
| 25. | 116 cm          | 50. | (i) 80 m    |
| 26. | 384 cm          |     | (ii) 17 m   |

## CHAPTER – 15

# VOLUME

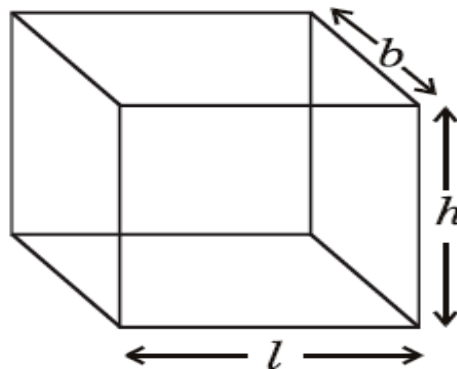
### Points to remember:

➤ **CUBOID:**



- Figure made by using six faces as shown above is called a CUBOID.
- The length, breadth and height of a cuboid are called its three dimensions.
- Faces of a cuboid may be rectangles or squares.

➤ **CUBE:**



- A cuboid which has length, breadth and height equal is called a CUBE.
  - All the faces of a cube are squares.
- Figures having three dimensions are called Solids or 3-dimensional objects or Deep drawings. The space inside these objects is called their volume/capacity.

➤ Volume is measured in cubic units like cubic metre, cubic centimetre etc.

Volume of cuboid =

$$\text{Length} \times \text{breadth} \times \text{height}$$

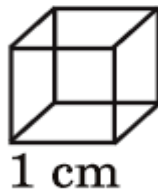
Volume of cube =

$$\text{Length} \times \text{length} \times \text{length}$$

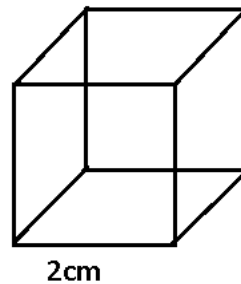
### QUESTIONS:

1. Find the volume of the given cube.

A.

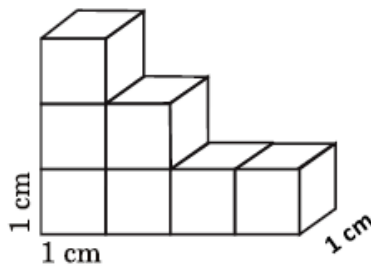


B.

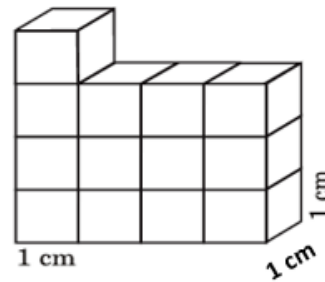


2. Find the volume of the given solids.

(A)

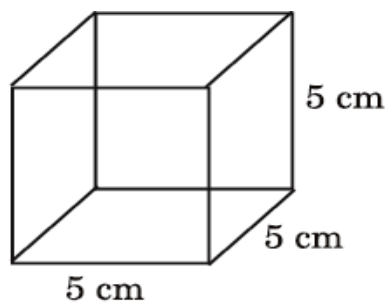


(B)



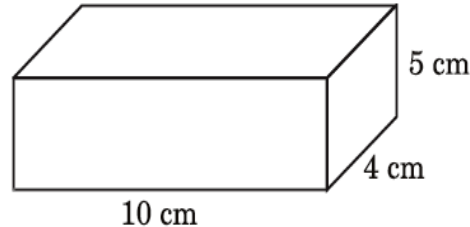
3. 24 boxes of volume 1 cubic metre each can be placed in a container. What is the capacity of the container?

4. How much is the volume of the given solid?



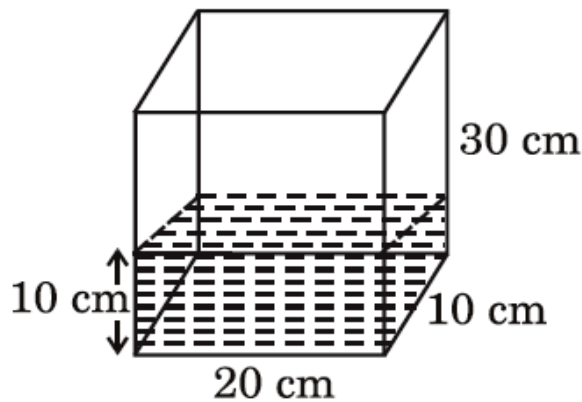


5. How much will be the volume of the cube of side 3 cm?
6. Find the capacity of the cube with edge 0.2 m?
7. Find the volume of the given solid :



8. A wooden block is of length 14 cm, breadth 10 cm, and height 5 cm. Find its volume.
9. Find the volume of marbles which make the water level in glass rise by 64 ml.
10. Find the volume of a cuboid with length 9 m, breadth 6 m and height 1 m.
11. A box is of length 10 cm, breadth 6 cm and height 2 cm. find the volume of two such boxes.
12. A chalk box is of length 10 cm, breadth 4 cm and height 5 cm. What is the volume of 4 such chalk boxes?
13. A chocolate box is a cube of side 10 cm. If the volume of one chocolate is 8 cubic cm. How many chocolates are there in the box?
14. Volume of a cuboidal box is 720 cubic metre. If its length is 9 m and breadth is 8 m, what is its height?
15. Volume of a box is 160 cubic metre. If its length is 8 m and breadth is 5 m, how much is its height?
16. A cuboid is 6 cm long, 4 cm broad and 5 cm high. A cube has an edge of 5 cm. Which one has the greater volume and by how much?
17. How many cubical boxes of side 2 cm can be kept in a cubical box of side 6 cm?
18. A box is of length 8 cm, breadth 6 cm and height 4 cm. How many cubical boxes of side 2 cm can be kept in it?
19. The volume of a cube is 8 cubic cm. Find the volume if it's each side is doubled.

20. The capacity of a tin is 6000 cubic cm. Its length, breadth and height are 20 cm, 10 cm and 30 cm respectively. It contains oil up to the height of 10 cm. How much more oil can be poured in it?



21. The volume of a cube is 64 cubic cm. Find the volume if its each side is halved.
22. How many cubical boxes of side 25cm can be kept in a cubical box of side 125cm.
23. How much will be the volume of the cube of side 30cm?
24. Find the capacity of the cube with edge 0.7m.
25. Find the volume of iron balls which make the water level rise in a bucket by 216 ml.
26. A cuboid is of length 15 m, breadth 6 m and height 10 m. Find the volume of four such cuboids.
27. A box is of length 80 cm, breadth 60 cm and height 40 cm. How many cubical boxes of side 10 cm can be kept in the box?

[28-31] Fill in the blanks:

28. A cube has \_\_\_\_\_ length, breadth and height.
29. The volume of a cube is 125 cubic metre, so each side of cube is \_\_\_\_\_.
30. Volume of cuboid = \_\_\_\_\_  $\times$  \_\_\_\_\_  $\times$  \_\_\_\_\_.
31. Volume of cube = \_\_\_\_\_  $\times$  \_\_\_\_\_  $\times$  \_\_\_\_\_.
32. Volume of a cuboidal box is 990 cubic metre. If its length is 9 m and breadth is 10 m, how much is its height?
33. Volume of a cube is 729 cubic cm, if length of one of its side is 9 cm, how much is the length of remaining each side?

- 34. Volume of a cuboid is 144 cubic cm. If its breadth and height are 3 cm and 4 cm respectively, how much is the length of the cuboid?**
- 35. The dimensions of a cuboid are  $7\text{cm} \times 4\text{cm} \times 18\text{cm}$ . A cube has an edge of 7cm. Which one has greater volume and by how much?**

## ANSWERS:

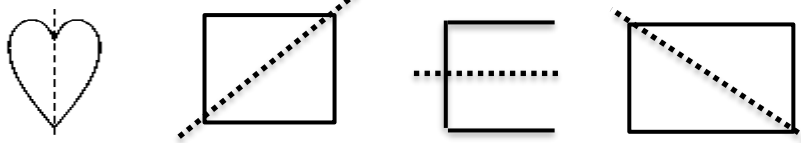
- |     |                  |     |                         |
|-----|------------------|-----|-------------------------|
| 1.  | (A) 1 cubic cm   | 18. | 24                      |
|     | (B) 8 cubic cm   | 19. | 64 cubic cm             |
| 2.  | (A) 7 cubic cm   | 20. | 4000 cubic cm           |
|     | (B) 13 cubic cm  | 21. | 8 cubic cm              |
| 3.  | 24 cubic m       | 22. | 125 boxes               |
| 4.  | 125 cubic cm     | 23. | 27000 cubic cm          |
| 5.  | 27 cubic cm      | 24. | 0.343 cubic m           |
| 6.  | 0.008 cubic m    | 25. | 216 cubic cm            |
| 7.  | 200 cubic cm     | 26. | 3600 cubic m            |
| 8.  | 700 cubic cm     | 27. | 192 boxes               |
| 9.  | 64 cubic cm      | 28. | Equal                   |
| 10. | 54 cubic m       | 29. | 5 m                     |
| 11. | 240 cubic cm     | 30. | Length, Breadth, Height |
| 12. | 800 cubic cm     | 31. | Length, Length, Length  |
| 13. | 125 chocolates   | 32. | 11 m                    |
| 14. | 10 m             | 33. | 9cm each                |
| 15. | 4 m              | 34. | 12 cm                   |
| 16. | Cube, 5 cubic cm | 35. | Cuboid, 161 cubic cm    |
| 17. | 27               |     |                         |

# Chapter-16

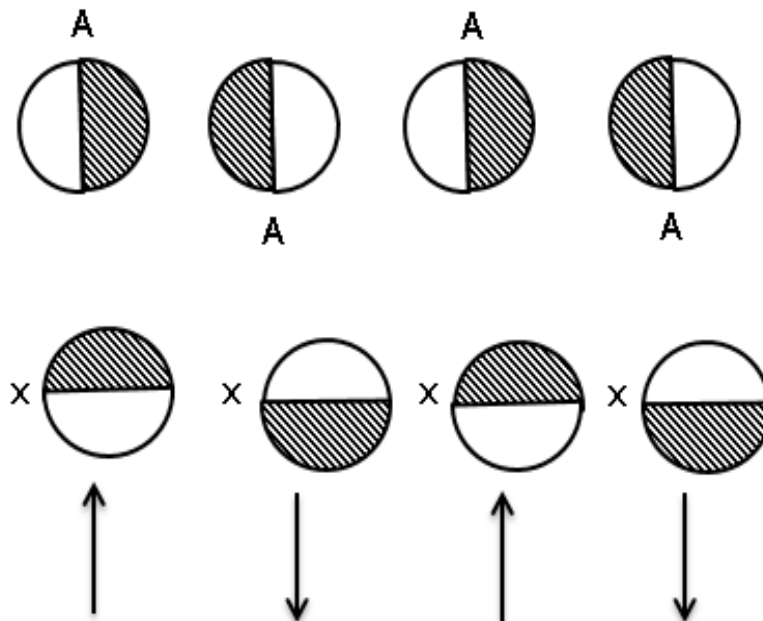
## Patterns

### Points to remember

- **Symmetrical Figures** are those figures which overlap each other completely.
- Also symmetrical figures can be divided into two equal halves.

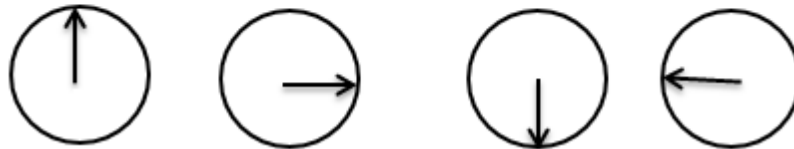
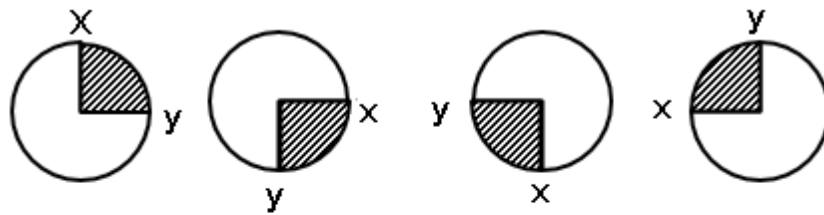


- An object and its mirror images are symmetrical.
- **Half turn [  $\frac{1}{2}$  turn ] : Examples :**



- The object comes to its original position after 2 half turns

➤ **One-fourth turn [ 1/4 turn ] : For example :**





- **The object comes to its original position after 4 one-fourth turns.**
- **Remember, turns are always, made clockwise unless specified.**

### QUESTIONS:

1. Which of the following alphabets have mirror image same as the alphabet itself?  
A, B, M, X, P, T, V
2. Which digits from 1 to 9 have the mirror image same as the digit itself?
3. After how many one-fourth turns shall we get the object in its original position?
4. How many  $\frac{1}{6}$  turns are needed to bring the object back to its original position?

5. After how many  $\frac{1}{4}$  turns clockwise will  look like  ?

6. How many  $\frac{1}{3}$  turns are needed to bring  this back to its original position?

7. How many  $\frac{1}{4}$  turns are needed to  get to its original position?

8. Complete the pattern

ORANGE → RANG →

[9-20] Find the next number in the given series of numeric patterns

9. 20, 26, 32, 38

10. 8, 16, 24, 32

11. 555, 666, 777

12. 1, 12, 123

13. 6321, 6421, 6521

14. 121, 232, 343

15. 1, 2, 4, 8

16. 4, 12, 36

17. 435, 430, 425

18. 629, 631, 633

19.  $\frac{3}{4}, \frac{4}{5}, \frac{5}{6}$

20.  $\frac{2}{7}, \frac{3}{7}, \frac{4}{7}$

[21-22] Find the next term of series

21. B3C2, C4D3, D5E4

22. AP, CO, EN, GM

[23-25] If 122=ABB, then how would you show the following numbers in alphabets?

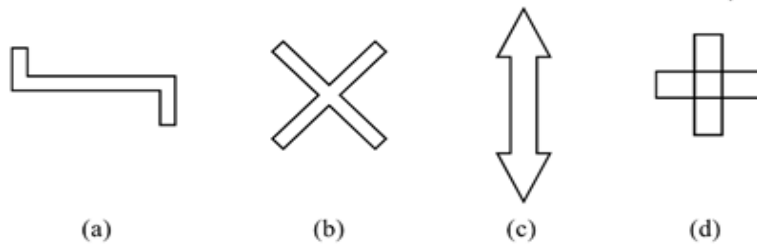
23. 235

24. 125

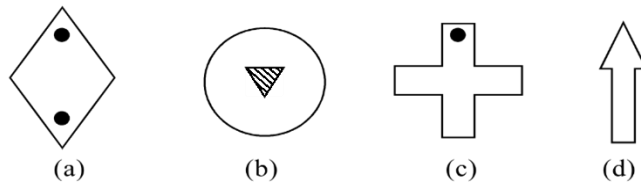
25. 527

26. How will NOON be read after half a turn?

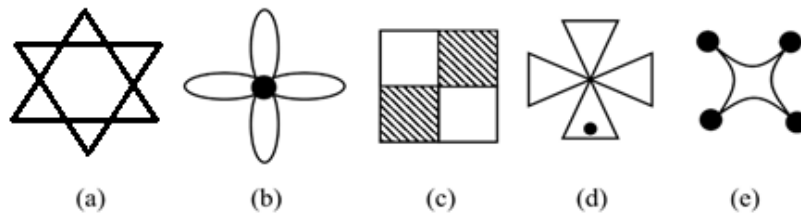
27. Which of these shapes look same as in the original position after  $\frac{1}{4}$  turn ?



28. Which of these figures will look same after  $\frac{1}{2}$  turn?



[29-30] Look at the figures given below and answer.



29. Which figures need  $\frac{1}{2}$  turn to come to their original position?

30. Which figures need  $\frac{1}{4}$  turn to come to their original position?

31. What is the next term in the series given below?



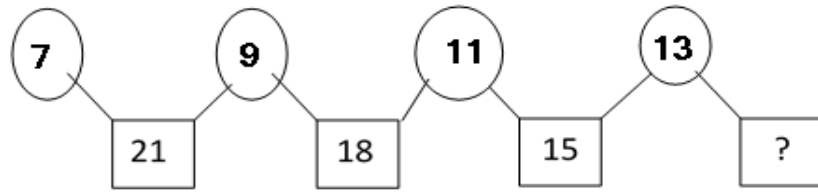
[32-38] find the missing number.

32.

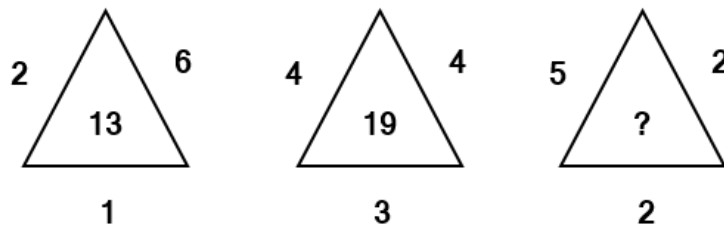
2	7	3
4	0	8
6	?	1



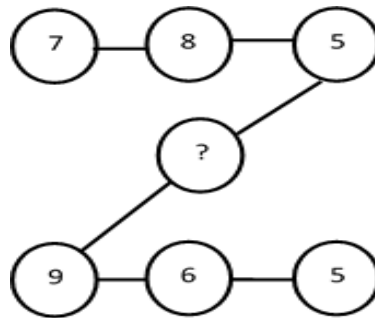
33.



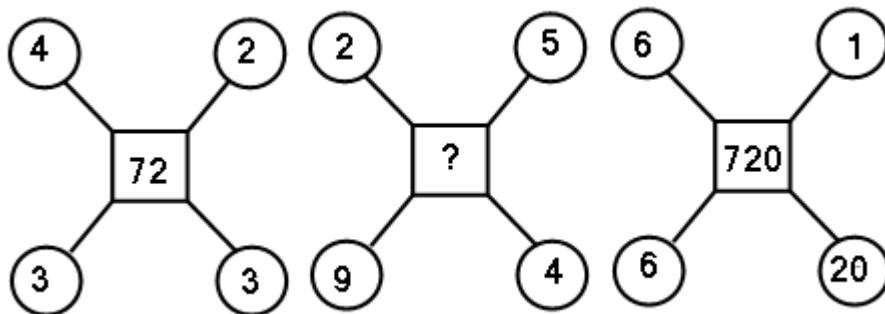
34.



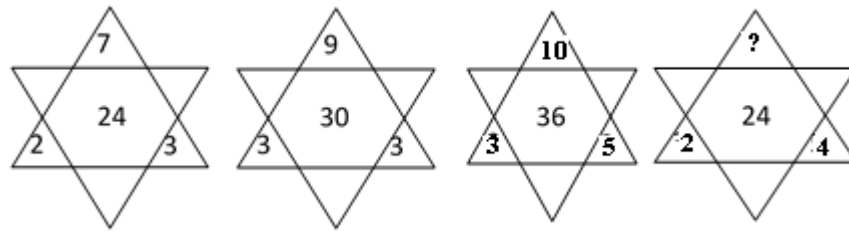
35.



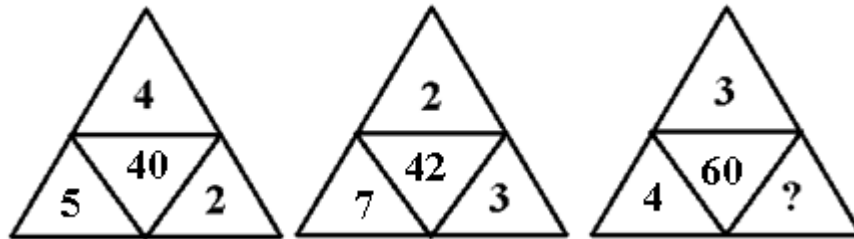
36.



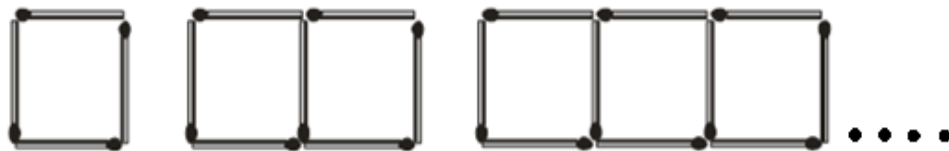
37.



38.



39. How many matchsticks are needed to make pattern 5?



Pattern- 1

2

3

40. What is the sum of numbers in pattern 4?



Pattern-

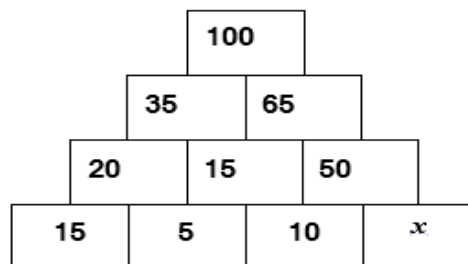
1

2

3

[41-45] According to pattern, find the value of  $x$

41.



42.

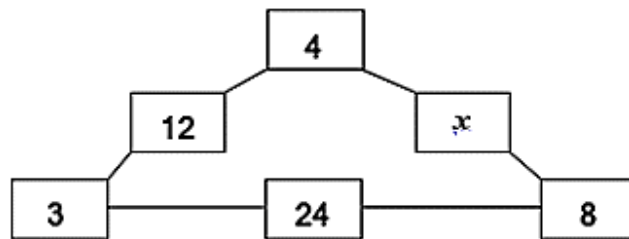
A



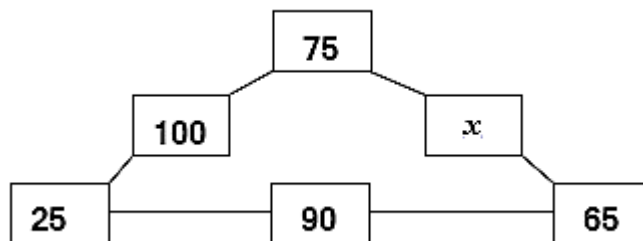
B



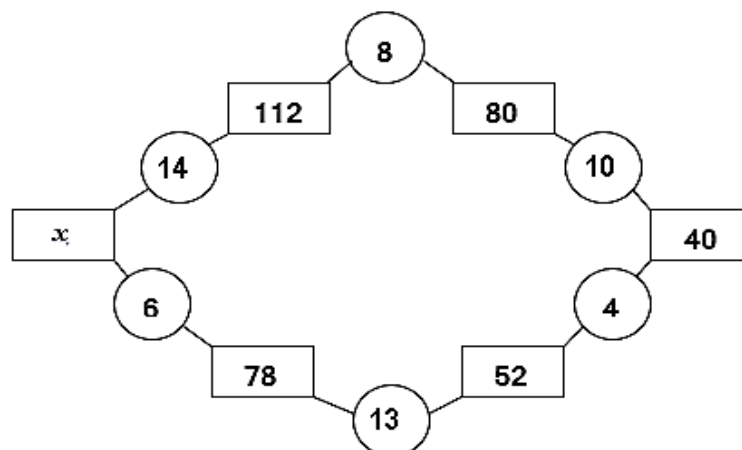
43.



44.



45.



## ANSWERS:

- |     |           |     |                |
|-----|-----------|-----|----------------|
| 1.  | A,M,X,T,V | 24. | ABE            |
| 2.  | 1 and 8   | 25. | EBG            |
| 3.  | 4.        | 26. | NOON           |
| 4.  | 6         | 27. | b and d        |
| 5.  | 3         | 28. | (a)            |
| 6.  | 3         | 29. | a, b, c, e     |
| 7.  | 4         | 30. | a, b, e        |
| 8.  | AN        | 31. | D              |
| 9.  | 44        | 32. | 5              |
| 10. | 40        | 33. | 12             |
| 11. | 888       | 34. | 12             |
| 12. | 1234      | 35. | 6              |
| 13. | 6621      | 36. | 360            |
| 14. | 454       | 37. | 6              |
| 15. | 16        | 38. | 5              |
| 16. | 108       | 39. | 16             |
| 17. | 420       | 40. | 34             |
| 18. | 635       | 41. | 40             |
| 19. | 6/7       | 42. | A → 16, B → 11 |
| 20. | 5/7       | 43. | 32             |
| 21. | E 6 F 5   | 44. | 140            |
| 22. | IL        | 45. | 84             |
| 23. | BCE       |     |                |

# Chapter – 17

## Boxes and Sketches

### Points to remember:

- A minimum of the three views are needed to describe a Deep Drawing / Solid Object/ 3-Dimensional object.
- Using the side, front and top views, one can draw or build a solid object.
- Sum of numbers on the opposite faces of a dice is always 7.

### SUGGESTIONS FOR TEACHERS:

- For solid objects/ deep drawings, give students practice using actual colourful blocks in the class-room.
- Use proper cutout to give the concept of [nets & sketches] for open and closed boxes. You can also try open box from a confectionary shop.

### QUESTIONS:

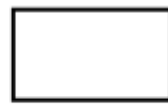
1. Which of the following figure could be the face of a cube?



(a)



(b)

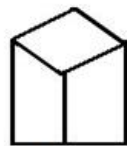


(c)

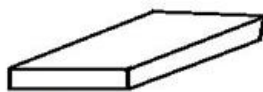


(d)

2. Which of the following is the drawing of a cubical box?



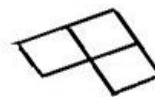
(A)



(B)

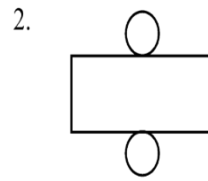
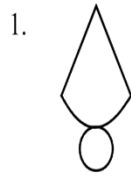


(C)

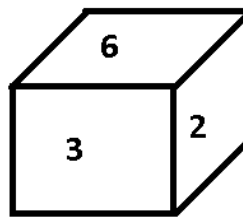


(D)

3. Name the figures obtained by folding the following nets.



4. In the dice shown below , what number will be marked on the face opposite to the front face ( on which 2 is marked)



5. How many faces does a cube have?

6. How many edges does a cuboid have?

7. Which figure has all similar faces – cube or cuboid?

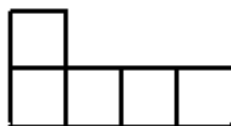
8. Name the figure which has two circular faces.

9. Name the figure which has three corners.

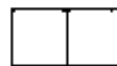
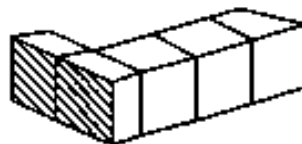
[10-14] For each of the given solid figures, two dimensional views are also given.

Categorise the given views as ‘Top view’ , ‘Front view’ , ‘Right hand side view’ , ‘Left hand side view’ .

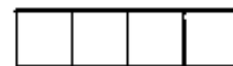
10.



(a)

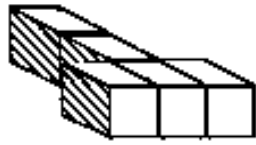


(b)

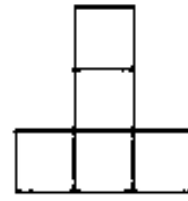


(c)

11.

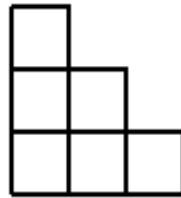
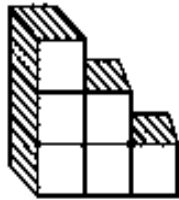


(a)



(b)

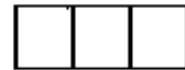
12.



(a)

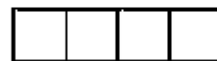
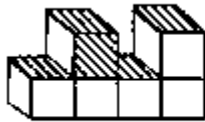


(b)

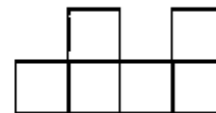


(c)

13.



(a)

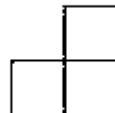
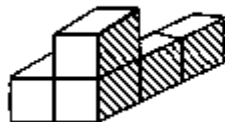


(b)

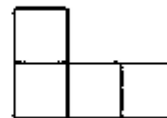


(c)

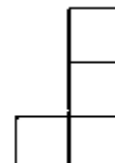
14.



(a)



(b)



(c)

15. Which of the following figures could be a face of a cuboid?



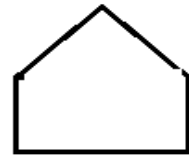
(a)



(b)

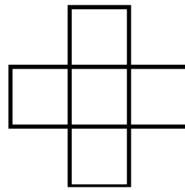


(c)



(d)

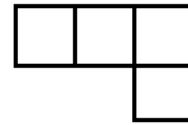
16. Which of the following figures could be used to make an open box?



(a)

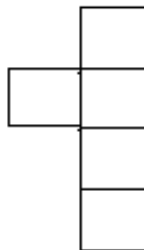


(b)

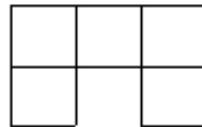


(c)

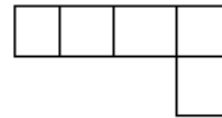
17. To form an open box, which one of the following nets can be used?



(a)

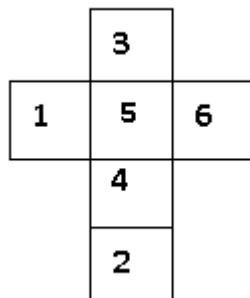


(b)



(c)

18. A cube is made by folding the following net. Which number will be on the opposite face of 5?

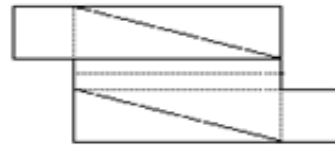




19. Which of the following nets can be used to make a closed box?



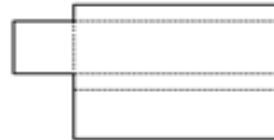
(a)



(b)



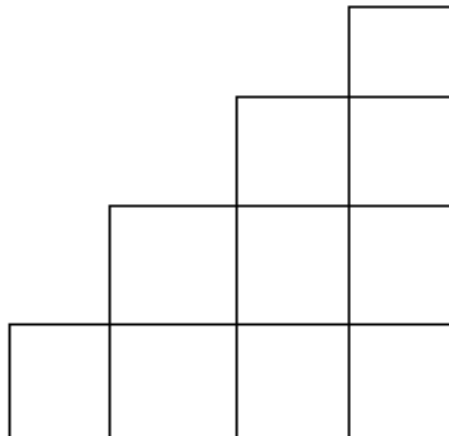
(c)



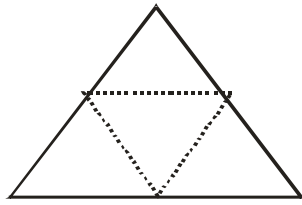
(d)

20. How many vertices does a cube have?

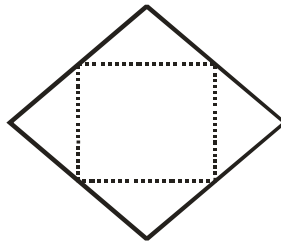
21. A staircase with four steps is made using ten blocks. How many more blocks are required to make a staircase of seven steps?



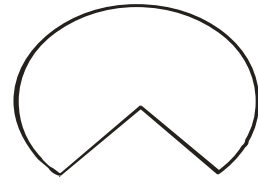
22 Following nets can be folded into which figure?



(a)



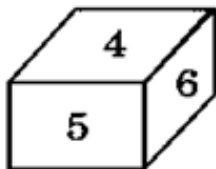
(b)



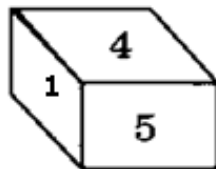
(c)

[23-24] Which of the following figures are figures of the same dice?

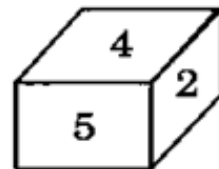
23.



(a)

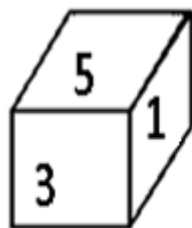


(b)

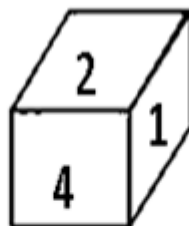


(c)

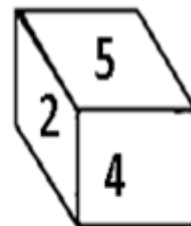
24.



(a)



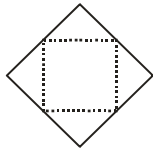
(b)



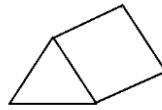
(c)

**25. Match the 'Nets' with their 'Boxes'**

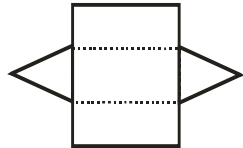
i)



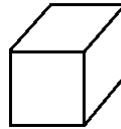
(a)



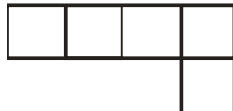
ii)



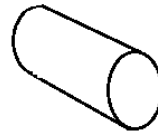
(b)



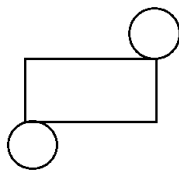
iii)



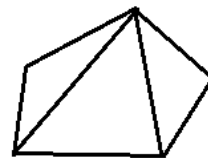
(c)



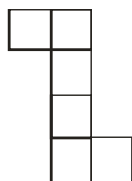
iv)



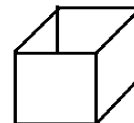
(d)



v)



(e)



**[26-30] Fill in the blanks:**

**26. A cuboid has \_\_\_\_\_ vertices.**

**27. A triangular pyramid has \_\_\_\_\_ edges.**

**28. The net of a cube contains \_\_\_\_\_ squares.**

**29. A square pyramid has a \_\_\_\_\_ as its base.**

**30. A square pyramid has \_\_\_\_\_ vertices.**

## ANSWERS:





1. (b)
2. (C)
3. 1. Cone, 2. Cylinder
4. 5
5. 6
6. 12
7. Cube
8. Cylinder
9. 9. Triangle
10. (a) Top view (b) Left hand side view (c) Front view
11. (a) Front view / Left hand side view (b) Top view
12. (a) Front view (b) Left / Right hand side view (c) Top view
13. (a) Top view (b) Front view (c) Left / Right hand side view
14. (a) Front view (b) Right hand side view (c) Top view
15. (a) and (c)
16. (a)
17. (a) and (c)
18. 2
19. (a) and (c)
20. 8
21. 21. 18
22. triangular pyramid, square pyramid, cone
23. (a) and (b)
24. (a) and (b)
25. 25. i. d ii. a iii. e iv. c v. b
26. 8
27. 6
28. 6
29. Square
30. 5

# Chapter – 18

## Smart Charts

### Points to remember:

- **DATA:** Information collected or given in the form of numbers is called DATA. Data can be represented diagrammatically in different forms:





Number of Objects/Persons	Tally Marks
1	
2	or 
3	or 
4	or 
5	or 

1. Tally marks are used as shown below:

- **Pictograph:** Pictures or symbols are used to represent specific number of items.
- (a) **Bar graph:** Data is represented through horizontal or vertical columns. The length of bar or height of column gives idea about quantity. More than one set of data can be shown so comparison is easy.
- (b) **Pie chart or Chapati chart:** These are used for comparing different parts of a bigger quantity. By looking at the area covered, we can easily tell which quantity is bigger.
- (c) **Line graph:** It represents data collected over a long period of time.

## QUESTIONS:

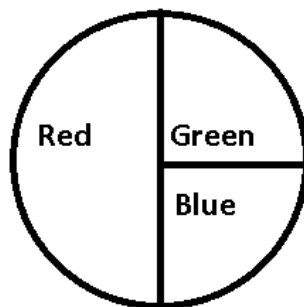
1. Match the following

	Name	Graph
a.	Pictograph	(i) 
b.	Bar graph	(ii) 
c.	Pie chart	(iii) 
d.	Line graph	(iv) 

2. In a pictograph if  represents 25 students, then

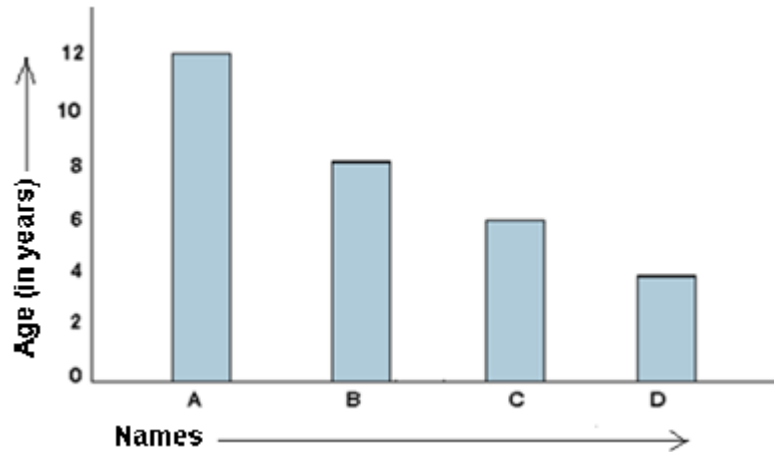
 =

[3-4] Out of class V students of a school, 35 mentioned 'Blue' as their favorite colour. According to given pie chart answer the questions








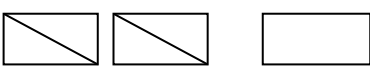


- How many of them like red colour?
- How many students are there in V class?

[5-8] The bar graph shows the age of four children. If Rama is youngest and Ravi is older than Sahil but younger than Akash. Then answer the questions:-



5. Which bar represents age of Rama?
6. Which bar represents age of Akash?
7. How much older is Akash than Ravi?
8. What is the sum of ages of all children?

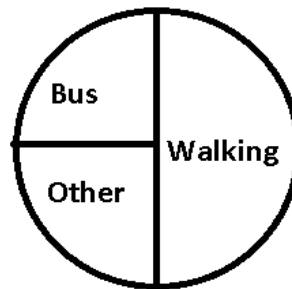
[9-12] Look at the tally marks regarding favourite games of children in a class.

 <b>Badminton</b>	
 <b>Cricket</b>	
 <b>Hockey</b>	
 <b>Basket Ball</b>	

9. Which is the most popular game and how many children like it?
10. How many children like badminton?
11. How many children are there in the class?
12. How many more children like cricket than basketball?

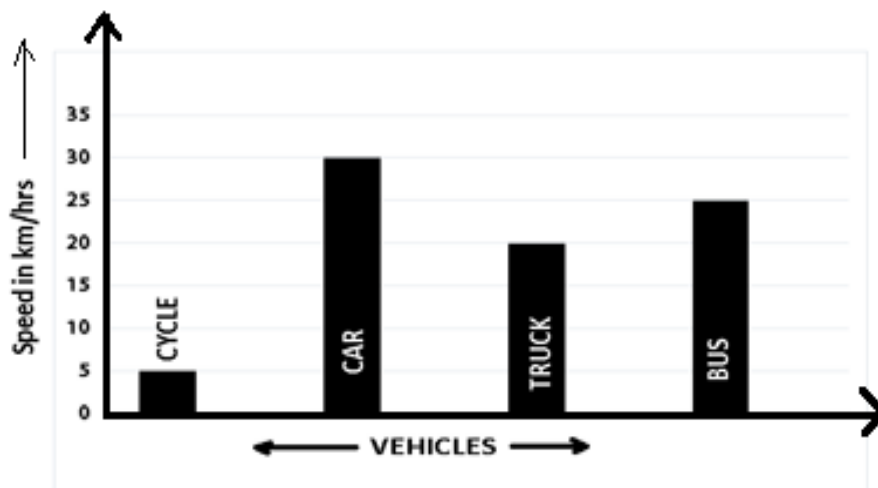
[13-15] Look at the Pie-chart showing how different children come to school.

If the circle represent 168 children, tell the number of:-



13. Children coming by bus.
14. Children who come walking.
15. Children who use other means of transport.

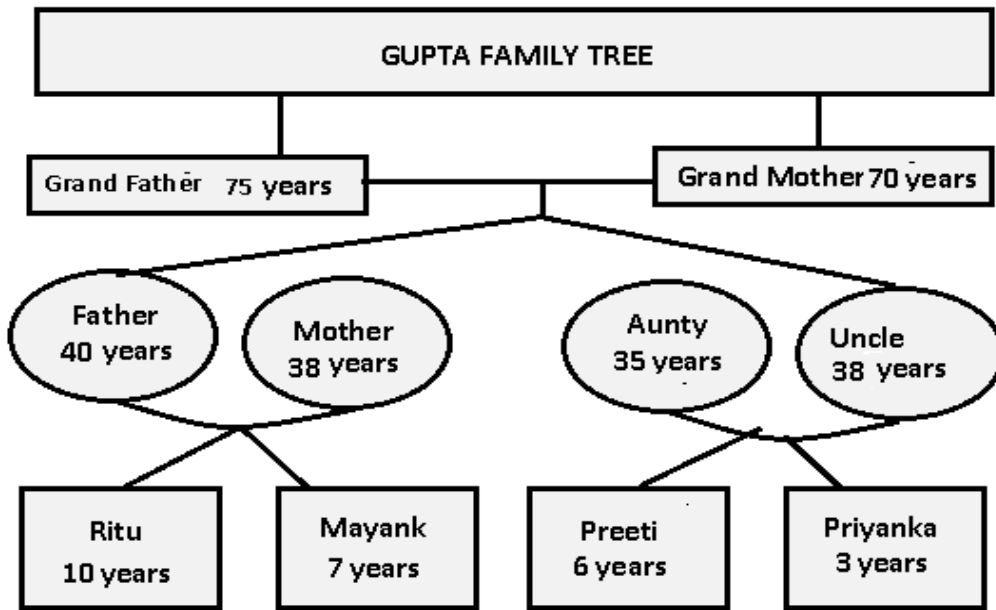
[16-19] The graph shows the speed of different vehicles. Look at the graph and answer.



16. Speed of which vehicle is highest?
17. Speed of which vehicle is one-fourth the speed of truck?
18. Speed of which vehicle is lowest and how much is the speed?
19. Find the sum of speeds of all the vehicles.









[20-24] Ritu has prepared a family tree of her family.



20. How old was father when Ritu was born?
21. What is the difference in ages between the youngest and the oldest person in the family?
22. After how many years will Ritu celebrate her 25<sup>th</sup> birthday?
23. What is the age difference between Ritu's father and uncle?
24. What is the sum of ages of Ritu and her mother?

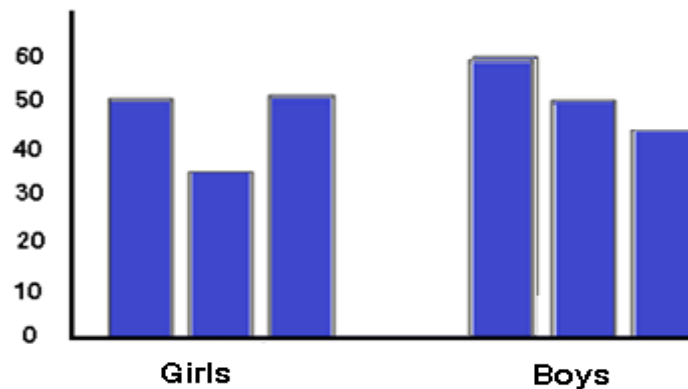
[25-28] A school library has different type of books as shown in the given

**Pictograph.**  = Represents 150 books

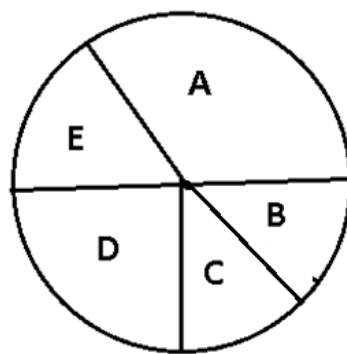
Types of books	Number of books
Subject books	 
Magazines	
Helping books	
Story books	
Novels	

25. How many total number of books are there in the library?
26. How many more subject books are there in the library as compared to story books?
27. Which two types of books are in same numbers in the library?
28. Find the total number of books in novels and magazines.

[29-31] Following bar graph represents number of boys and girls of three classes of a school.

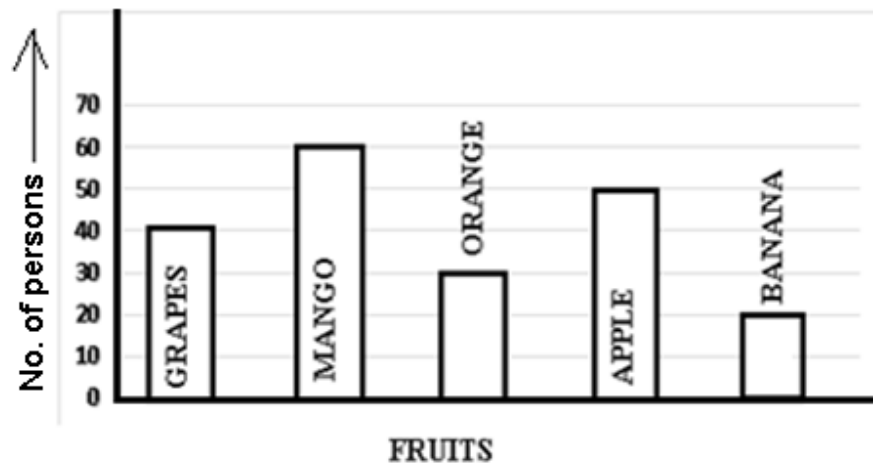


29. How many total girl students are there?
30. Who are more in number, girls or boys?
31. If they plan their picnic together, how many students will go for picnic?
32. The circle graph (pie chart) shows the time spent by Peeku on Sunday, complete the pie chart with given information.



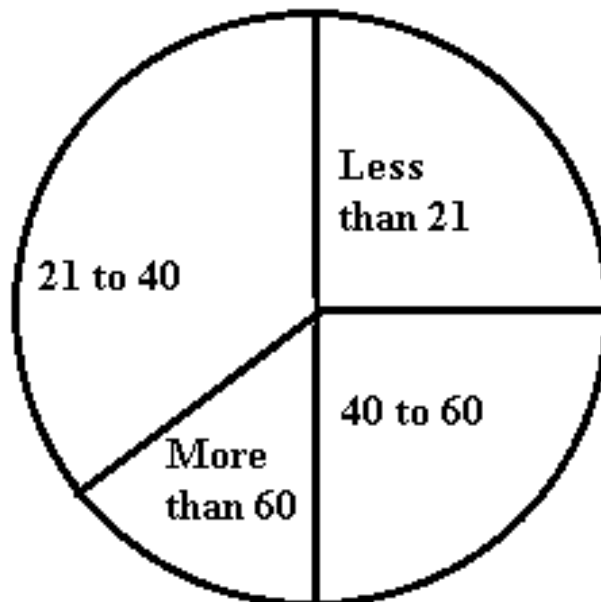
- i) 8 hours- Sleeping
- ii) 3 hours- Reading
- iii) 3 hours- Playing
- iv) 4 hours- Eating, bathing etc.
- v) 6 hours- Spending time with grand parents

[33-36] The following bar graph shows which kind of fruit people like during a survey.



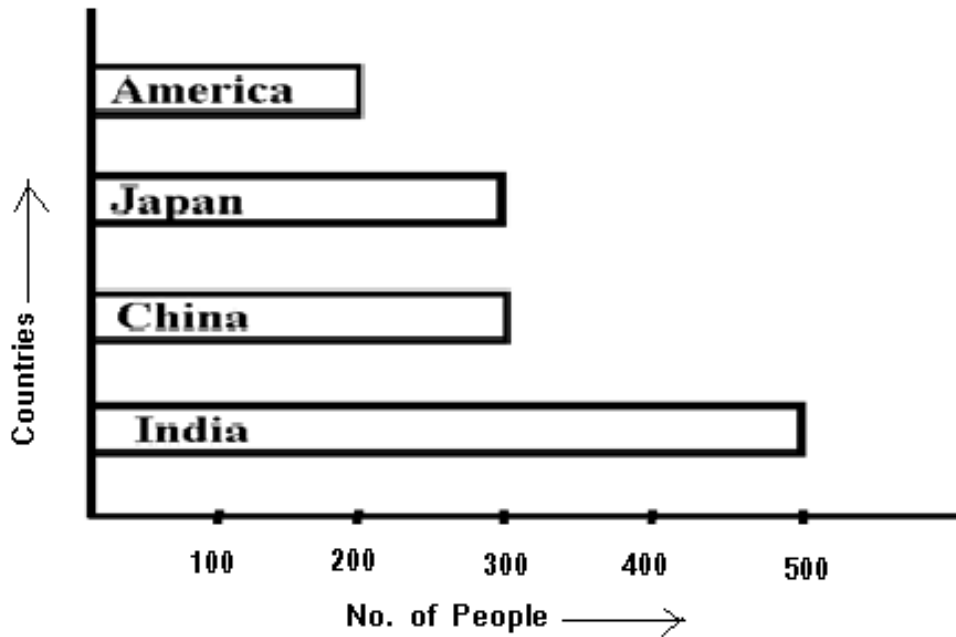
33. How many people took part in the survey?
34. How many more people like mango as compared to banana?
35. How many people like apple and grapes?
36. Which fruit is liked by least member of people and how many like it?

[37-40] The pie-chart show the age (in years) of voters in a local election.



37. What type of angle is formed for the age group of 21 to 40 years?
38. What fraction of voters are under 21 years of age?
39. What type of angle is formed for the age group of more than 60 years?
40. If there are 400 voters, then how many voters are 21 years or more than 21 years old?

[41-45] The following graph represents the number of people of different countries in a world summit. Answer the questions.



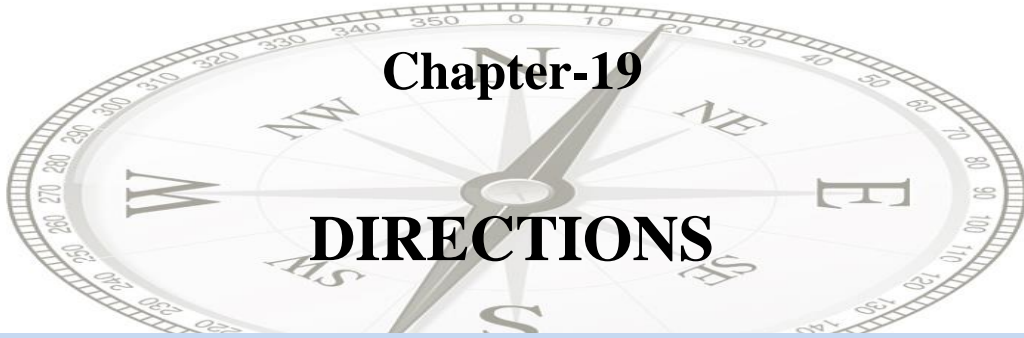
41. How many Indians were present?
42. Which country has minimum representatives?
43. Which country has maximum representatives?
44. Which countries have same number of representatives?
45. What is the total number of people in the summit?

## ANSWERS:

1. a-(ii), b-(iv), c-(i), d- (iii)
2. 125
3. 70
4. 140
5. D- Rama
6. A- Akash
7. 4 Years
8. 30 Years
9. Cricket, 18
10. 16
11. 60
12. 6
13. 42
14. 84
15. 42
16. Car
17. Cycle
18. Cycle,5 km/hr.
19. 80 km/hr.
20. 30 years old
21. 72 years
22. After 15 years
23. 2 years
24. 48 years
25. 3600 books
26. 450 more books
27. Helping books and novels
28. 1050 books
29. 135
30. Boys
31. 290
32. (i)-A, (ii) B or C,  
(iii) B or C (iv) E (v) D
33. 200
34. 40
35. 90
36. Banana, 20 people
37. Obtuse angle
38. One fourth  $\left(\frac{1}{4}\right)$
39. Acute angle
40. 300 voters
41. 500
42. America
43. India
44. Japan and China
45. 1300

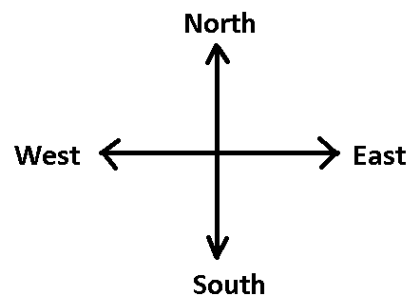
## Chapter-19

# DIRECTIONS

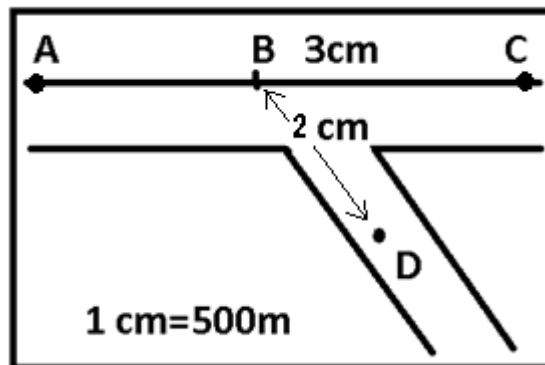


### Points to remember:

- There are four main directions –East, West, South and North which are represented in a map as:



- Actual distance between any two locations on land can be calculated with the help of scale given on the map:



For the given portion of map:

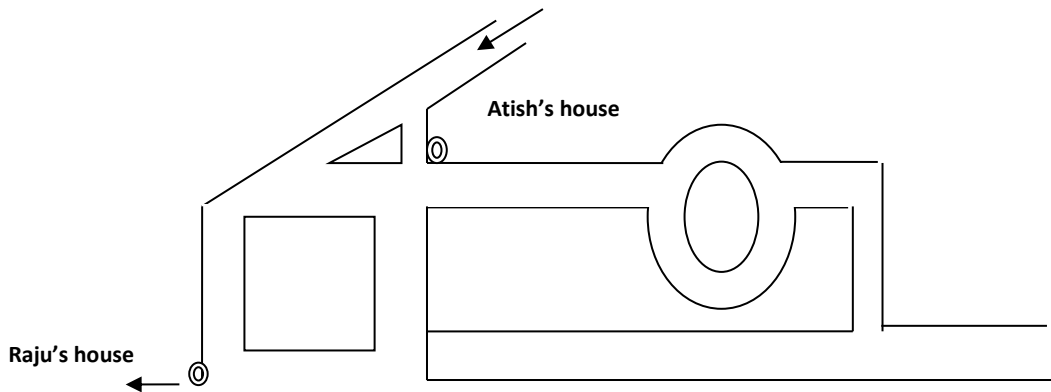
Position	Distance between them on map	Actual distance
A and B	3 cm	$3 \times 500 = 1500\text{m}$
B and D	2 cm	$2 \times 500 = 1000\text{m}$
A and C	6 cm	$6 \times 500 = 3000\text{m}$
B and C	3 cm	$3 \times 500 = 1500\text{m}$

- Any picture can be magnified or reduced by taking grids of different square size.

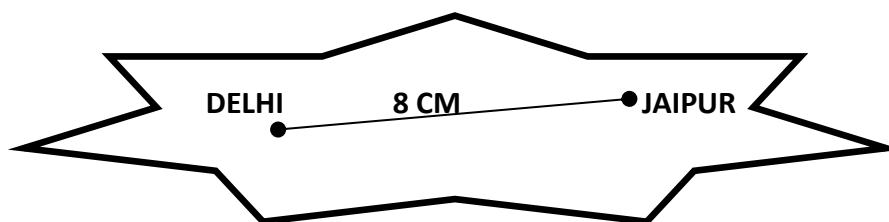
Change in length of square of grid	Change in size	Change in area
2 times (Double)	2 times	4 times
4 times	4 times	16 times
Half ( $\frac{1}{2}$ )	Half	$\frac{1}{4}$ times

### QUESTIONS:

1. Answer the following questions according to given figure



- Mark the shortest route with arrows from Atish's house to Raju's house.
  - Mark the longest route with arrows from Raju's house to Atish's house.
  - How many route Raju can take to reach Atish's house?
- The scale on map is  $3\text{cm} = 1\text{ km}$ , if the distance shown on the map is  $18\text{cm}$ , what is the actual distance?
  - If  $1\text{ cm}$  on a map shows  $40\text{ km}$  on the ground. With the help of given figure, tell how far is Jaipur from Delhi?



4. The scale on a map is 1 cm = 15 km. If the distance shown on the map is 15cm.what is the actual distance?

(5-8) Fill the boxes:-

	Scale	Actual Distance	Distance on map
5.	$\frac{1}{2}$ cm=1km	32 km	<input type="text"/>
6.	1cm=1km	17 km	<input type="text"/>
7.	2cm=1km	<input type="text"/>	50 cm
8.	3cm=1km	25 km	<input type="text"/>

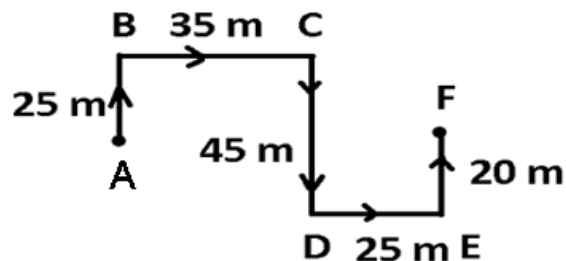
(9-13) If actual distance=225 km, then fill in the blanks.

	Scale	Distance On Map
9.	1cm =25 km	<input type="text"/>
10.	<input type="text"/>	15 cm
11.	1cm =45 km	<input type="text"/>
12.	<input type="text"/>	9 cm
13.	1cm =75 km	<input type="text"/>

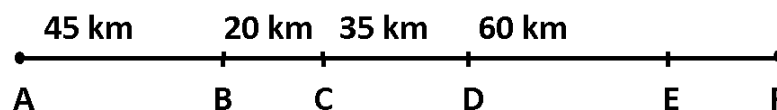
14. If 1 cm on a map shows 35 km on the ground, how far is Agra from Delhi?

AGRA  $\xrightarrow{6 \text{ cm}}$  DELHI

15. What is the shortest distance between A to F in metre?

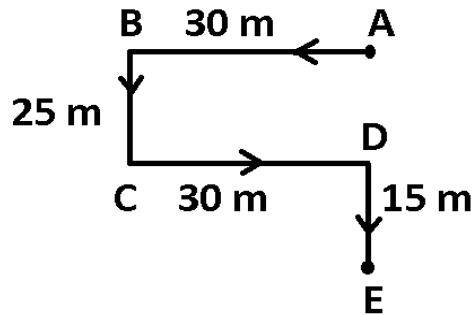


(16-18) On a line of 200 km, find the distance of the following-

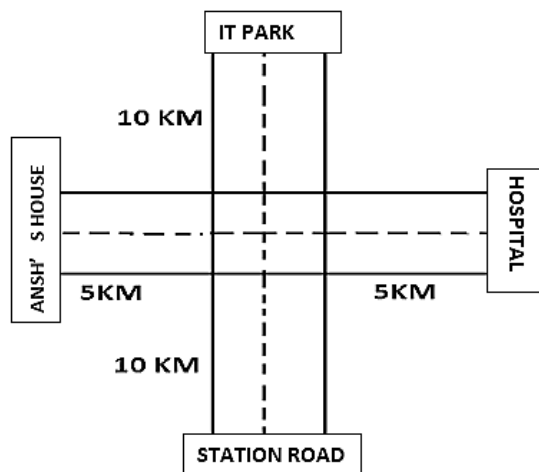




16. Distance between E to F.
17. Distance between D to F.
18. Distance between B to F.
19. What is the shortest distance between A to E?



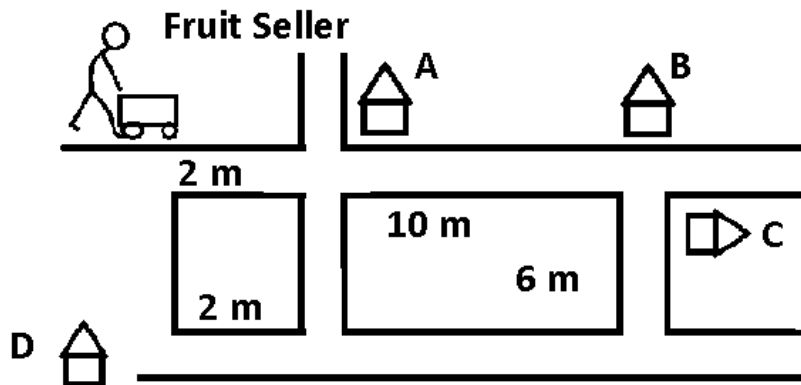
[20-24] See the given map and answer the questions



20. Ansh cycles from his house to hospital. How much distance does he cover?
21. Ansh, from his house, goes to station road and picks up his grand-mother and take her to the hospital, find the total distance travelled by Ansh in this journey?
22. What type of angle is formed between the roads connecting IT Park and the hospital?
23. What type of angle is formed between the roads connecting Ansh's house and hospital?
24. From Ansh's house to the IT Park and then to the hospital, how many turns does he have to take?

25. Seema and Radha started moving in opposite directions from point A. After walking 27 metre on either side both stopped. Then Seema started moving towards Radha. How much distance did she cover to meet Radha?
26. Megha is walking around a rectangle park. She started her walk facing west. After taking two turns at the corners of the park, which direction would she be facing?
27. Ravi is walking around a square park. If he started his walk facing north direction then after taking three turns at the corners of the park, which direction would he be facing?

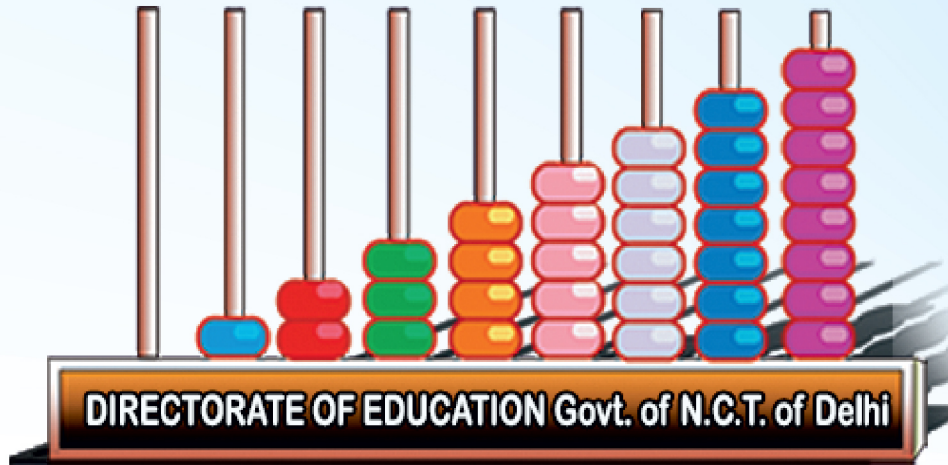
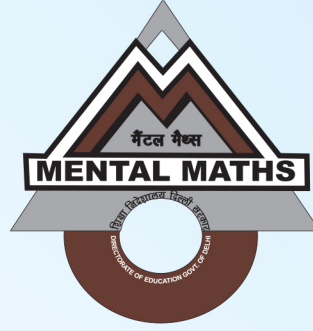
[28-30] Look at the map given below and answer.



28. A fruit seller delivers fruits every day to the house A, B, C, and D, first to A, then B, then C and the last to D. How much distance in meters does he travel everyday starting from his house to house D?
29. House D does not want fruit a day. How much distance in meters does he have to travel from his house to house C?
30. How many turns does he have taken to complete his journey from A to D?

## **ANSWERS:**

- |     |                |     |                |
|-----|----------------|-----|----------------|
| 1.  | Do it yourself | 16. | 40 km          |
| 2.  | 6 km           | 17. | 100 km         |
| 3.  | 320 km         | 18. | 155 km         |
| 4.  | 225 km         | 19. | 40 m           |
| 5.  | 16 cm          | 20. | 10 km          |
| 6.  | 17 cm          | 21. | 30 km          |
| 7.  | 25 km          | 22. | Right angle    |
| 8.  | 75 cm          | 23. | Straight angle |
| 9.  | 9 cm           | 24. | 3 Turns        |
| 10. | 15 km          | 25. | 54 m           |
| 11. | 5 cm           | 26. | East direction |
| 12. | 25 km          | 27. | West direction |
| 13. | 3 cm           | 28. | 30 m           |
| 14. | 210 km         | 29. | 12 m           |
| 15. | 60 m           | 30. | 2 turns        |



पढ़े चलो बढ़े चलो