GOVERNMENT OF TAMILNADU

STANDARD FOUR

TERM - I

VOLUME - 2

MATHEMATICS
SCIENCE
SOCIAL SCIENCE

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Department of School Education

Untouchability is Inhuman and a Crime

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CONTENT

XTHMZ

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A6L2B

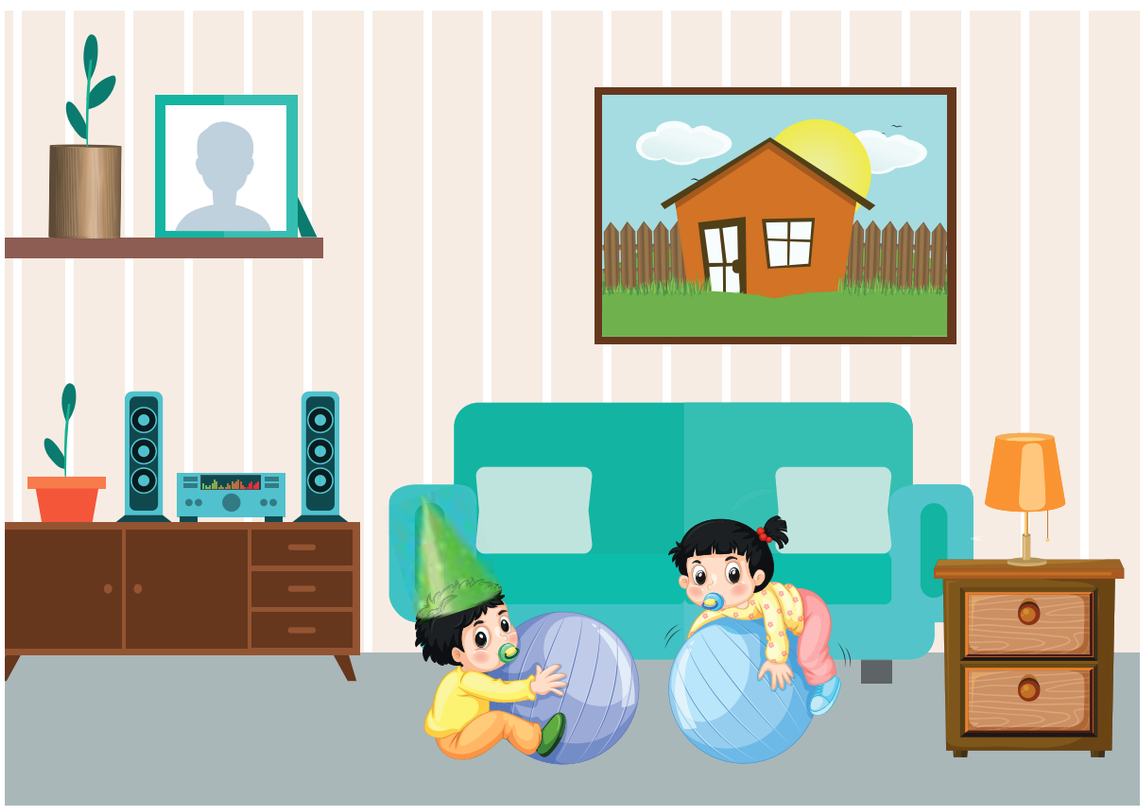
Assessment

MATHEMATICS

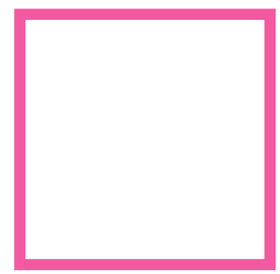
1.1 Properties of 2D Shapes

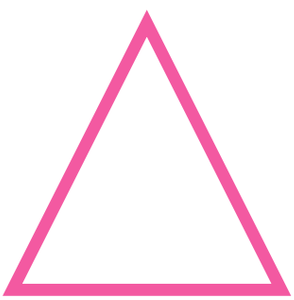
Let us recall the names of 2D shapes.

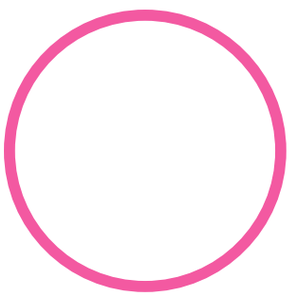
Look at the picture and identify the shapes of the objects in it.



Name the following shapes







Group Activity 1

Draw different shapes on the ground and make the students to run around the shapes in a circle. Ask the students to stand inside the shape said by the teacher. Continue the activity until the students are familiar with all the shapes.

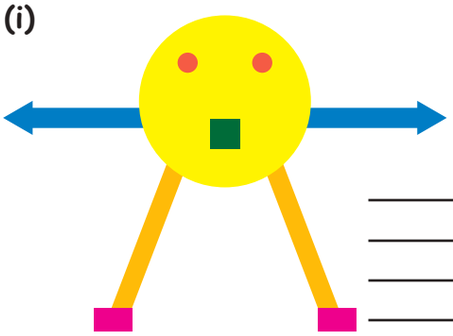
Group Activity 2

Make the children into groups of 3 or 4 and ask them to form the shapes said by the teacher.

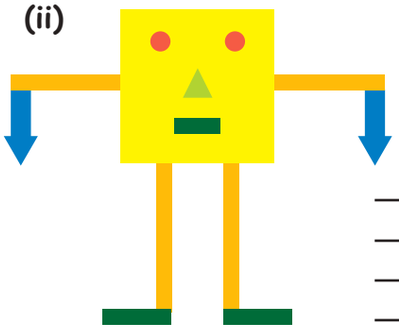
Exercise 1.1

1. Write the names of the shapes in the following pictures.

(i)

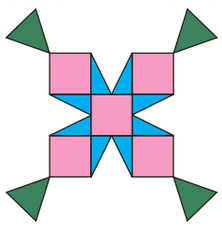


(ii)



2.

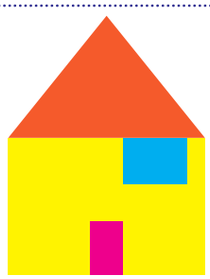
i Write the number of squares and triangles in the given picture.



Square ( )

Triangle ( )

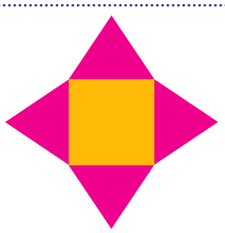
ii Write the number of rectangles and triangles in the given picture.



Rectangle ( )

Triangle ( )

iii Identify the shapes and write the names in the boxes given below.



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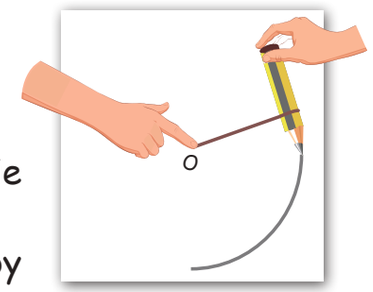
1.1.1 Properties of circles

Drawing circles using circular objects.

Place a bangle or a coin on a paper. Trace its boundary. The picture you get is a circle.

Activity

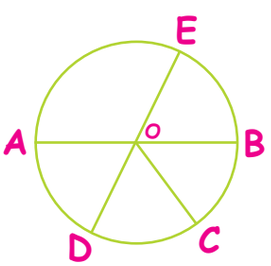
Drawing a Circle



Materials Required: Pencil, Thread.

1. Mark a point on a sheet and name it as O.
2. Fix one end of the thread at the point O and tie the pencil on the other end of the thread.
3. Move the pencil to trace one complete round by keeping the thread at O as center.
4. The path traced by the pencil is a circle. Point O is called the center of the circle.

1.1.2 Radius and diameter of a circle



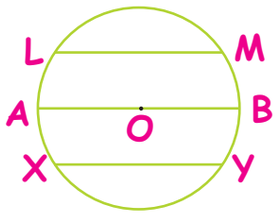
Circle is perfectly round in shape. It has no **sides** and no **diagonals**. '**O**' is the center of the circle. A is a point on the circle. The distance from the center O to the point A is the **radius** of the circle.

The distance between the centre and a point on the circle is called the radius of the circle.

A, B, C, D,E are points on the circle. OA, OB, OC, OD, OE are the **radii** of the circle. Radius of a circle is equal in length. (OA=OB=OC=OD=OE).

All the radii are equal in length in a circle.

The line segment which joins any two points on the circle is called a chord. L, M, A, B, X and Y are the points on the circle. The line segments LM, AB and XY are the **chords**.



The chord AB which passes through the center O of the circle is the diameter of the circle. Half of the **diameter** is always the radius.

Diameter is the longest chord.

Examples

1. The radius of a circle is 5cm. Find the diameter.

Diameter = 2 x radius

= 2 x 5

Diameter = 10 cm

Diameter = 2 × radius

Radius = $\frac{\text{Diameter}}{2}$

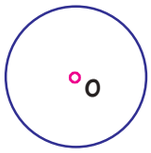
2. The diameter of a circle is 18cm. Find the radius

Radius = $\frac{\text{diameter}}{2}$ = $\frac{18}{2}$

Radius = 9 cm.

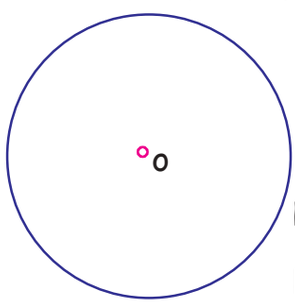
Activity

Measure and write the radius and diameter of the following circles.



Radius = _____

Diameter = _____



Radius = _____

Diameter = _____

Activity

Draw a circle and mark few points on it. Draw line segment to join each of these points with the centre. Then, measure the length of the line segments to verify whether they are equal.

Exercise 1.2

1. Fill in the blanks.

i. All the radii of a circle are _____.

ii. The _____ is the longest chord of a circle.

iii. The distance between the center and any point on the circle is called the _____ of the circle.

iv. A line segment joining any two points on the circle is called a _____.

v. _____ is two times the radius.

vi. A _____ has no sides.

2. Find the diameter of the circle with the given radius.

i. Radius = 10cm ii. Radius = 8cm iii. Radius = 6cm

3. Find the radius of the circle with the given diameter.

i. Diameter = 14cm ii. Diameter =20cm iii. Diameter = 6cm

1.1.3 Drawing a circle using compass

A compass is a geometrical instrument which has two arms, one has a needle and the other one has a pencil holder.

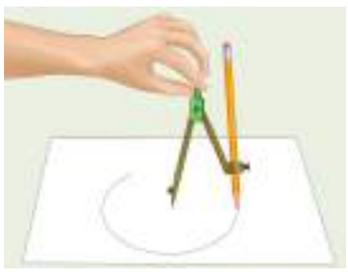
Example

Draw a circle of radius 5cm using a compass.

Step 1 Take a compass and fix the pencil in it.

Step 2 Set the distance between two arms of the compass as 5cm using a scale.

Step 3 Mark a point on the paper and fix firmly the needle of the compass on the point which is marked on the paper.



Step 4 Move the pencil around it in any direction till you reach the starting point.

Exercise 1.3

Draw circles for the following radii.

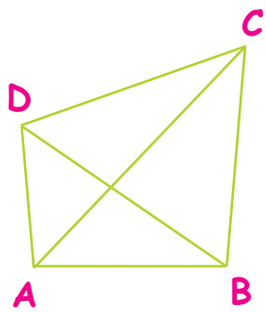
i. 6 cm ii. 4cm iii. 3cm iv. 5cm

Let us remember

- ✓ The distance between the center and any point on the circle is called the **radius** of the circle .
- ✓ A line segment joining any two points on the circle is called a **chord**.
- ✓ Any chord passing through the center of the circle is called the **diameter**.
- ✓ The diameter is the longest chord.

1.1.4 Properties of 2D Shapes.

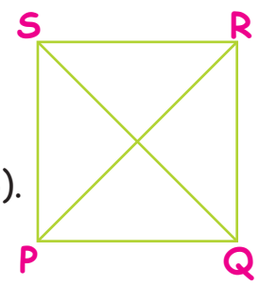
Quadrilateral



1. All closed four sided figures are called **quadrilaterals**
2. It has four sides (AB,BC,CD,DA), four vertices (A,B,C,D) and two diagonals (AC,BD)

The shapes square, rectangle, rhombus, parallelogram and trapezium belong to quadrilateral family.

Square

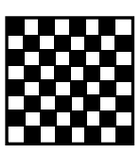


1. A square has four equal sides (PQ=QR=RS=SP),
2. It has four vertices (P, Q, R, S)
3. It has two diagonals which are equal in length (PR = QS).

Examples

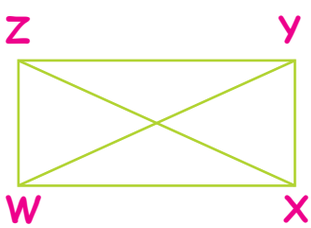
Carrom board

Chess board



Picture

Rectangle



1. A rectangle has four sides (WX, XY, YZ, ZW)
2. It has four vertices (W, X, Y, Z).
3. It has two diagonals which are equal in length (WY = XZ)
4. Its opposite sides are equal (WX = YZ ; XY = ZW).

Examples

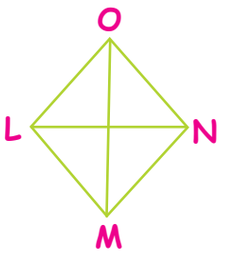
Mat

Black Board

Post Card

Rhombus

1. A rhombus has four equal sides (LM = MN = NO = OL)
2. It has four vertices (L, M, N, O)
3. It has two diagonals (LN, MO).
4. The diagonals are not equal in length.



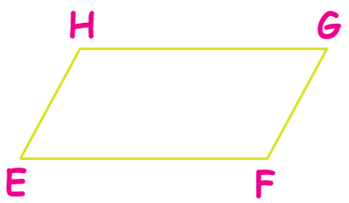
Examples

Button

Biscuit

Parallelogram

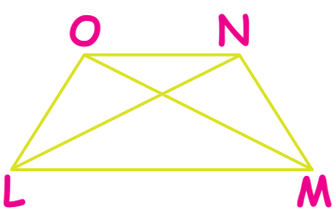
1. A Parallelogram has four sides (EF, FG, GH, HE)
2. It has four vertices (E,F, G, H).
3. Opposite sides are parallel and equal in length (EF=GH; FG=HE)



Example

Trapezium

1. A Trapezium has four sides (LM, MN, NO, OL).
2. One pair of opposite sides are parallel (LM, ON).
3. It has four corners (L, M, N, O).
4. It has two diagonals (LN, MO).



Examples

Table

Hand bag

Activity Discuss the properties of 2D shapes

Exercise 1.4

1. Fill in the blanks.

i All closed four sided figures are called _____.

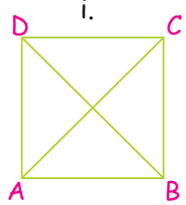
ii. A _____ has four equal sides and equal diagonals.

iii. The opposite sides of a _____ and _____ are equal.

iv. Diagonals are equal in _____ and _____.

2. Write the name of the sides and diagonals.

i.



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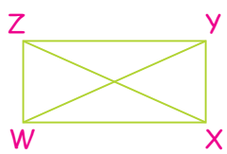

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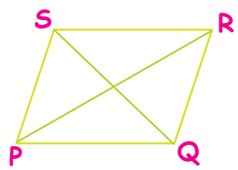

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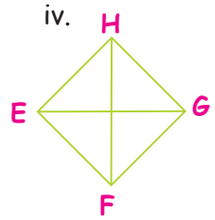
iv.



_____

_____

Activity

Measure the sides and identify the names of the following objects and find the differences among them and fill the table given below.

(a) Chessboard (b) Postcard (c) Window (d) Eraser

(e) Newspaper (f) Maths Kit box. (g) Kite

Shapes	Object in the shape	Sides	Vertices	Diagonals
Square	Chess board	Four equal sides	4	Two diagonals are equal
Rectangle				
Parallelogram				
Rhombus				

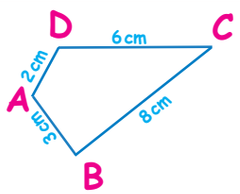
1.1.5 Identify the sides and find perimeter of a quadrilateral

Perimeter

The perimeter of a closed figure is the sum of the lengths all of its sides.

Example

Find the sides and perimeter of the following figures.

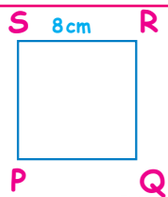


Sides = AB, BC, CD, DA

Perimeter = AB + BC + CD + DA

= 3 + 8 + 6 + 2 = 19

Perimeter = 19 cm

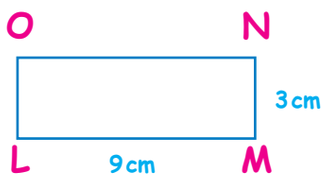


Perimeter of a square = PQ + QR + RS + SP

In a square all the sides are equal.

= 8 + 8 + 8 + 8 = 32

Perimeter of a square = 32 cm

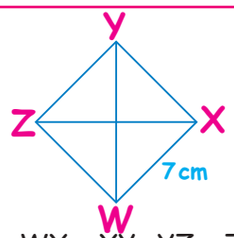


Perimeter = LM +MN + NO + OL

In a rectangle opposite sides are equal.

= 9 + 3 + 9 + 3 = 24

Perimeter = 24 cm

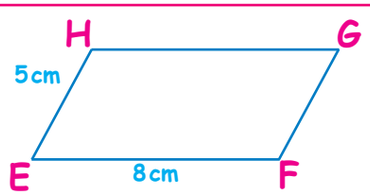


Perimeter =WX + XY +YZ + ZW

In a rhombus all sides are equal.

=7+ 7 + 7 + 7 = 28

Perimeter = 28 cm

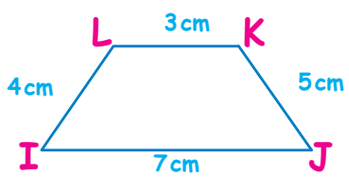


Perimeter of a parallelogram = EF + FG + GH + HE

In a Parallelogram, opposite sides are equal

= 8 + 5 + 8 + 5 = 26

Perimeter of a parallelogram = 26 cm



Perimeter of a trapezium = IJ + JK + KL + LI

Perimeter of a trapezium = 7 + 5 + 3 + 4 = 19

Perimeter of a trapezium = 19 cm

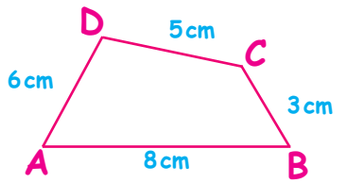
Activity

Find the perimeter of the top of a table, blackboard and door in your classroom.

Exercise 1.5

1. Find the perimeter of the following figures.

i.



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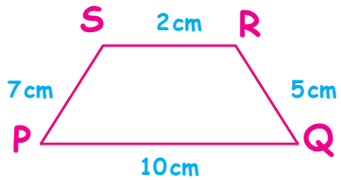

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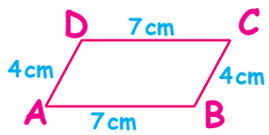
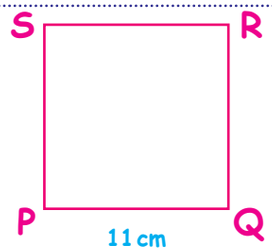
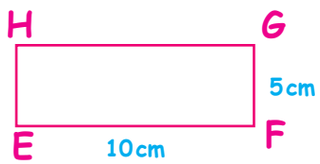


iv.



v.



2. Solve the following.

i. A side of a square-shaped tile in a park measures 30 cm. Find the perimeter of the tile.

ii. Find the perimeter of a rectangle whose adjacent sides are 12 cm and 8 cm.

iii. Find the perimeter of the rhombus whose sides are 13 cm each.

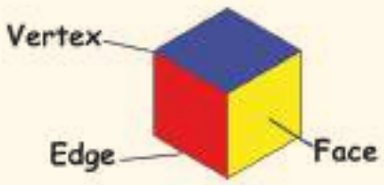
iv. The adjacent sides of a parallelogram are 6 cm and 7 cm. What is the perimeter of the parallelogram?

v. The sides of a trapezium measures 8 cm, 7 cm, 4 cm and 5 cm respectively. What is the perimeter of the trapezium?

1.2 Properties of 3D objects

Cube

- A cube has 6 faces.
- It has 12 edges.
- It has 8 vertices.
- All the six faces are equal.

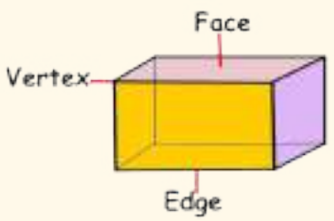


Examples

Dice, ice cubes, building blocks, rubik's cube.

Cuboid

- A cuboid has 6 faces.
- It has 12 edges.
- It has 8 vertices.
- Its opposite faces are equal.

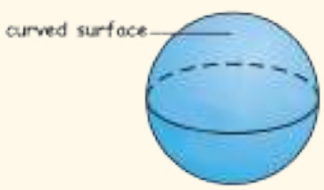


Examples

Match box, bricks, eraser, book, toothpaste box.

Sphere

- A sphere has only one curved surface.
- It has no vertices and edges.

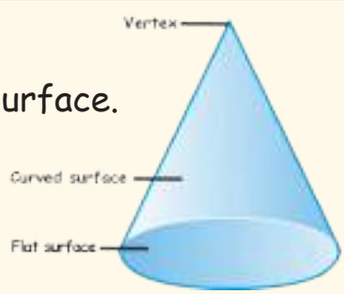


Examples

ball, globe, laddu.

Cone

- A cone has one flat surface and one curved surface.
- It has one vertex.

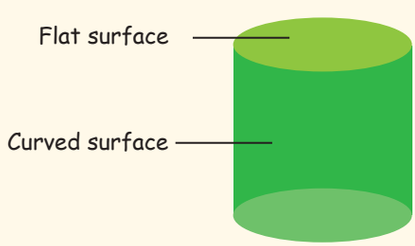


Examples

Cone ice cream, party cap

Cylinder

- A cylinder has 2 flat surface and 1 curved surface.
- It has no edges and vertices.



Examples

straw, gas cylinder, pipe.

Create 3D objects using clay and paper folding.

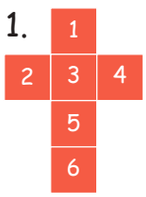
A figure that you can cut and fold to make a model of a solid shape is called a net. Nets are used to make floor maps of houses, layout plans of buildings, bridges and many others.

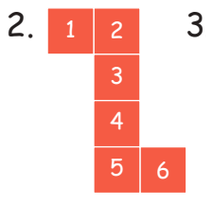
Try This

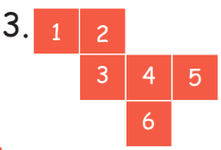
Make 3D shapes using clay

Activities

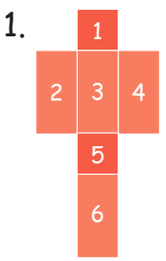
a. Form the cube by folding the nets given below.

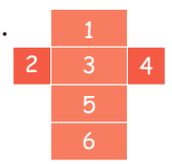
1. 

2. 

3. 

b. Use these nets to form cuboids.

1. 

2. 

c. Make a cone with semicircle.

d. Make a cylinder with rectangle.

Exercise 1.6

1. Choose the correct answer.

i. A cuboid has _____ edges.
a) 6 b) 8 c) 12

ii. The shape of a dice is _____ .
a) cuboid b) cube c) sphere

iii. A _____ has a curved surface and two flat surfaces.
a) cylinder b) cone c) sphere

iv. I have one vertex and one flat surface. I am a _____ .
a) cone b) cylinder c) sphere

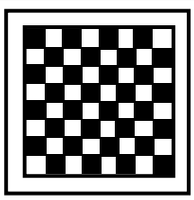
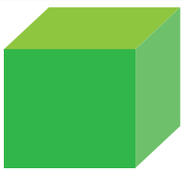
v. A cube has _____ vertices.
a) 8 b) 12 c) 6

Comparison of 2D and 3D objects.

Concept	2D (Two dimension)	3D (Three dimension)
Dimensions	Length and breadth	Length, breadth and height.
Examples	Square, rectangle, circle, triangle, rhombus, parallelogram, trapezium and quadrilateral	Cube, cuboid, cone, cylinder and sphere.

Activity

Observe the given pictures and write 2D for two dimension and 3D for three dimension.

				
2D	3D			
				
				
				

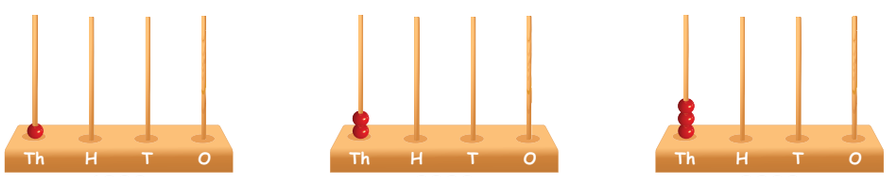
2.1 Number Sequence upto 10,000

The transport department announced that about 10, 000 special bus services will be operated from November 3 to 5 to accommodate the passengers during the Diwali season. Of 9,967 special services, 6,367 buses will run from Chennai to other districts and 3,600 will run within the districts.

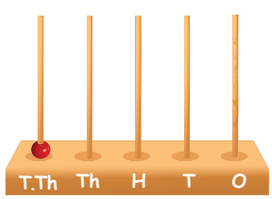
Let us discuss with the following questions.

- What does this text talk about?
- How many of you would go to your relatives' home during festivals?
- How many of you would travel to other places during festivals?
- What do these numbers convey us?

We know that we get 1000 by adding 1 with 999. In continuation with this,We shall now know the numbers 2000, 3000,... 9000.

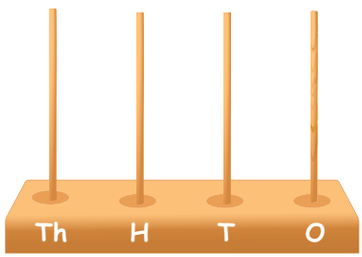


We will get 10000 by adding 1 with 9999. Its number name is Ten thousand.

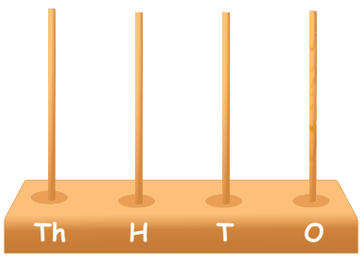


Activity

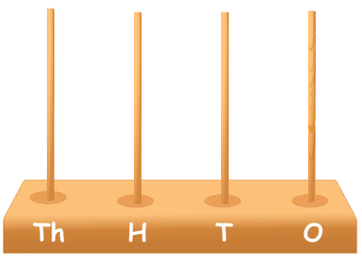
Draw beads in the abacus according to the given numbers.



4000



5483



9020

Example

Write the number name of 1283.

Solution

First write the given number in expanded form and write the name of each number below it and then combine that name.

1283 = 1000 + 200 + 80 + 3

= One Thousand + Two hundred + Eighty + Three

So the number name of 1283 is one thousand two hundred and eighty three.

Exercise 2.1

1. Write the number name of the following numbers.

i. 1006 - _____

ii. 6327 - _____

iii. 9097 - _____

iv. 10,000 - _____

v. 8906 - _____

2. **Write the numeral for each of the following.**

i. Seven thousand and sixty four - _____

ii. Nine thousand three hundred and forty - _____

iii. Five thousand six hundred and seventy three - _____

iv. Ten thousand - _____

v. Four thousand three hundred and six - _____

3. **Answer the following questions.**

i. Ramu went to a bank to deposit ₹ 7500. In the deposit challan, he has to fill up the amount in words. Could you please help him?

₹ 7500 = _____

ii. Find the sum of the greatest three digit and the greatest two digit numbers. Write the number name of the total.

Greatest three digit number =

Greatest two digit number = +

Total =

Number name = _____

2.1.1 Odd numbers and even numbers

Odd numbers.

We know that the digits ending with 1, 3, 5, 7 and 9 in one's place are **odd numbers.**

Example

1001, 1003, 1005, 1007, 1009

Even numbers

We know that the digits ending with 0, 2, 4, 6, and 8 in one's place are **even numbers.**

Example

2002, 2004, 2006, 2008, 9960

Activity

Circle the odd numbers and write their names in the table given below.

4132 8841 7483 2973 1045 8123 5667

4646 6566 3990 3132

S.No.	Number	Number Name
1.	8123	Eight thousand one hundred and twenty three.

Exercise 2.2

1. Circle the odd numbers in the following.

9001, 8002, 7603, 6542, 4875, 3882, 3217.

2. Circle the even numbers in the following.

6231, 5920, 4812, 2121, 1234, 9528, 3946.

3. Choose the even numbers from the following and write the numbers and their number names.

i. 6501 ii. 4706 iii. 3998 iv. 4001 v. 3848

Number	Number Name

4. Pick out the odd numbers and write their name in the table given below.

4703, 3206, 2005, 4018, 2001

Number	Number Name

2.1.1 Expanded form, place value and face value of a number.

The expanded form of 534 is 500 + 30 + 4

We read this as five hundred and thirty four.

Similarly,

2936 = 2000 + 900 + 30 + 6 = Two thousand nine hundred and thirty six.

The digits in the expanded form of a number express the place values of the digit.

In the number 5269

The place value of 5 is thousand. So, its value is 5000 (five thousand).

The place value of 2 is hundred. So, its value is 200 (two hundred).

The place value of 6 is ten. So, its value is 60 (sixty).

The place value of 9 is one So, its value is 9 (nine).

Thus, the place value of a digit in a number depends upon the place where it is present in the number. If 5 is at Thousandth place in a number, its value will be 5000, if it is at Hundredth place, its value will be 500, etc.

The face value of a digit is the digit itself, at whatever place it may be. It is unchangeable and definite. But place value changes according to the digit's place.

Value of a digit in a number= Face value of the digit × place value of the digit.

Example

Find the face value, place value and value of the digits of 2745.

Face value of 5 is 5, place value of 5 is ones and
value of 5 in 2745 = 5 × 1 = 5.

Face value of 4 is 4, place value of 4 is tens and
value of 4 in 2745 = 4 × 10 = 40.

Face value of 7 is 7, place value of 7 is hundreds and
value of 7 in 2745 = 7 × 100 = 700.

Face value of 2 is 2, place value of 2 is thousands and
value of 2 in 2745 = 2 × 1000 = 2000.

Exercise 2.3

1. Find the face value and place value of the digits coloured in the given numbers.

   i. 1 3 7 9 ii. 9 8 7 6 iii. 5 1 3 6 iv. 8 9 6 5

   iv. 2 0 1 0 v. 4 0 3 8

2. Complete the given table.

	Number	Expanded Form
i	6785	
ii		4000 + 200 + 90 + 6
iii		3000 + 300 + 20 + 7
iv	9999	
v		5000 + 70 + 1
vi	2934	

3. Circle the correct one.

i	5 thousands + 3hundreds + 2 ones	5320, 5302
ii	The place value of 5 in 3758	50, 500
iii	Three thousand six hundred and sixty	3060, 3660
iv	4000 + 600 + 90	4690, 4609

Try This

Who am I?

Tens place is 7.

Thousandth place is 1 less than 4.

Hundredth place is between 3 and 5.

One's place is 2 more than 6.

Activity

1. Divide the class into the groups of 5.
2. Form a 4 digit number using number cards from 1 to 9.
3. Write its number name.
4. Write its expanded form.
5. Write the place value of each digit.

2.2 Comparison and ordering of Numbers

2.2.1 Forming the smallest and the largest numbers using given digits.

1. To write the smallest number using the given digits only once.

   a) When none of the digits is zero, we arrange the digits in ascending order and form the number.

Example

The smallest 4 digit number using the digits 4, 2, 9 and 7 is **2479**

   b) When one of the digits is zero, we arrange the digits in ascending order and put zero at second place from extreme left while forming the number.

Example

The smallest 4 digit number using the digits 1, 7, 5, 0 is **1057**.

2. To write the greatest number using the given digits only once, we arrange the digits in descending order and form the number.

Example

The greatest 4 digit number using the digits 5, 1, 7 and 9 is **9751**.

Exercise 2.4

1. Form the greatest and smallest numbers using the given digits only once.

	Digits	Greatest number	Smallest number
i	1, 4, 3, 7		
ii	5, 0, 9, 3		
iii	6, 7, 1, 5		
iv	3, 2, 0, 9		
v	7, 3, 2, 8		
vi	4, 6, 0, 2		
vii	9, 1, 4, 0		

2. Circle the smallest number and tick (✓) the greatest number:

i. 2715, 2175, 2517, 2157, 2275

ii. 6238, 2386, 3862, 8623, 9378

iii. 9345, 9646, 3408, 1425, 2000

iv. 5931, 1370, 4000, 2000, 3000

v. 6000, 7000, 5000, 4000, 9000

vi. 2468, 4279, 5090, 7906, 6270

vii. 7692, 8296, 3241, 9276, 4291

2.2.2 Arranging numbers in ascending and descending order.

Ascending order

Ascending order is arranging numbers from smallest to biggest.

Example

4278 4875 4923 4717

Since the digits at the thousandth place are same in all the numbers, we compare the digits at the hundredth place.

Thus, the numbers in **ascending order** is,

$4278 < 4717 < 4875 < 4923$.

4278, 4717, 4875, 4923.

Descending order

Descending order means arranging numbers from biggest to smallest.

Example

5234, 6271, 4234, 3172, 7871

Thus, the number in descending order is,

$7871 > 6271 > 5234 > 4234 > 3172$

7871, 6271, 5234, 4234, 3172.

Do You Know?

The reverse of ascending order is descending order.

Exercise 2.5

1. Write the following numbers in ascending order.
   i. 7631, 9987, 7634, 5436, 8918
   ii. 4096, 3096, 3099, 2473, 3172
   iii. 5201, 5627, 4325, 9999, 9801
2. Write the following numbers in descending order.
   i. 3435, 3670, 139, 3267, 6544.
   ii. 2785, 3605, 2782, 236, 9801.
   iii. 6998, 6987, 6898, 7801, 8979.
3. Arrange the numbers given below in both the orders.

Activity

1. Write the strength of each class in your school. Arrange them in ascending and descending orders.

2. Observe the table and answer the following.

Starting point	Destination	Approximate Distance in km
Chennai	Pondicherry	132
Chennai	Hyderabad	511
Chennai	Kolkata	1363
Chennai	Delhi	1757
Chennai	Mumbai	1025
Chennai	Guwahati	1891

i. Arrange the places in ascending order according to the distance.

ii. Arrange the places in descending order according to the distance.

iii. Choose the place which is shorter in distance from Chennai.
(i) Mumbai (ii) Guwahati (iii) Hyderabad

iv. Choose the place which is longer in distance from Chennai.
(i) Kolkata (ii) Mumbai (iii) Pondicherry

v. The place which is in the longest distance from Chennai is _____.

2.3 Addition and subtraction

2.3.1 Addition of four digit numbers without regrouping

Example



In a school, 1232 students travel by cycle, 2430 students travel by school bus, and 1235 walk on foot to the school. How many students are there in the school?

In a school

No. of students travel by cycle	=	1 2 3 2
No. of students travel by school bus	=	2 4 3 0
No. of students coming to school on foot	= (+)	1 2 3 5
Total no. of students	=	4 8 9 7

Exercise 2.6

1. Fill in the boxes.

i. $5349 + 0 = \square$

ii. $2134 + 1 = \square$

iii. $4634 + \square = 4634$

iv. $3457 + \square = 3458$

2. **Add**

i.

	Th	H	T	O
	3	2	5	4
+	1	4	2	4

ii.

	Th	H	T	O
	2	1	3	5
+	3	3	4	2

iii.

	Th	H	T	O
	3	7	6	2
+	3	1	3	7

iv.

	Th	H	T	O
	1	4	3	3
+	4	5	5	2

3. **Add:** i. 2713 + 104 + 1172 + 4010 ii. 4715 + 20 + 326 + 12

4. A man visited a furniture shop. He bought a bed for ₹ 2100, a dining table for ₹ 3500, and six chairs for ₹ 3200. How much money did he pay to the shop keeper?

5. Create life oriented problem for the addition facts given below.

i. $3054 + 4923 = 7{,}977$ ii. $8309 = 2309 + \square$

6. Create addition stories using the pictures and numbers given below.

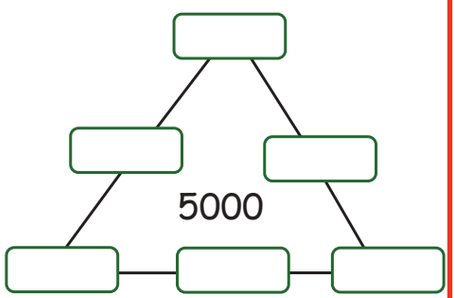
i.

ii.

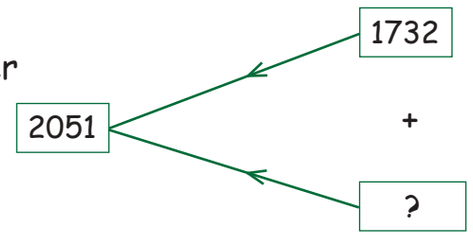
Child birth in the year 2018 is given below		
District		Number of children
Trichy	Urban	1032
	Rural	2030
Ariyalur	Urban	1205
	Rural	4097
kanchipuram	Urban	2104
	Rural	4034
Chennai	Urban	1430
	Rural	1023

7. Fill in the circles using 1400, 1500, 1600, 1700, 1800 and 1900 so that the three numbers along each line add up to 5000.

5JAB6



8. Fill in the box with appropriate number



2.3.2 Addition of four digit numbers with regrouping

Example

1. **Add:** Find the sum of 1957, 2376 and 4697

	Th	H	T	O
	2	2	2	
	1	9	5	7
	2	3	7	6
+	4	6	9	7
Sum =	**9**	**0**	**3**	**0**

Exercise 2.7

1. Add the following numbers.
   i. 216, 3422, 4019, 497
   ii. 1002, 2347, 1976, 2005, 2007
   iii. 1978, 1965, 2704, 473

2. Find the total amount of the following 4 piggy banks.


₹978


₹3796


₹2374


₹1957

3. The sum of 1215 + 2367 + 1673 + 3120 = _____
   a) 8585 **b)** 8225 **c)** 8375 **d)** 8285

4. Find the sum 2076 + 276 + 2974 + 1751 =
   a) 9561 **b)** 7077 **c)** 7377 **d)** 7707

5. What is the sum of five hundreds and five tens?
   a) 650 **b)** 550 **c)** 5150 **d)** 6150

6. The sum of the greatest 3 digit number and the smallest 4 digit number is
   a) 1999 **b)** 1099 **c)** 1990 **d)** 9999

7. 9999 + 1 = _____
   a) 10,000 **b)** 1000 **c)** 1001 **d)** 9990

8. In a village the number of male is 4154 and the number of female is 4221. Find the total population of that village?

9. A refrigerator costs ₹6543 and a electric stove costs ₹3412. What is the total cost?

10. Write the missing numbers

i.

	Th	H	T	O
	2	1	7	3
	☐	2	3	☐
(+)	1	9	☐	7
	8	3	7	4

ii.

	Th	H	T	O
	3	9	7	☐
	2	☐	4	4
(+)	☐	7	☐	1
	9	2	7	6

2.3.3 Subtraction without Regrouping.

Example

1) 9865 - 2334 = ?

	Th	H	T	O
	9	8	6	5
–	2	3	3	4
	7	5	3	1

Subtraction without regrouping
Step1: Subtract the ones
Stet 2: Subtract the tens
Step3 : Subtract the hundreds
Step4: Subtract the thousands

2) Roja's monthly income is ₹8950. She spends ₹6750 and saves the rest. How much does she save?

Solution:

			Th	H	T	O
Monthly income	=		8	9	5	0
Amount spent	=	–	6	7	5	0
Amount saved	=		2	2	0	0

Roja saved ₹2200.

Let us Know

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

Exercise 2.8

Subtract the following.

i. 9 7 6 4 − 3 4 2 3

ii. 7 9 8 6 − 4 5 2 4

iii. 4 7 8 5 − 2 4 6 2

2.3.4 Subtraction with Regrouping.

Example

1. Subtract 3285 from 5657

Step: 1

Arrange the numbers in columns as shown below.

	TH	H	T	O
	5	6	5	7
−	3	2	8	5

Step: 2

Subtract column wise.

	TH	H	T	O
		5	15	
	5	~~6~~	~~5~~	7
−	3	2	8	5
	2	3	7	2

5657 − 3285 = 2372

Step 1 : When 5 ones are subtracted from 7 ones, we get 2 ones.

Step 2: It is not possible to subtract 8 tens from 5 tens. So, borrow 1 hundred from the hundreds column.

Step 3: 6 hundreds = 5 hundreds + 1 hundred. Transfer 1 hundred to the tens place. 1 hundred = 10 tens. So, 10 tens + 5 tens = 15 tens.

Step 4: Now subtract 2 hundreds from 5 hundreds.

Step 5: Then 3 thousand from 5 thousand.

2. The sum of two numbers is 4204,one number is 1207. Find the other number.

Solution:

Sum of two number =

One number =

Other number =

	Th	H	T	O
	3	11	$^{9}\cancel{10}$	14
	$\cancel{4}$	$^{1}\cancel{2}$	$\cancel{0}$	4
−	1	2	0	7
	2	9	9	7

Exercise 2.9

1. Subtract

i.

	TH	H	T	O
	3	4	4	5
−	1	3	4	8

ii.

	TH	H	T	O
	4	9	6	5
−	2	4	4	6

iii.

	TH	H	T	O
	6	5	7	0
−	3	3	9	7

iv.

	TH	H	T	O
	8	9	5	3
−	5	9	6	4

2. Find the difference between given numbers.

i. 4352 and 5020

ii. 1438 and 3370

iii. 2526 and 8431

iv. 3361 and 9000

3. Answer the following questions.

i. The sum of two numbers is 7036, one number is 3168. Find the other number.

ii. A man had ₹ 9200 in the bank. He withdrew ₹ 2750. How much money does he have in the bank now?

4. Create the life oriented problems for the details given below.

i. 1997 – 1968

ii.

iii.

5. Answer the following.

i.

	TH	H	T	O
	2	3	5	3
–	1	9	0	1

ii.

	TH	H	T	O
	1	2	2	8
–		2	8	6

iii.

	TH	H	T	O
	9	6	3	0
–	1	5	9	0

iv.

	TH	H	T	O
	4	8	0	0
–	3	1	6	2
	1	6	3	8

v.

	TH	H	T	O
	6	5	8	9
–	5	8	0	6

vi.

	TH	H	T	O
	9	8	5	4
–	3	6	4	4

vii.

	TH	H	T	O
	1	8	6	9
–	1	3	7	9

viii.

	TH	H	T	O
	5	4	5	6
–	1	3	2	5

ix.

	TH	H	T	O
	9	2	2	3
–	3	8	9	9

UNIT-3

PATTERNS

3.1 Patterns in shapes

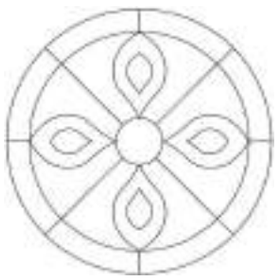
Observing sequence of shapes from Kaleidoscope.

Kaleidoscope

A Kaleidoscope consists of a tube containing pieces of coloured glass or paper. When the tube is rotated changing patterns are formed through reflection.




Activity

Colour the given picture	Complete the picture
	

Identifying the patterns in a sequence of shapes.

Examples

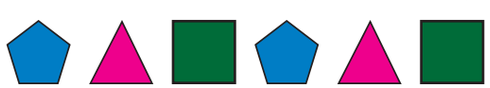
1. 

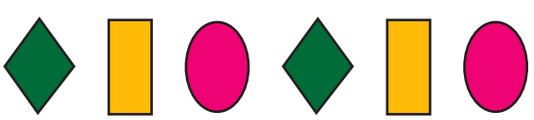
2. 

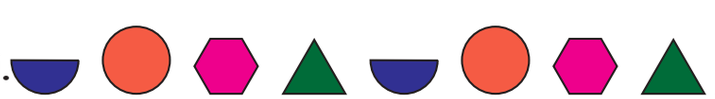
3. 

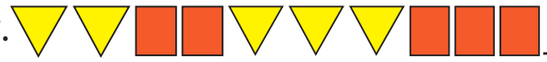
Exercise 3.1

1. Observe and complete the pattern.

i.  _____

ii.  _____

iii.  _____

iv.  _____

v.  _____

Do you know?

Spirograph is a mathematical toy which can be used for drawing patterns

3.2 Patterns in numbers

3.2.1 Identify the patterns in multiples of numbers.

Activity

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

The multiples of 6 are represented in ▭ for you.

Similarly, represent the multiples of 5 in △, Multiples of 9 in ▭, Multiples of 10 in ◯, observe the pattern in numbers and discuss.

Multiply any number by 9, the sum of all the digits of the product is 9.

Example

84 x 9 = 756 7 + 5 + 6 = 18 = 1 + 8 = 9	43 x 9 = 387 3 + 8 + 7 = 18 = 1 + 8 = 9	123 x 9 = 1107 1 +1 + 0 + 7 = 9

Activity

Make patterns based on the multiples of 9.

multiple of 9	Product	Sum of all the digits
9 x 9	81	8 + 1 = 9
81 x 9	729	7 + 2 + 9 = 18 = 1 + 8 = 9
__ x 9		
__ x 9		
__ x 9		
__ x 9		

If the sum of all digits of a number is 9 then the number will be a multiple of 9.

Do you know?

When the number 1 2 3 4 5 6 7 9 is multiplied with 9 or multiples of 9 we get the following number pattern.

1 2 3 4 5 6 7 9 x 9 = 1 1 1 1 1 1 1 1 1
1 2 3 4 5 6 7 9 x 18 = 2 2 2 2 2 2 2 2 2
1 2 3 4 5 6 7 9 x 27 = 3 3 3 3 3 3 3 3 3
1 2 3 4 5 6 7 9 x 36 = 4 4 4 4 4 4 4 4 4
1 2 3 4 5 6 7 9 x 45 = 5 5 5 5 5 5 5 5 5

3.2.2 Verifying problems by casting out 9

Any number or combination of digits in that number which add to 9 can be cast out from the given number. Then the sum of remaining digits of the number is divisible by 9 or multiple of 9.

Example 1

Is 46908 multiple of 9?

$46\cancel{9}08 = 4+6+0+8$

$= 18$

$= 1 + 8$

$= 9$

46908 is a multiple of 9 or divisible by nine.

Example 2

Check the following numbers whether it is a multiple of 9 or not

$24689 = 2 + 4 + 6 + 8 = 20$ (It is not a multiple of 9.)

$\cancel{9}1\cancel{0}8 = 0$ (It is a multiple of 9.)

$\cancel{3}1\cancel{6}5 = 1 + 5 = 6$ (It is not a multiple of 9.)

Addition

In addition problem, we can check the sum by casting out nines.

Example 3

Check the addition fact

$3356 + 4729 = 8085$

$\cancel{3}35\cancel{6} + 47\cancel{2}\cancel{9} = 8085$

$8 + 4 = 21$

$12 = 21$

$1 + 2 = 2 + 1$

$3 = 3$

Subtraction

In subtraction problem, we can check the difference by the method of casting out nine.
Remember that subtraction is reverse of addition.

Example

Check the Subtraction fact

$4897 - 2186 = 2711$

$4897 - 2186 = 2711$

$19 - 8 = 2$

$10 - 8 = 2$

$2 = 2$

The difference of a two digit number and the number obtained by the reversal of its digits will be in multiples of 9.

For example consider 52,

When the digits of 52 is reversed we get 25.

Difference = 52 – 25 = 27

27 is a multiple of 9.

Activity

Number	Number obtained by the reversal of its digits	Difference	Sum of the digits
92	29	92 - 29 = 63	6 + 3 = 9
14		= 27	
	38		
17			5 + 4 = 9
62		= 36	

Exercise 3.2

1. Circle the multiples of 9 (by using casting out nine).

i. 9443 ii. 1008 iii. 24689 iv. 23769 v. 13476

2. Circle the correct addition fact (by using casting out nine).

i. 4355 + 5369 = 9724

ii. 7632 + 2213 = 9845

iii. 6023 + 3203 = 9220

iv. 2436 + 5315 = 7701

3. Circle the correct subtraction fact (by using casting out nine).

i. 7420 – 3625 = 3795

ii. 6732 – 4361 = 2371

iii. 2362 – 632 = 1720

iv. 3264 – 1063 = 2200

Multiplication

Example

Verify the Multiplication fact
327 X 42 = 13734

Multiplicand X Multiplier = Product

Casting out 9 and combination of 9

3 ~~2~~ ~~7~~	X	4 2	=	1 3 7 3 4
3		4 + 2	=	1 + 3 + 7 + 3 + 4
(3)	X	(6)	=	18
		18	=	18
		1 + 8	=	1 + 8
		9	=	9

Exercise 3.3

1. Circle the correct multiplication fact (by using method of casting out nine).

i. $312 \times 36 = 11232$

ii. $723 \times 24 = 17508$

iii. $132 \times 43 = 5676$

3.2.3 Identifying patterns created by multiplying with 10 and 100.

Examples

$57 \times 10 = 570$ $\quad$ $9 \times 400 = 3600$

$57 \times 100 = 5700$ $\quad$ $8 \times 700 = 5600$

Activity 1

x 200	
3 →	
2 →	
4 →	
5 →	

x 3	
60 →	
200 →	
30 →	
500 →	

x 10	
7 →	
60 →	
6 →	
100 →	

x 9	
20 →	
400 →	
30 →	
500 →	

Magic square :

Magic square is a square filled with numbers such that the sum remains same when we add from top to bottom left to right or diagonally as shown below.

2	9	4	
7	5	3	15
6	1	8	
	15		

13	6	11	
8	10	12	30
9	14	7	
	30		

Activity 2

Create a magic square by using 10, 20, 30, 40, 50, 60, 70, 80 and 90.

Try These

1. Create magic squares using multiples of nine

2. Create magic squares using multiples of hundred

Exercise 3.4

1. **Fill in the blanks.**

i. 90, 180, 270, _____, _____, _____.

ii. A9, B18, C27, D36, _____, _____, _____.

2. **Circle the multiples of 9**

25, 27, 35, 36, 45, 46, 54, 55

3. **Complete the following number sequence.**

i. 125, 150, 175, _____, _____, _____.

ii. 100, 400, 700, _____, _____, _____.

iii.

A100	C300	E500				

iv.

200	400	600			

4. **Complete the following sequence.**

i. $9 \times 6 = 54$ $\quad$ $9 \times 66 = 594$

$9 \times 666 = 5994$ $\quad$ $9 \times 6666 = 5$ _____ 4

$9 \times 666666 =$ _____

ii. $9 \times 111 = 999$ $\quad$ $9 \times 222 = 1998$

$9 \times 333 = 2997$ $\quad$ $9 \times 444 =$ _____

$9 \times 555 =$ _____ $\quad$ $9 \times 666 =$ _____

G176K

UNIT-4 MEASUREMENTS

4.1 Relationship between metre and centimetre.

Activity

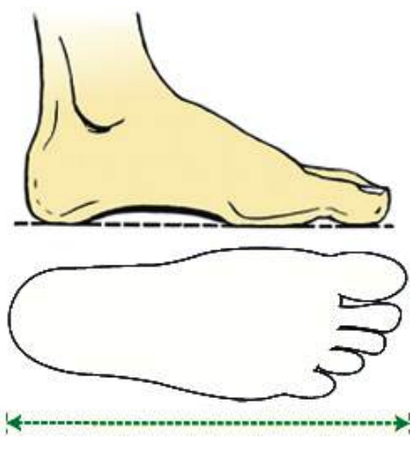
Children can measure

i. the size of their foot and find out the slipper size.

ii. sleeve size of their shirt

iii. width of their shirt

sleeve size of their shirt



size of their foot

width of their shirt

Kavitha and her friends went to the festival. All of them bought lot of things in the shops. They came back home and discussed about their purchase.

Kavitha : I bought a flute. Mala what did you buy?

Mala : I bought a cricket bat. Mary, please show your toy.

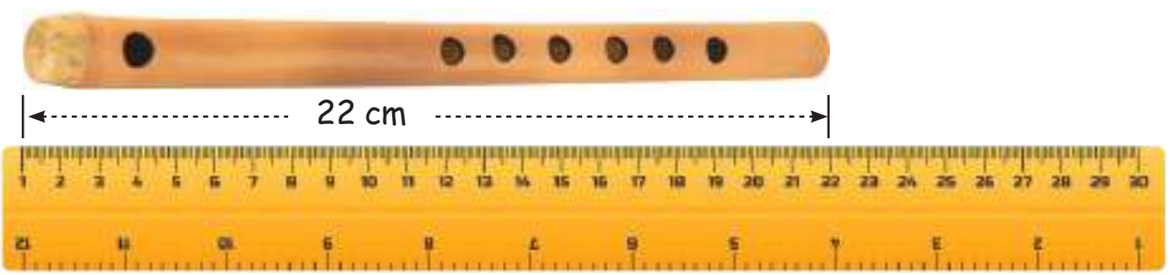
Mary : I bought a toy train.

Sharmila : See friends. I have a beautiful toy car

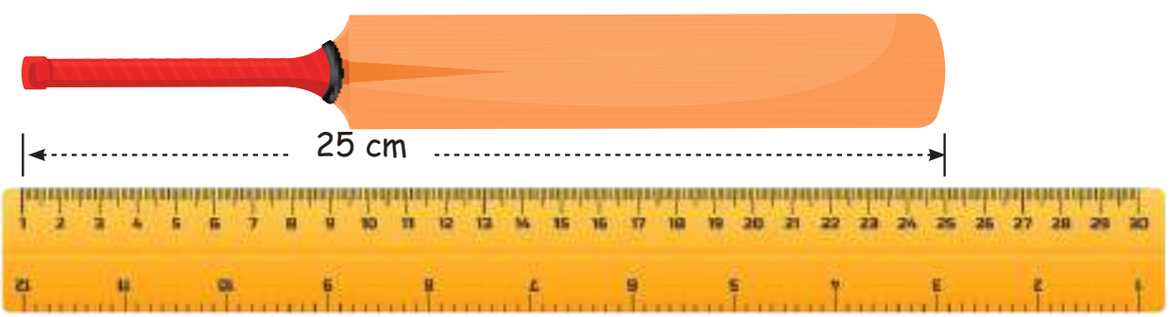
Banu : My favourite toy lorry is very attractive

Kavitha : All the toys are very nice. Let us measure our toys. Which is the longest among them?

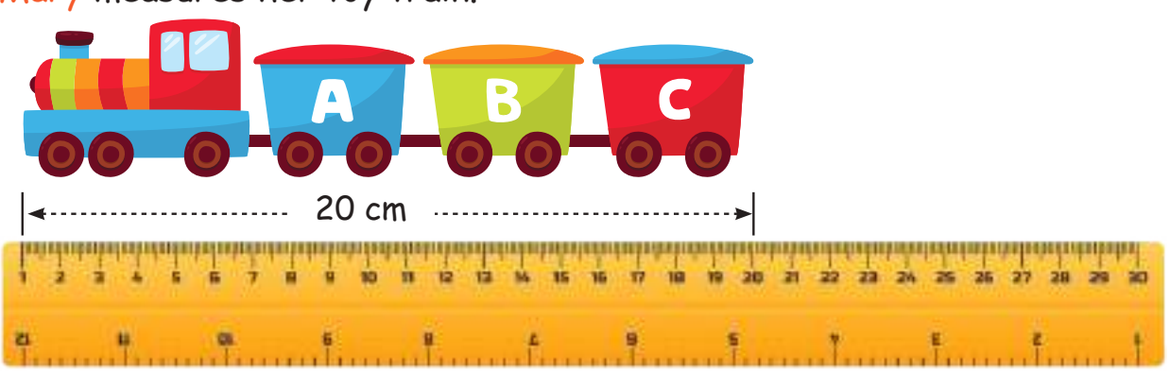
Kavitha measures her flute.



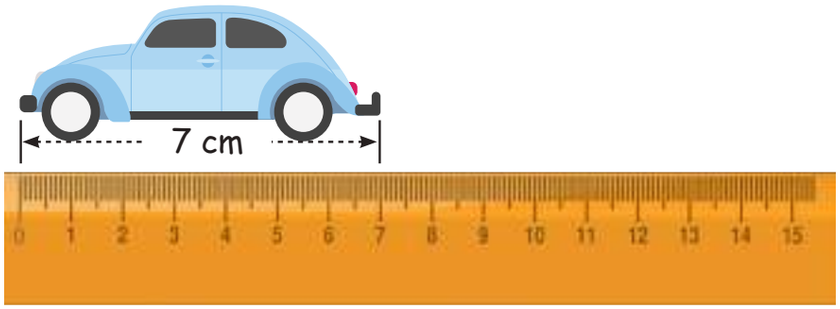
Mala measures her toy bat..



Mary measures her toy train.

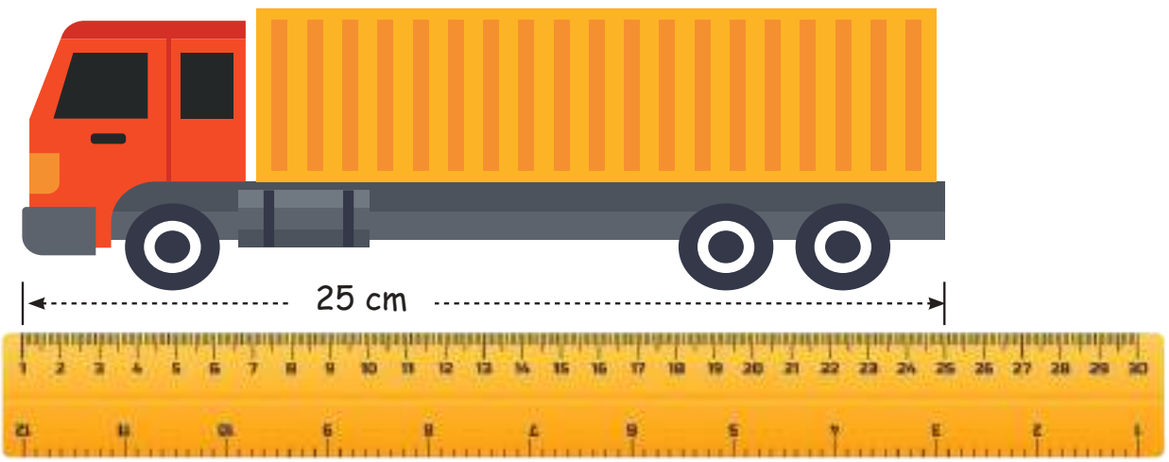


Sharmila measures her toy car..



Centimetre can be written as "cm" We use a measuring scale to measure small length. Play ground, Classroom height are measured by measuring tape.

Banu measures her Toy lorry.



Can you measure the tip of the following things using a ruler?

10 millimetre	= 1 centimetre
100 centimetre	= 1 metre
1000 meter	= 1 Kilometre
1 mile	= 1 kilometre 600 metre

Think

How will you measure the distance between Villupuram and Cuddalore?

Group Activity

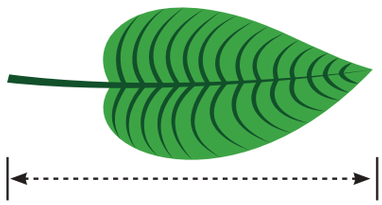
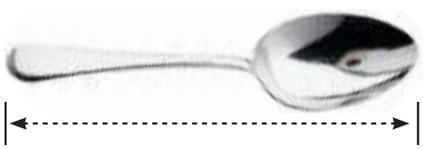
Ask the children to measure the length of the following things.

a. Black board **b.** Cupboard **c.** Table **d.** Dictionary **e.** World Map

Teacher can help the students to use the ruler properly.

Activity

Measure the following things and complete the table given below.

S. No	Things	Estimated length	Actual length
1			
2			
3			
4			
5			
6			

4.2 Conversion of Metre into Centimetre.

Examples

1. Convert 5 m into cm

   1 m = 100 cm

   5 m = 5 x 100 cm

   5 m = 500 cm

2. Convert 13 m into cm

   1 m = 100 cm

   13 m = 13 x 100 cm

   13 m = 1300 cm

3. Convert 4 m 35 cm into cm

Step: 1	Step: 2	Another Method
4 m = 4 x 100 cm	400 cm	4m 35cm = (4 x 100) + 35 cm
	+ 35 cm	= 400 + 35
	435 cm	4 m 35 cm = 435 cm

4 m 35cm = 435 cm

1m = 100 cm

Note:

To convert metre into centimetres multiply the given number by 100

4.3 Conversion of Centimetre into Metre.

Examples

1. Convert 700 cm into metre

   100cm = 1m

   700 ÷ 100 = 7 m

   700 cm = 7 m

2. Convert 536 cm into metre

   100cm = 1m

   536 cm = 500 cm + 36 cm

   = (500 ÷ 100) + 36 cm

   = 5 m + 36 cm

   = 5 m 36 cm

100cm = 1m

Activity

1. Complete the table.

Metre	1	2	3	4	5	6	7	8	9
Centimetre	100	200	300						

2. Using the metre scale, find the length of the classroom door and convert the measurement from metre into centimetre.

Exercise 4.1

1. Convert into centimetre

i. 3 m = _____ cm

ii. 37 m = _____ cm

iii. 5 m 9 cm = _____ cm

iv. 7 m 35 cm = _____ cm

2. Convert into metre

i. 600 cm = _____ m

ii. 3600 cm = _____ m

iii. 647 cm = _____ m _____ cm

iv. 304 cm = _____ m _____ cm

4.4 Addition and subtraction of standard measurements

Addition

Example

Add 21 m 45 cm and 68 m 23 cm.

m	cm
21	45
+ 68	23
89	68

21 m 45 cm + 68 m 23 cm = 89 m 68 cm

Example

Add 34 m 91 cm + 25 m 42 cm

	m	cm
	(1)(1) 34	91
+	25	42
	60	33

34 m 91 cm + 25 m 42 cm = 60 m 33 cm

Exercise 4.2

Add the following.

1.

	m	cm
	41	29
+	26	75

2.

	m	cm
	70	23
+	31	45

3.

	m	cm
	35	08
+	29	26

4.

	m	cm
	53	45
+	34	68

5.

	m	cm
	51	30
+	21	12

6.

	m	cm
	60	45
+	24	75

Subtraction

Example

Subtract 18 m 24 cm from 48 m 36 cm

	m	cm
	48	36
-	18	24
	30	12

48 m 36 cm – 18 m 24 cm = 30 m 12 cm

Example

Subtract 73 m 44 cm – 54 m 75 cm

	m	cm
	(6) (12)	(13) (14)
	~~73~~	~~44~~
–	54	75
	18	69

73 m 44 cm – 54 m 75 cm = 18 m 69 cm

Exercise 4.3

Subtract the following

i.

	m	cm
	93	25
-	20	12

ii.

	m	cm
	38	90
-	26	60

iii.

	m	cm
	75	22
-	56	35

iv.

	m	cm
	27	81
-	16	94

v.

	m	cm
	95	80
-	46	60

vi.

	m	cm
	95	42
-	37	85

Life Oriented Problems

Example

Mala bought Green ribbon of length 18 m 73 cm and red ribbon of length 27 m 65 cm to decorate the hall. What is the total length of the ribbon?

		m	cm
		(1) (1)	
Length of the Green ribbon	=	18	73
Length of the red ribbon	= +	27	65
Total length of the ribbon	=	**46**	**38**

Total length of the ribbon is **46 m 38 cm.**

Example

Latha purchased a rope of length 42 m 52 cm and she used 17 m 15 cm of the rope to tie a ponny. Find the remaining length of the rope she had.

		m	cm
		(3) (12)	(4) (12)
Length of the rope purchased	=	~~4~~ 2	~~5~~ 2
Length of the rope used to tie ponny	=	- 17	15
Length of the remaining rope	=	**25**	**37**

Remaining length of the rope is **25 m 37 cm**.

Exercise 4.4

i. Deenu bought 15 m 43 cm of shirt material and 23 m 94 cm of trouser material. Find the total length of the material bought by him.

ii. A fisherman bought 2 nets. The length of first and second nets are 23 m 43 cm and 25 m 63 cm respectively. What is the total length of nets?

iii. Agathiya bought a wire of length 70 m 42 cm to fence his garden and he used only 43 m 51 cm of wire. Find the length of the remaining wire.

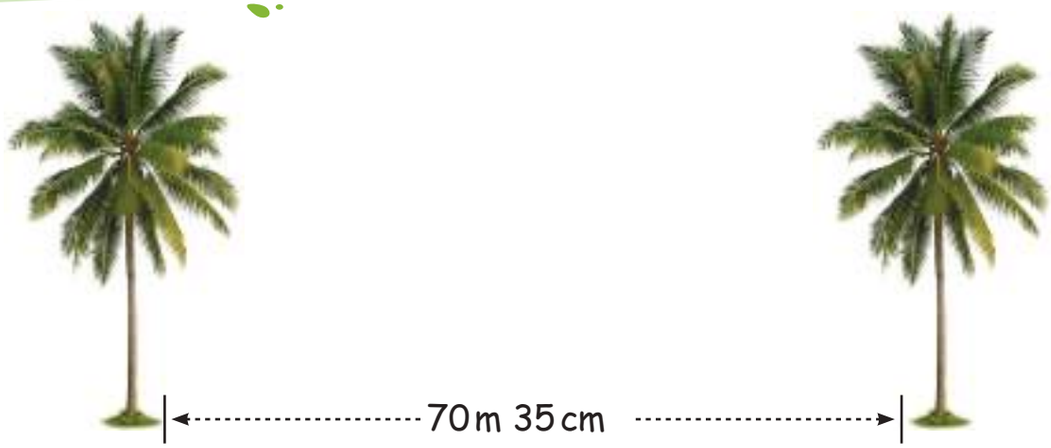
iv. A shopkeeper sold 37 m 75 cm cloth out of 93 m 50 cm in stock. How much stock is left with him?

v. I bought 125 metres of orange fabric and 50 metres of yellow fabric in a fabric shop. I have used 13 metres of the orange fabric and 12 metres of yellow fabric. How many metres of fabric is remaining with me?

vi. Velu is 1 m 15 cm tall. Her friend Babu is 1 m 30 cm tall. Who is taller and by how much?

4.5 Problem involving length and distances.

Example



The distance between two coconut trees is 70 m 35 cm.
Suthan walked from first tree to second tree.
Then he returned to first tree. How much distance did he cover?

Suthan went to 2nd tree =

Suthan returned to 1st tree =

Total distance = 140 m 70 cm

	m	cm
		1
	70	35
+	70	35
	140	70

Activity

Measure the height of any ten of your classmates and write in centimetre.

S. No	Name of the classmate	Hieght (cm)
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

4.6 Estimation

Estimating and measuring length and distance

We can estimate some lengths and distances using approximate values for measurements.

For example, one metre is the length between your shoulder and foot when you stand straight.

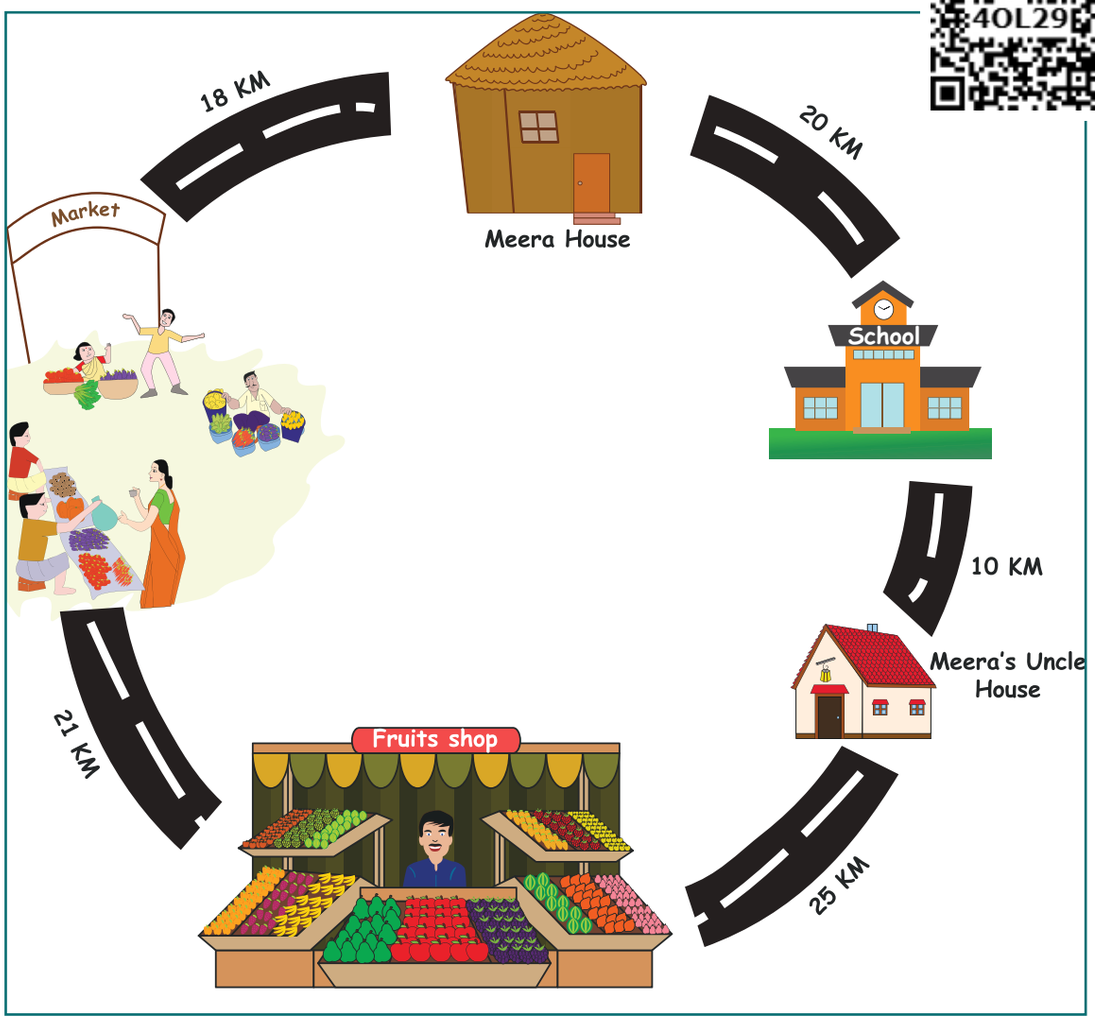
Complete the table (Length).

S. No	Objects to be measured	Estimated length	Actual length
1	Table		
2	Blackboard		
3	Window		
4	Computer		
5	Door		

Complete the table (Distance).

S. No	Distance to be measured	Estimated length	Actual length
1	Distance between headmaster room and your classroom		
2	Distance between table and cupboard.		
3	Distance between your place and black board.		
4	Distance between headmaster room and playground		
5	Distance between your classroom and the flag post		

Look at the map and complete the following.



i. The longest distance between Meera's house and the fruit shop is _____.

ii. The shortest distance between Meera's house and Meera's uncle house _____.

iii. The longest distance between Meera's uncle house and market _____.

iv. The shortest distance between school and fruit shop _____.

v. The longest place from Meera's house is _____.

vi. The shortest place from Meera's house is _____.

vii. Distance between Meera's house and the School _____.

Exercise 4.5

1. **Convert into cm.**

i. 5 m ii. 7 m iii. 9 m iv. 16 m

2. **Convert into m.**

i. 6000 cm ii. 4000 cm iii. 1300 cm iv. 1700 cm

3. **Add.**

i.

	m	cm
	4	75
+	3	18

ii.

	m	cm
	25	53
+	18	24

iii.

	m	cm
	48	72
+	14	34

4. **Subtract.**

i.

	m	cm
	9	28
-	3	14

ii.

	m	cm
	63	47
-	36	24

iii.

	m	cm
	96	32
-	20	48

5. Raju had a ribbon of length 20m. Of which he had used 13 m 25 cm for making his project. How much ribbon is left with him?

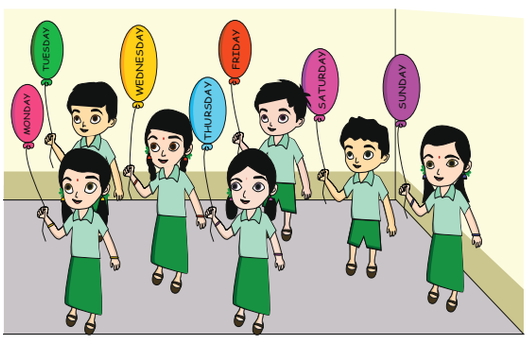
6. The distance between bus stand and school is 81 m 40 cm and the distance between school and temple is 20 m 10 cm. What is the total distance from bus stand to temple ?

7. Arul has a 4 metre long piece of wood. He made it into 2 pieces. Length of one piece is 1 m 50 cm then find the length of the other piece.

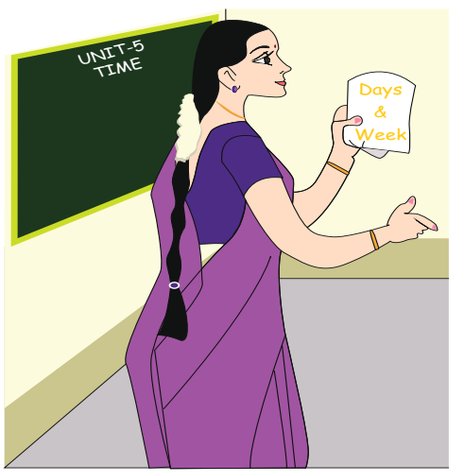
5.1 Understanding days and weeks

Recall

Teacher writes the days of a week in the Balloons and ask students to hold the Balloons. Also ask the students to stand in order and join their hands. Now let us sing the following song.



"Sunday Sunday, let's have fun
Monday Monday, morning is so cool,
Tuesday Tuesday, tickle your friend,
Wednesday Wednesday, jump up high
Thursday Thursday, reach the sky



Friday Friday, eat healthy to be strong.
Saturday Saturday, all sit down.
Let's get up, it's a new day
The earth goes round
Round and round
Around the sun
That is why all new days"!

Exercise 5.1

1. Answer the following questions.

i Which is the first day of the week ?

ii How many days do you come to school in a week? Name them?

iii How many days are holidays in a week? Name them?

iv Which is the third day of the week?

2. Unscramble the letters given below and write the days of the week in order.

Days (Jumbled)	Days
TRUSDAHAY	
DYARFI	
DSANUY	
NODMYA	
SDEUYAT	
NDWADSEYE	
YDASTAUR	

Order of the days

Activity

1. Mark the ground with the names of days of a week. Students should run in a circle. When the teacher says 'FRIDAY', every student must go and stand in the space provided for Friday.
2. Divide the students into two groups. Shuffle the cards with the names of months and ask the children to arrange them in order.

5.2 Marking the dates

2023 AUGUST

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

Answer the following questions using the calendar given above.

1. What is the date of the third Wednesday of the month? _____
2. What is the date of the day after the second Sunday? _____
3. What is the date of the day before the fourth Tuesday? _____
4. What is the date of the day after the third Friday? _____
5. How many days are there in the month of August? _____
6. What is the last day in the month of July? _____.
7. what will be the day?
   i) 4 days after 11th August – _____
   ii) 7 days before 19th August – _____

Activity **Birthday Calendar**

Write the birthday of all your family members in the given table.

Members	Day	Month	Year
Father	10	1	1986

1. Who is the eldest member of your family?
2. Who is the youngest?
3. What is the difference in their age?
4. When will you celebrate your 12th birthday?

5.3 Compute the number of weeks in a year

The calendar shows days of a week and month of a year. We can find the date of a particular day and a particular month from it.

Activity 1

Look at the calendar of the present year and fill the table.		
Festival	Month	Day
Pongal		
Teacher's day		
Children's day		
Independence day		
Republic day		

1. What is today's date?
2. Which festival comes sooner from today?
3. How many days are more from today to celebrate that festival?
4. Which festival comes last?
5. How many months are there in between first and last festival of the year?

Activity 2 Let us find how many weeks are there in a year.

Fill the boxes using the Calender 2023.

S.No	Name of the month	Numbers of days in the month	Numbers of weeks and days
1	January	31	4 weeks 3 days
2	February	28	4 weeks 0 days
3	March	31	4 weeks 3 days
4	April	30	☐ weeks ☐ days
5	May	31	☐ weeks ☐ days
6	June	30	☐ weeks ☐ days
7	July	31	☐ weeks ☐ days
8	August	31	☐ weeks ☐ days
9	September	30	☐ weeks ☐ days
10	October	31	☐ weeks ☐ days
11	November	30	☐ weeks ☐ days
12	December	31	☐ weeks ☐ days
	Total	**365**	☐ **weeks** ☐ **days**

Do you Know?

i. 1 year = 12 months
ii. 1 year = 52 weeks
iii. 1 week = 7 days
iv. 1 year = 365 days

Let us Know

Leap year occurs once in 4 years.
There are **366 days** in a Leap year.
There are **52 weeks and 2 days** in a Leap year.
February has **29 days** in a Leap year.

Activity Calculate the total number of term holidays.

Occasion	Dates		Number of days
	From	to	
Holidays in term 1			
Holidays in term 2			
Holidays in term 3			

5.4 Relation between the number of days in a year and the number of days in each month.

Activity

Complete the table.

Months with 31 days	Months with 30 days

Try This

2020 is a leap year. Find the next two leap years.

Exercise 5.2

1. State True / False
   - i. January is the first month of the year.
   - ii. March is in between September and November.
   - iii. The last month of the year is July.
   - iv. February has 30 days.
   - v. May is the successive month of April.
2. Write the missing month
   - i. June, _____, August, September.
   - ii. March, April, _____, _____.
   - iii. _____, October, November.

5.5 Read clock time to the nearest hours and minutes.

Introduction

The teacher has to discuss with the students by asking the following questions.

Teacher: When will you wake up in the morning?

Student: _____

Teacher: When will you start to the school?

Student: _____

Teacher: At what time will you eat lunch?

Student: _____

Teacher: At what time will you play in the evening?

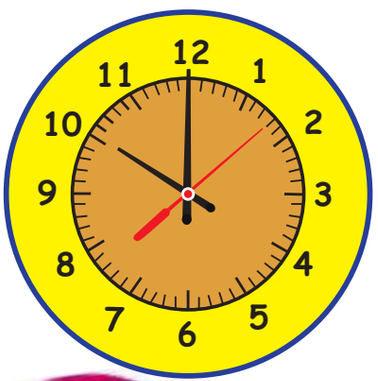
Student: _____

Teacher: At what time will you go to bed at night?

Student: _____

Time

The clock has numbers from 1 to 12 and three hands.



The shorter hand is **Hour hand.**
The longer hand is **Minutes hand.**
Red color hand is **Seconds hand.**

Activity

Make the students to stand in a circle. Give a model clock to one of them. When the teacher signals they have to pass the clock among them. When the teacher signals again they have to stop passing the clock. The student who has the clock should position the minute and hour hand to show the time said by the teacher. Appreciate the student who has done correctly and continue the game.

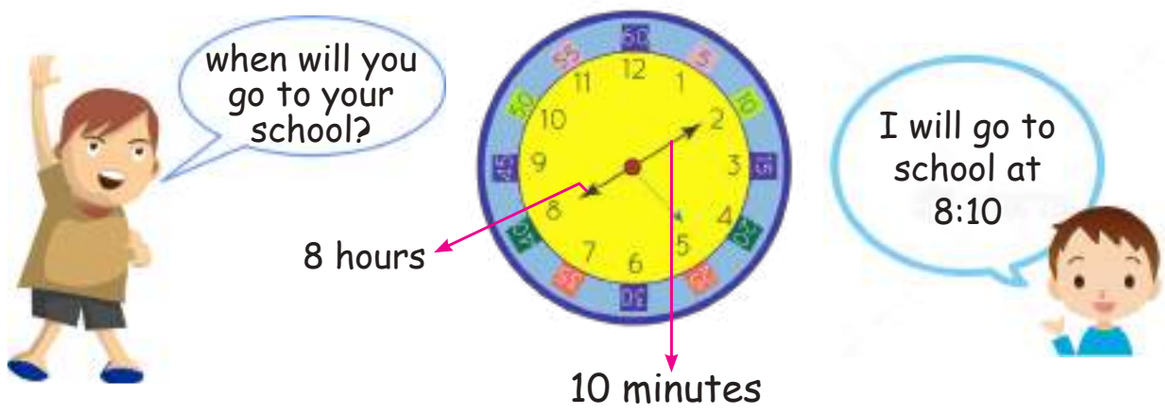
Activity

How many minutes will you take to do these activities in your home.

1. Brushing your teeth ( )
2. Filling a tumbler ( )
3. Cleaning your bed room ( )

Teacher's note: Introuduce the minute hand using a model clock (1 hour = 60 minutes).

Reading the minutes



Let us Know

Quarter past 12 — 12:15

Half past 12 — 12:30

Quarter to 1 — 12:45

Exercise 5.3

1. Answer the following.

i. When will you start from home to school?

ii. When will you reach your school?

iii. How much time will it take for you to reach the school?

iv. When will you reach the school if you delay by 10 minutes?

v. When would you reach the school if you start early by 5 minutes?

vi. Ravi reaches school by 8:30 am and Prabu reaches school after 30 minutes, Find the time when prabu reach the school?

2. How long will it take the hour hand to move from the positions given in the clocks.

i

From  To  _____ hour

ii

From  To  _____ minute

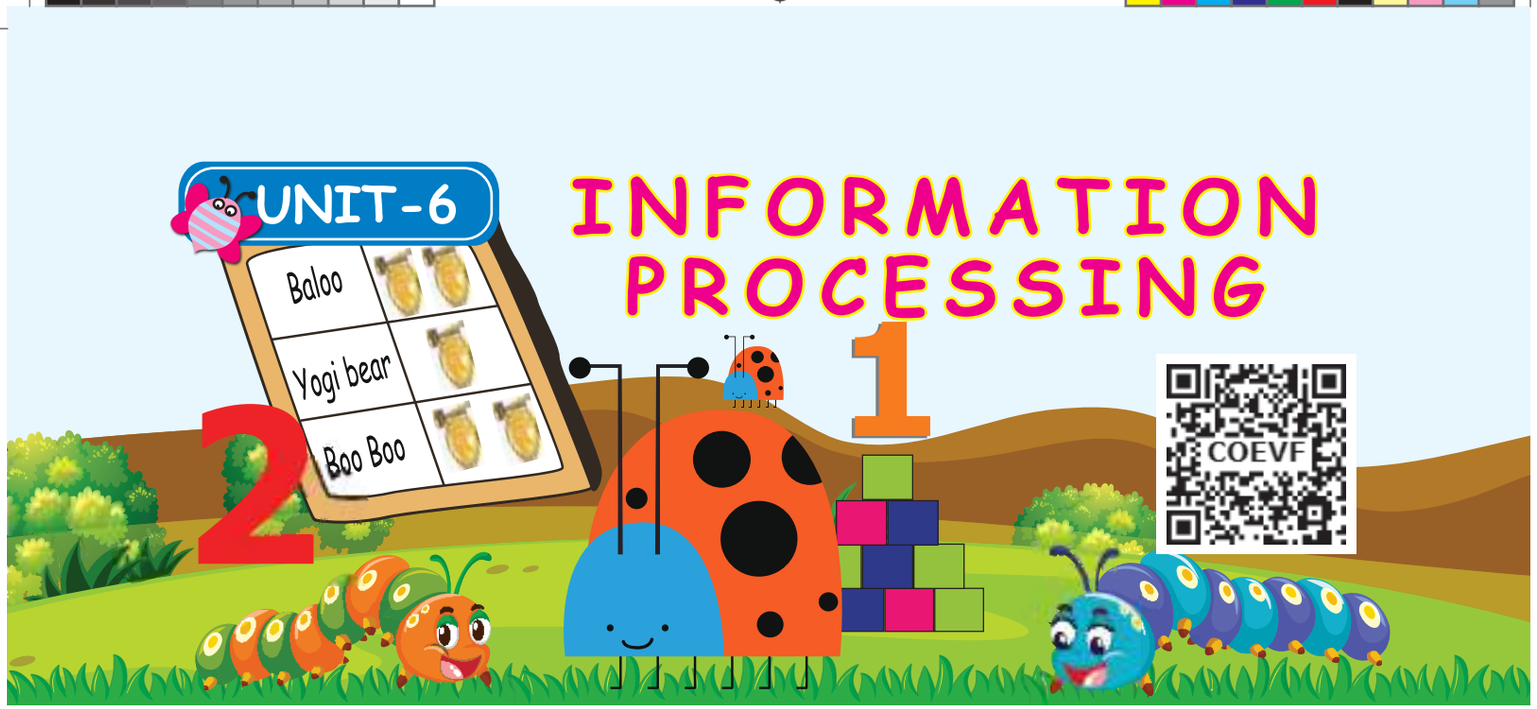
iii

From  To  _____ minute

9SEMU

Try This

Mark the time of your birth in the clock.

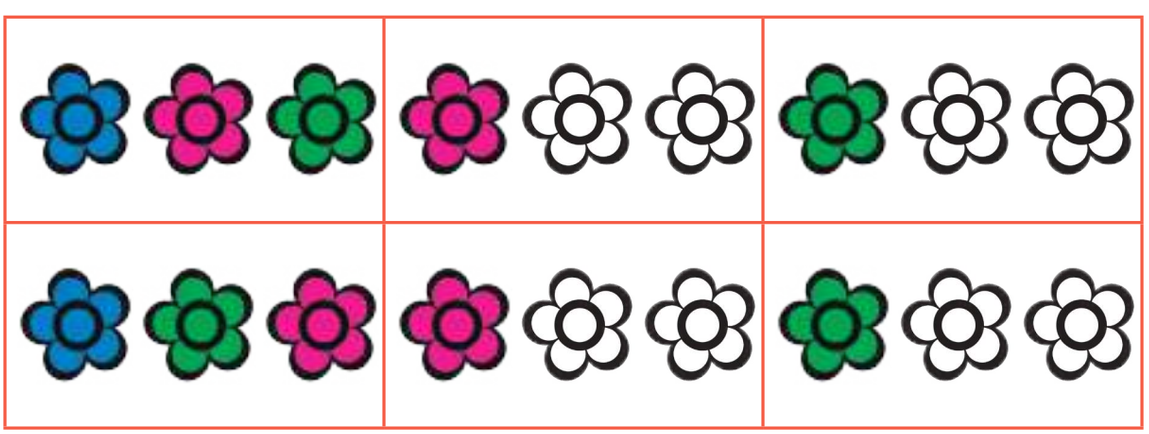


6.1 Systematic Listing

List down all possible things for a given category with multiple conditions.

Example

Complete the table by colouring with the three given colours in all possible ways.



List down the order of colours in the flowers in each box.

Activity

Find out all the possible ways of dressing using 2 pants and 4 shirts.


Red colour shirt


Pink colour shirt


Green colour shirt


Blue colour shirt

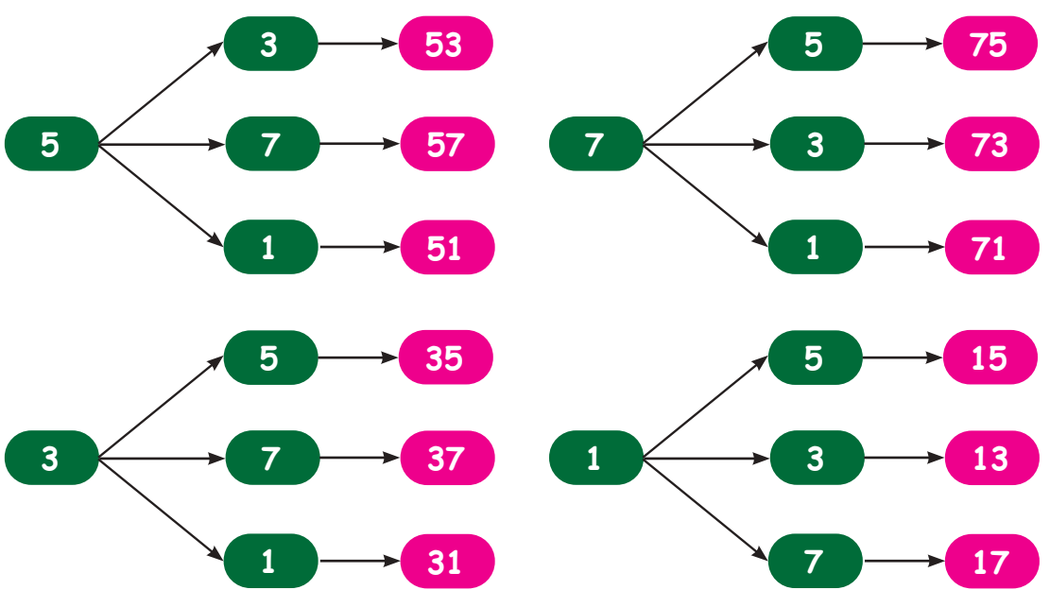

Grey colour pant


Blue colour pant

Example

5	3	7	1

How many two digit numbers can be created using the above digits without repeating them?



12 two digit numbers can be created using the given digits.

Try These

1. Create 3 letter words using the word 'TEACHER' without 't' at the end.

Tea	Car			

2. Create 5 letter words using the given letters only once.

A	D	E	G	L	M	N	R	T

ANGER	MEDAL			

3. List out 10 three letter words ending with 't'.

Exercise 6.1

1. | 9 | 7 | 2 | Write all possible three digit numbers that can be formed without repeating these digits? how many numbers can be formed?

2. You have to choose a tiffin and a drink from the given menu of a hotel. List the possible combinations. How many combinations are possible?

Tiffin	Drink
Idly	Tea
Poori	Coffee
Dosai	Milk
Pongal	

3. Kavin has four number cards **9** **7** **4** **6**

i. List down all possible 3 digit numbers with these cards without repetition.

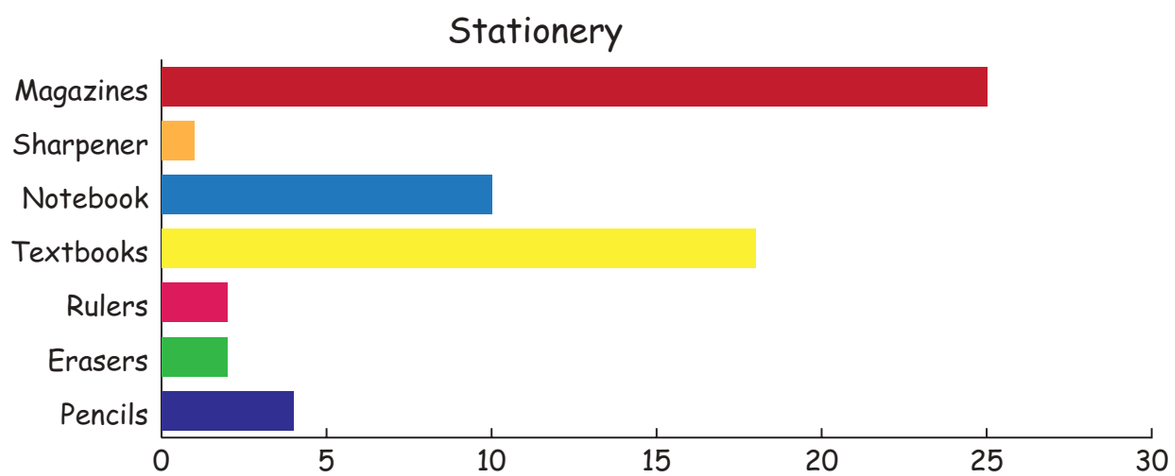
ii. What is the largest 4 digit odd number that can be made without repeating the numbers?

4. There are 3 sprinters A_1, A_2, A_3 (an athlete who runs fast in short race). List out the possible combinations that they win the 3 medals gold, silver and bronze.

6.2 Representation of data in bar graphs.

Amirtha was given a task of maintaining record for stationery items in her home. She started counting one by one but after a while she lost her counting and worried. Then her friend Vani came to help her. First she grouped these items as pencils, erasers, rulers, text books, notebooks, magazines, sharpener. Then Amirtha counted and wrote them easily as follows.

Stationery Items	Numbers	Stationery Items	Numbers
Pencils	4	Notebooks	10
Erasers	2	Sharpener	1
Rulers	2	Magazines	25
Text books	18		



Example

Kalavathi collected information about the favourite drinks of her schoolmates and represented the data as given below.

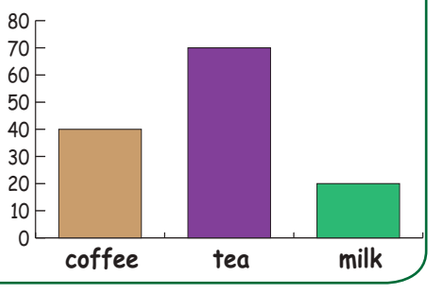
i. The number of people who like coffee _____

ii. Which drink is liked by least number of people?

(a) Coffee (b) Tea (c) Milk

iii. Which drink is liked by most number of people?

(a) Coffee (b) Tea (c) Milk

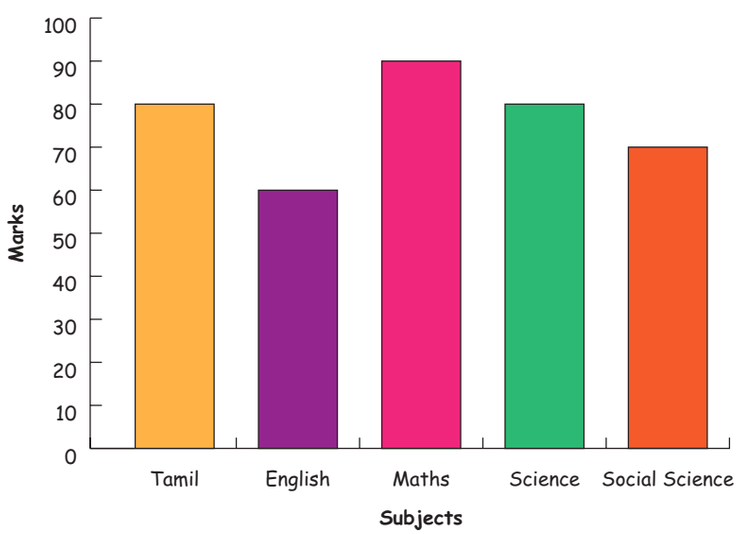


Try This

Draw a bar diagram for the favourite games of your classmates.

Exercise 6.2

1. Bar diagram of test scores of a student are given. Answer the following questions from the bar diagram.



i. The highest score is in _____.

ii. The lowest score is in _____.

iii. The same scores are in _____ and _____.

2. The score card of the players in a cricket match is given.

Player Name	Score
Kannan	60
Rohit	40
Babu	50
Ramu	10

Draw a Bar diagram.

6.3 Representation of data in Pie-Chart

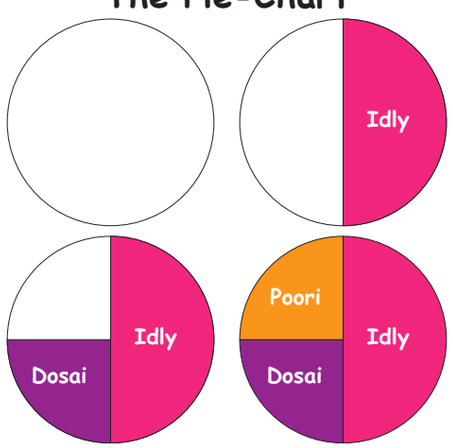
A Special chart that uses "Pie Slices" to show relative sizes of

Example

There are 60 students in a class. Students take breakfast in the restaurant. The half of the students eat idly. Of the remaining, half of the students eat poori and half of the students eat Dosai.

The method of drawing pie chart is given here.

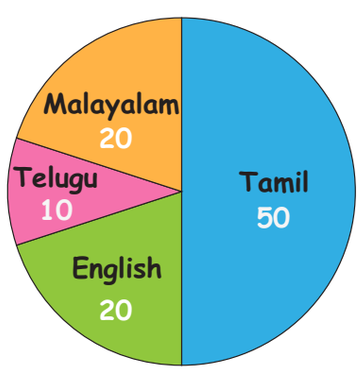
The Pie-Chart



Try This

Answer the following questions by using given data.

1. Number of people who speak Tamil _____.
2. Number of people who speak English _____.
3. Number of people who speak Malayalam ____.
4. Number of people who speak Telugu _____.

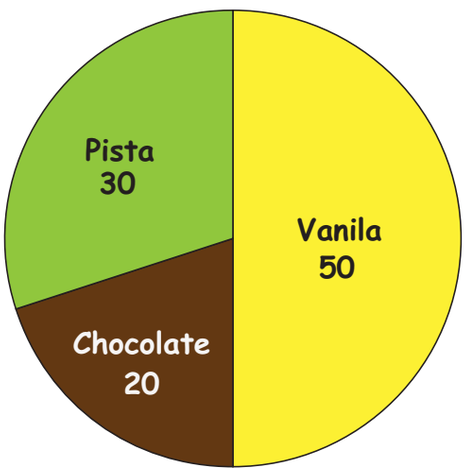


Activity

Draw a pie-chart for favourite fruits of your friends.

Exercise 6.3

1. The number of varieties of ice creams in an ice cream parlour is given below as a pie-chart. Answer the following questions.



F0KE6

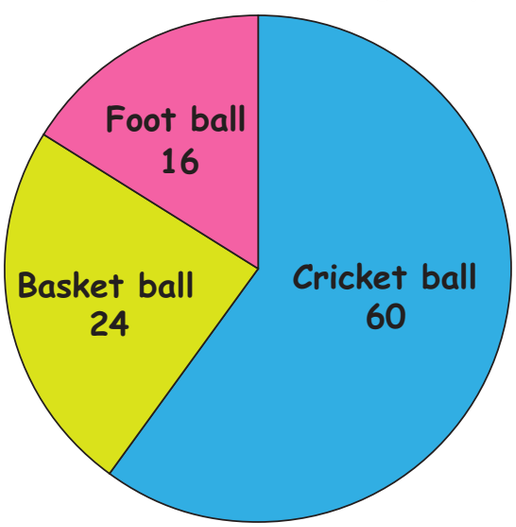
i. How many varieties of ice creams are there?

ii. Find the number of vanila ice creams _____.

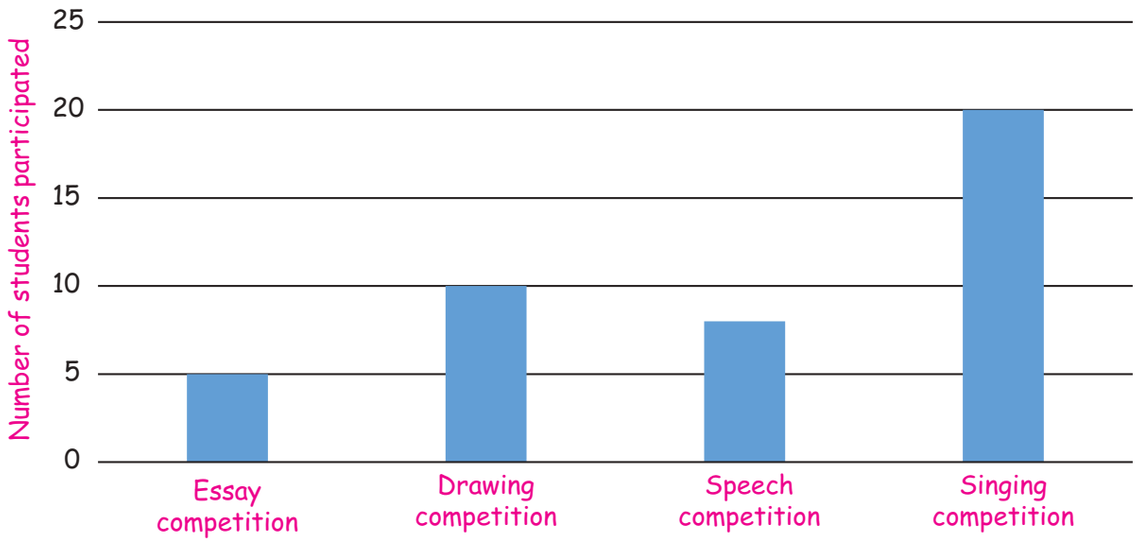
iii. Find the total number of chocolate and pista ice cream _____.

iv. Find the total number of ice creams _____.

2. Tabulate the data of the balls in the given pie-chart.



3. The number of students participated in various competitions in a class of 30 students is given in a graph.



i. In which competition more number of students participated?

ii. In which competition less number of students participated?

4. Draw a bar graph and a pie-chart for the favourite sweets of your family members.