Government of Karnataka

MATHEMATICS

Text cum Workbook

(Revised)

English Medium

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2

SECOND STANDARD

PART - 1

Karnataka Text Book Society (R.)
6th Cross, Malleshwaram
Bengaluru-560 003.

PREFACE

The Textbook Society, Karnataka has been engaged in producing new textbooks according to the new syllabi which in turn are designed on NCF – 2005 since June 2010. Textbooks are prepared in 12 languages; seven of them serve as the media of instruction. From standard 1 to 4 there is the EVS, mathematics and 5th to 10th there are three core subjects namely mathematics, science and social science.

NCF - 2005 has a number of special features and they are :

- connecting knowledge to life activities.
- learning to shift from rote methods.
- enriching the curriculum beyond textbooks.
- learning experiences for the construction of knowledge.
- making examinations flexible and integrating them with class-room experiences.
- caring concerns within the democratic policy of the country.
- making education relevant to the present and future needs.
- softening the subject boundaries- integrated knowledge and the joy of learning.
- the child is the constructor of knowledge.

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The new books are produced based on three fundamental approaches namely : Constructive approach, Spiral approach and Integrated approach.

The learner is encouraged to think, engage in activities, master skills and competencies. The materials presented in these books are integrated with values. The new books are not examination oriented in their nature. On the other hand, they help the learner in the total development of his/her personality, thus help him/her become a healthy member of a healthy society and a productive citizen of this great country, India.

Mathematics is essential in the study of various subjects and in real life. NCF 2005 proposes moving away from complete calculations, construction of a framework of concepts, relate mathematics to real life experiences and cooperative learning.

Many students have a maths phobia and in order to help them overcome this phobia, jokes, puzzles, riddles, stories and games have been included in textbooks. Each concept is introduced through an activity or an interesting story at the primary level. The contributions of great Indian mathematicians are mentioned at appropriate places.

The Textbook Society expresses grateful thanks to the chairpersons, writers, scrutinisers, artists, staff of DIETs and CTEs and the members of the Editorial Board and printers in helping the Text Book Society in producing these textbooks.

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CHAIRPERSON'S NOTE

As Per 2005 National curriculum frame work children are expected to gain knowledge on their own by their day to day experience. The 2nd standard textbook has been designed on the basis of National curriculum frame work. the committee has tried to help teachers, students and parents by providing the favourable learning environments to take them to achieve the goal in a meaningful, joyful and day to experienced situation.

The main features of this textbook is

- to provide the students graded learning activities.
- to facilitate the students to draw the inference by understanding the truth of concepts and to generalise the concepts on their own.
- to provide enough opportunities to the students to understand the new concepts and to express the same on their own.
- to help the students to apply their mathematical knowledge in their day to day affairs and in different circumstances.

Each unit of this text book starts with teaching concreate examples, activities and group activities. Teachers may use the same activities or the parallel activities designed by them.

'Mathematical words' or generalisation are used only after the child gets the experience of Mathematical operations by day to day experience. In other words from known to unknown.

Three new chapters are introduced in this textbook.

'Mental Mathematics' to give importance to mental arithmetic and to achieve quick and correct calculation. 'Pattern' this unit provides an opportunity for the students to corrolate the different patterns they observe around them in their day to day affairs and to appreciate the esthitic beauty of mathematics. 'Data handling' this chapter help the students to develop the skill to collect information, to arrange them in an order and tabulate them.

We welcome all positive suggestions from teachers, parents, students and general public to improve the standard of this text book.

The committee is greatfull to the Karnataka textbook society for having provided an opportunity to serve in this endour.

Sri. K.V. Sathyanarayana Rao
President
Textbook committee

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Textbook Committee

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About the Revision of Textbooks

Honourable Chief Minister Sri Siddaramaiah who is also the Finance Minister of Karnataka, in his response to the public opinion about the new textbooks from standard I to X, announced, in his 2014-15 budget speech of constituting an expert-committee, to look into the matter. He also spoke of the basic expectations there in, which the textbook experts should follow: "The textbooks should aim at inculcating social equality, moral values, development of personality, scientific temper, critical acumen, secularism and the sense of national commitment", he said.

Later, for the revision of the textbooks from class I to X, the Department of Education constituted twenty seven committees and passed an order on 24-11-2014. The committees so constituted were subject and class-wise and were in accordance with the standards prescribed. Teachers who are experts in matters of subjects and syllabi were in the committees.

There were already many complaints, and analyses about the textbooks. So, a freehand was given in the order dated 24-11-2014 to the responsible committees to examine and review text and even to prepare new text and revise if necessary. Eventually, a new order was passed on 19-9-2015 which also gave freedom even to re-write the textbooks if necessary. In the same order, it was said that the completely revised textbooks could be put to force from 2017-18 instead of 2016-17.

Many self inspired individuals and institutions, listing out the wrong information and mistakes there in the text, had sent them to the Education Minister and to the Textbook Society. They were rectified. Before rectification we had exchanged ideas by arranging debates. Discussions had taken place with Primary and Secondary Education Teachers' Associations. Questionnaires were administered among teachers to pool up opinions. Separate meetings were held with teachers, subject inspectors and DIET Principals. Analytical opinions had been collected. To the subject experts of science, social science, mathematics and languages, textbooks were sent in advance and later meetings were held for discussions. Women associations and science related organistation were also invited for discussions. Thus, on the basis of all

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inputs received from various sources, the textbooks have been revised where ever necessary.

Another very important aspect has to be shared here. We constituted three expert committees. They were constituted to make suggestions after making a comparative study of the texts of science, mathematics and social science subjects of central schools (NCERT), along with state textbooks. Thus, the state text books have been enriched based on the comparative analysis and suggestions made by the experts. The state textbooks have been guarded not to go lower in standards than the textbooks of central school. Besides, these textbooks have been examined along side with the textbooks of Andhra Pradesh, Kerala, Tamil Nadu and Maharashtra states.

Another clarification has to be given here. Whatever we have done in the committees is only revision, it is not the total preparation of the textbooks. Therefore, the structure of the already prepared textbooks have in no way been affected or distorted. They have only been revised in the background of gender equality, regional representation, national integrity, equality and social harmony. While doing so, the curriculum frames of both central and state have not been transgressed. Besides, the aspirations of the constitution are incorporated carefully. Further, the reviews of the committees were once given to higher expert committees for examination and their opinions have been inculcated into the textbooks.

Finally, we express our grateful thanks to those who strived in all those 27 committees with complete dedication and also to those who served in higher committees. At the same time, we thank all the supervising officers of the Textbook Society who sincerely worked hard in forming the committees and managed to see the task reach its logical completion. We thank all the members of the staff who co-operated in this venture. Our thanks are also due to the subject experts and to the associations who gave valuable suggestions.

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Bengaluru.

Text Books Revision Committee

Chairman-in-chief.

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Foreword

In the pursuit of fostering a healthier and more balanced educational journey, we present this initiative aimed at reducing the weight of school bags. Education is the cornerstone of progress and it is our responsibility to ensure that the pursuit of knowledge is accompanied by the wellbeing of students.

As a first step, to reduce the burden of heavy bags, the School Education Department, Government of Karnataka has decided to print semester-wise textbooks in 2 parts i.e., Summative Assessment 1 and 2. This intervention will help significantly in reducing the weight of school bags.

This endeavour signifies a paradigm shift, acknowledging the strain posed by bulky bags on students.

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Manjushree. N. IAS
Managing Director
Karnataka Textbook Society (R.)

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W8F1M6

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Lesson - 1

SHAPES AND SPATIAL UNDERSTANDING

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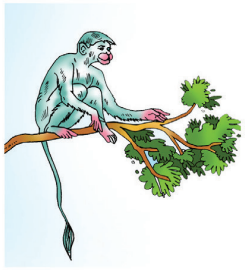
After studying this lesson you :

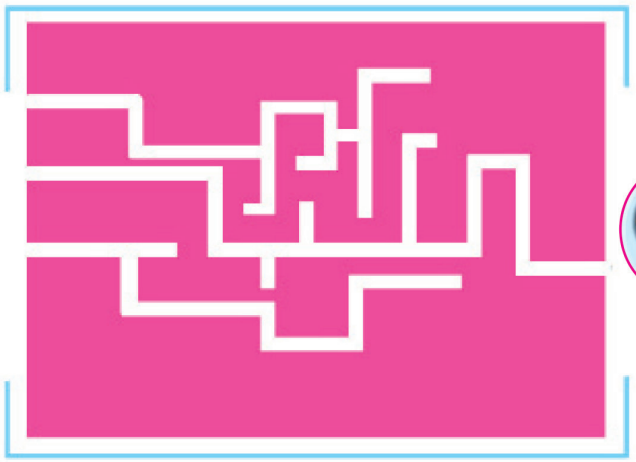
- identify and draw straight lines.
- draw horizontal, vertical and slant lines,
  - with the help of a ruler
  - by free hand
- distinguish between straight and curved lines.
- understand the geometrical attributes of objects which roll/slide.
- identify 2-D shapes (square, rectangle, triangle, circle) and understand their features.
- identify the basic 3-D shapes (cube, cuboid, cylinder, cone) and understand their features.

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Straight line

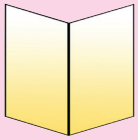
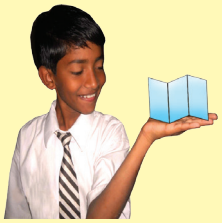
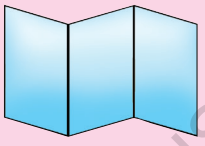
Help the monkey to get banana (by drawing line) in the correct way.







Fold the paper and get straight lines :

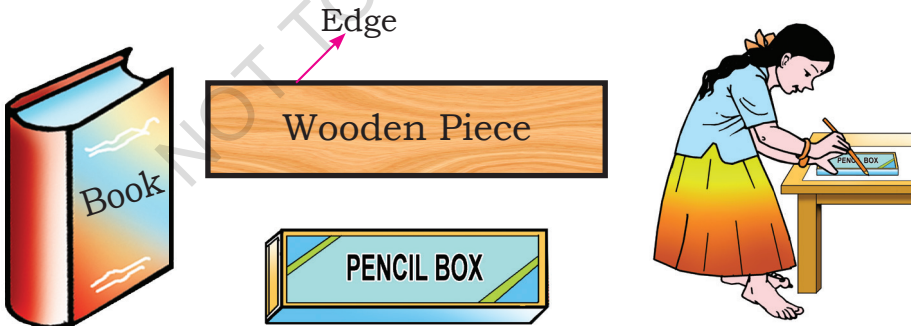
	I have folded a paper once.		I get one straight line along the folding .
	I have folded a paper twice.		I get two straight lines along the folding.

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How do we draw straight lines ?

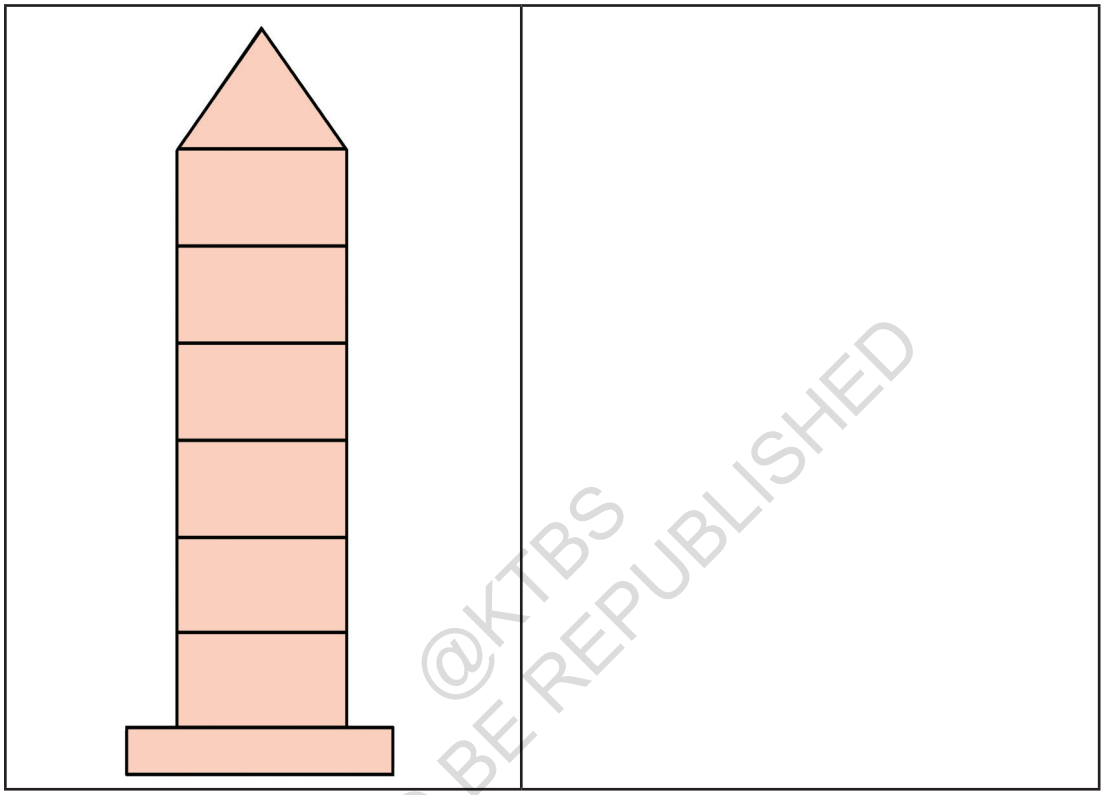
Straight edged objects can be used to draw straight lines.

Example :



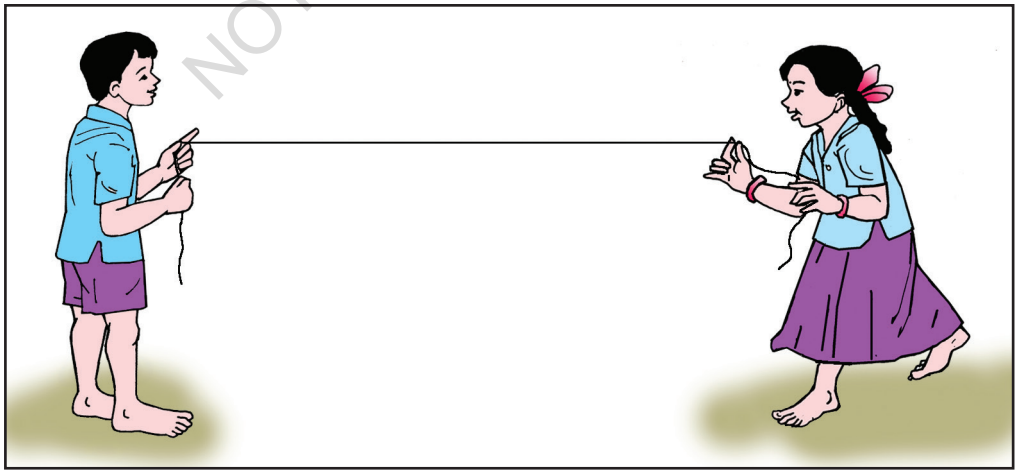
With the help of the edge of a note book draw a straight line.

With the help of straight edged wooden piece draw a picture like this containing straight lines.

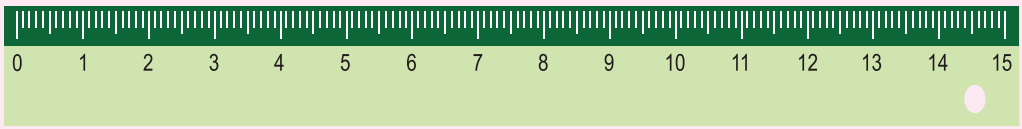


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A stretched string appears like a straight line.



Straight lines can be drawn using a ruler.



A and B are two points. When these points are joined with the help of ruler, a straight line is formed.



Draw a picture comprising of straight lines by using ruler.

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Straight lines can also be drawn by free hand.

Example :

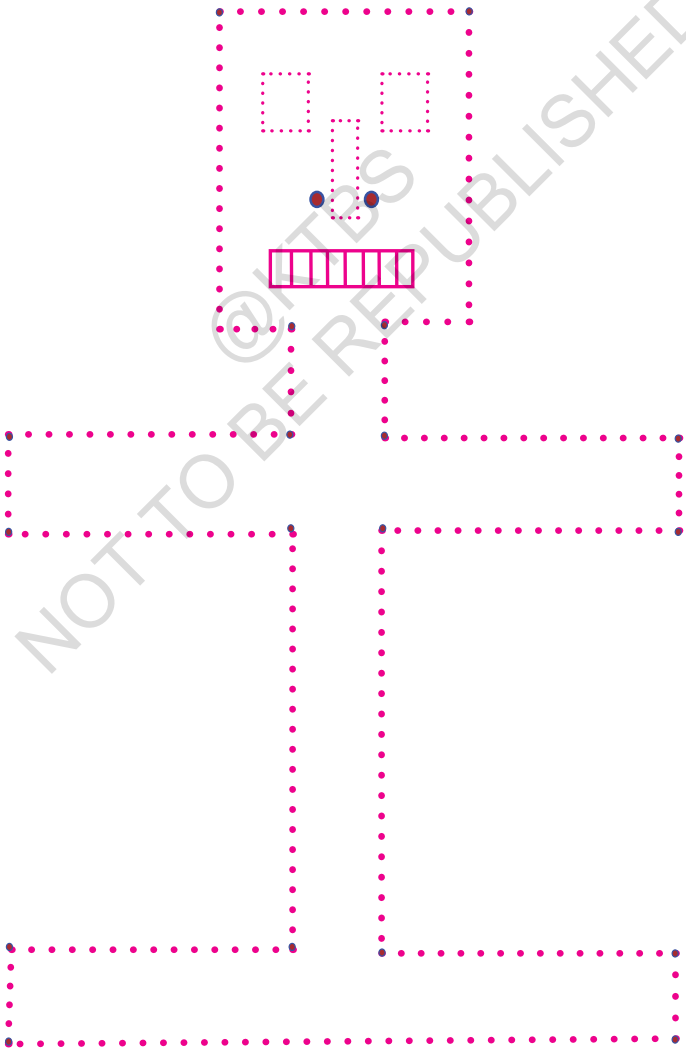


(P and Q are two end points.) When these two points are joined by free hand (without ruler), a straight line is formed.

Join these dots by free hand and obtain straight lines.

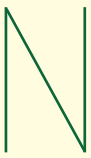
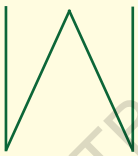
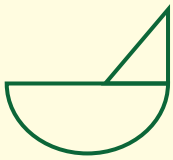
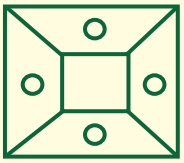
1)	2)	3)
R • • S	• F • E	G • • H

Join the dots with straight lines by free hand.



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I) Count the number of straight lines in each figure and write in the given box.

Example		2
1		
2		
3		
4		
5		
6		

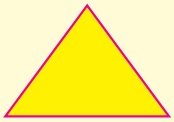
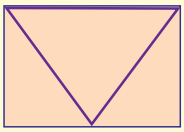
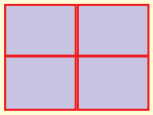
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II) 1) Write English capital letters which have two straight lines.

2) Write English capital letters which do not have straight lines.

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III. Search and mark ✓ the odd figure in the given group.

1)	a.		b.		c.		d.	
2)	a.		b.		c.		d.	

IV) Mark ✓ to show true or false.

1. Letter 'A' has '3' straight lines. True / False
2. Letter 'M' has '3' straight lines. True / False
3. Letter 'R' has '2' straight lines. True / False

V. Join the dots with a straight line (freehand) and draw the picture of your imagination.

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Drawing straight lines :

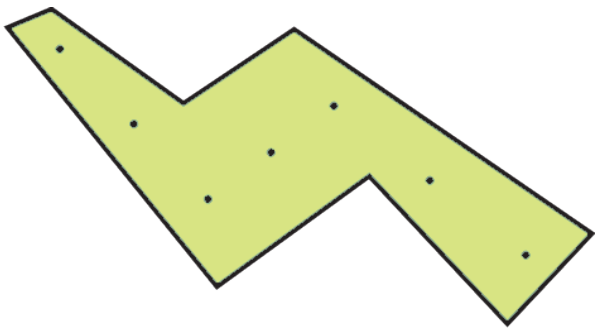
Join the dots with straight lines.



Horizontal line

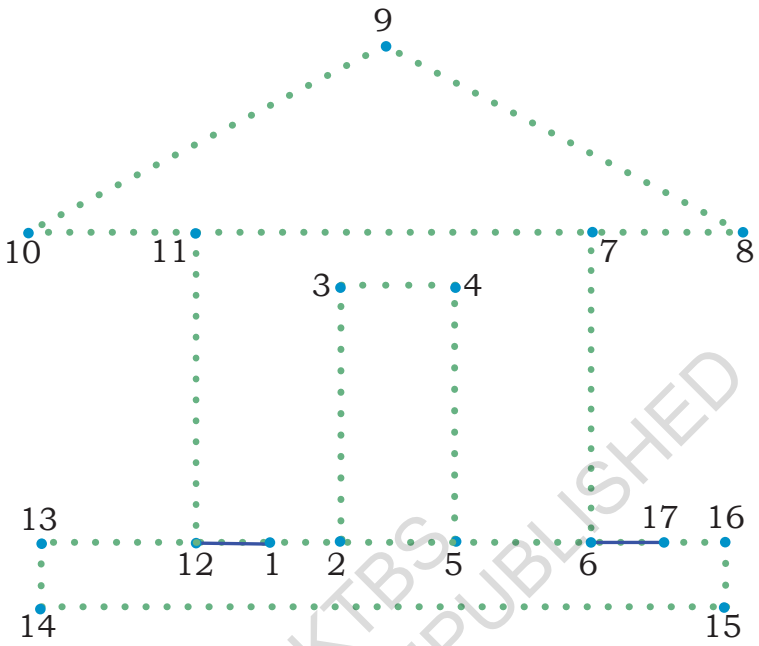


Vertical line



Slanting line

Join the dots with a ruler according to serial numbers.



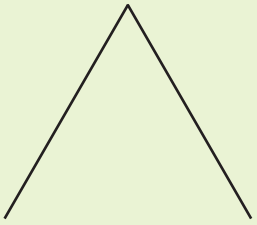
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1) The line from 14 to 15 is Horizontal line.

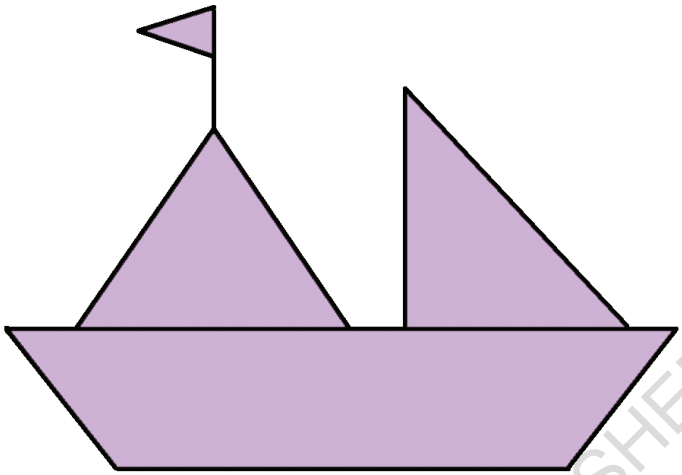
2) The line from 11 to 12 is .....

3) The line from 9 to 10 is .....

Observe horizontal line, verticle line and slanting line in the given picture.

Horizontal line	Vertical line	Slanting line
		

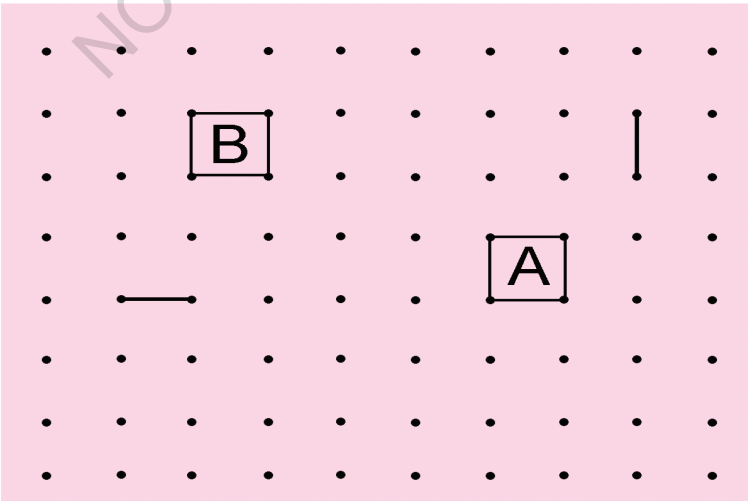
Count and write the number of lines.



- Horizontal lines = _____
- Vertical lines = _____
- Slanting lines = _____

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Activity 1 : Play the game with your friend.



- This is a game of dots. It can be played between two players.
- You can join any two neighbouring dots by a horizontal or a vertical line.
- Let your friend also do the same.
- Whoever completes the box he/she will write his/her initial in the box.

***Example* : A or B as shown in the figure.**

- The game will continue until all the dots are joined to form boxes.
- Whoever completes more number of boxes will be the winner.

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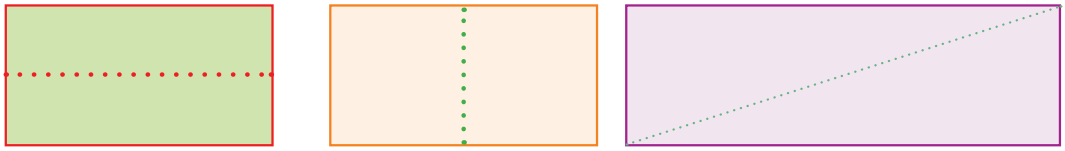
Conditions :

1) Do not redraw any line.
2) You can draw only one line joining two points at once.
3) You score 1 point for completing one box.

Record the score in this table.

	Your's	**Your friend's**
Points		

Complete the line by joining the dots to get two similar shapes.

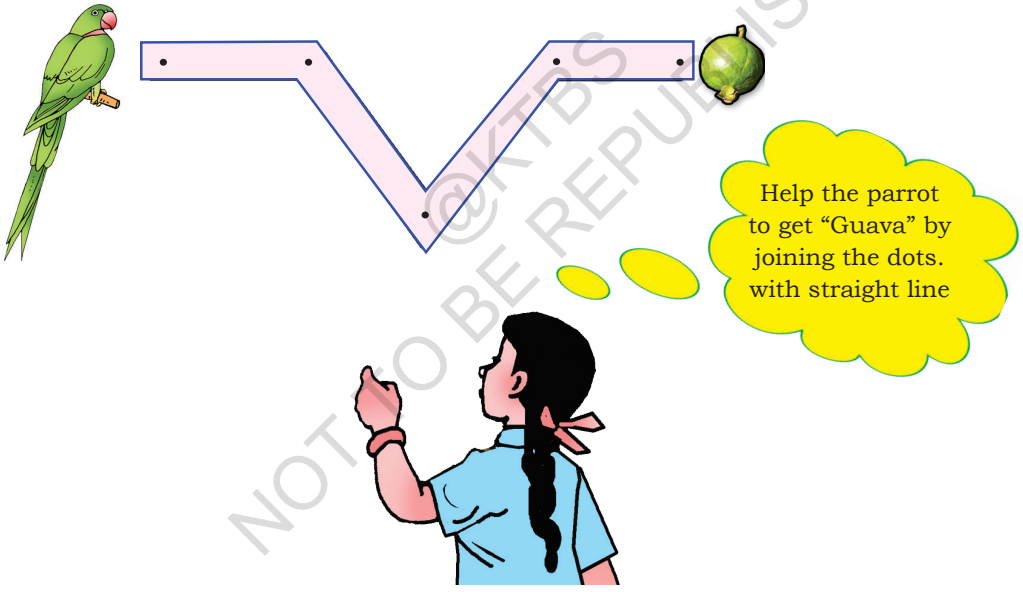


Horizontal line Vertical line Slant line

Exercise

Use ruler to join the dots in the figures below.

1)



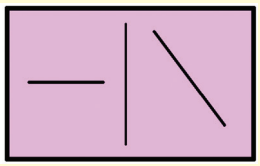
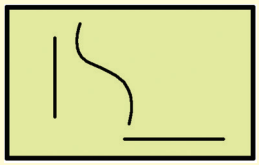
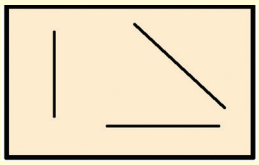
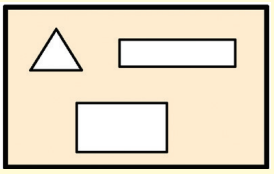
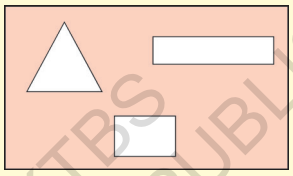
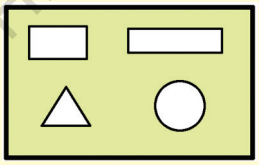
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2)

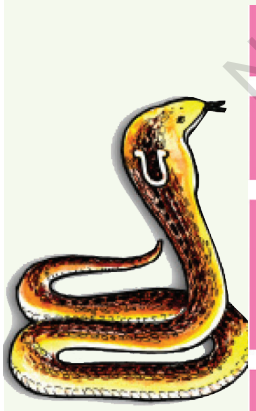


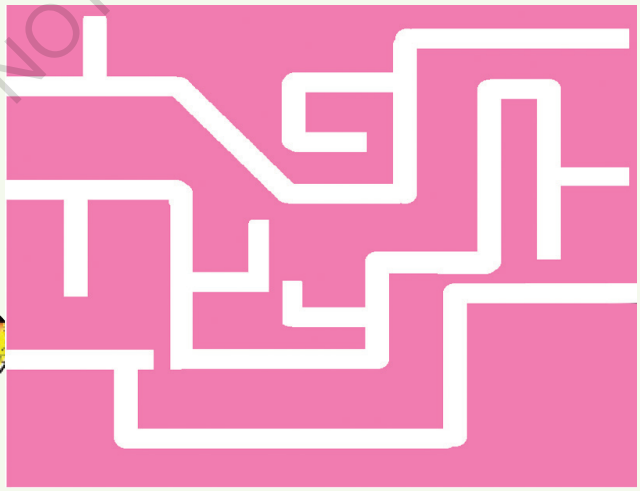
Discuss with your friend or teacher about the importance of these lines in daily life.

Observe the following figures and Tick '✓' mark to the odd figure in the space provided.

1)			
			
2)			
			

Help the Snake to search the way to get the Rat by drawing horizontal, vertical or slanting lines.

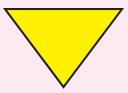
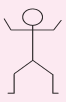






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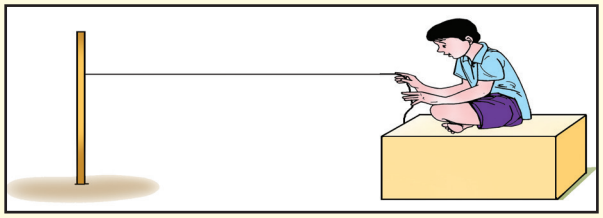
Fill in the blanks with correct answers.

Sl. No.	Shapes	Horizontal	Vertical	Slant
Example	A	1	0	2
1	B			
2	E			
3	H			
4				
5	7			
6	8			
7	M			
8	Z			
9				
10				
11				

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Straight lines and Curved lines.

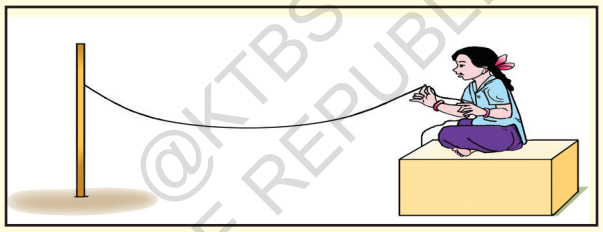
Tie a thread to a window or a table or a pole and hold the thread tightly with your hand.



Will the thread form a straight line ?

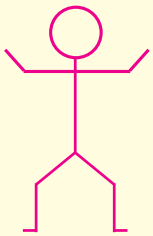
A piece of string held tight will form a 'straight line.'

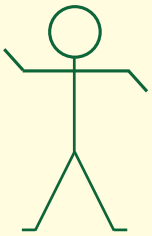
A piece of string held loose will form a 'curved line'.

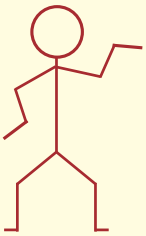


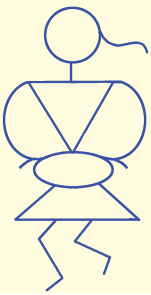
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Observe the pictures with lines.

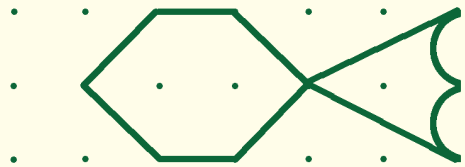


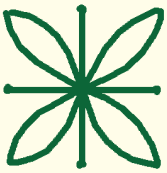






Join the dots with curved or straight lines and make your own designs.





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Draw some more pictures with curved and straight lines.

Activity 2 : *Pick and put as instructed below*

A B C D E F G H I .....

1 2 3 4 5 6 7 8 9 0

Prepare flash cards of numbers and letters and place three trays as shown below.

For Example A & B groups are playing this game.
Play this game in two groups.



1) Numbers or letters with only straight line.

2) Numbers or letters with only curved lines.

3) Numbers or letters with both straight and curved lines

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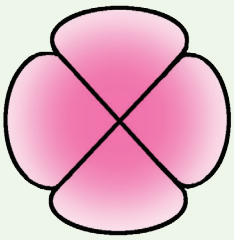
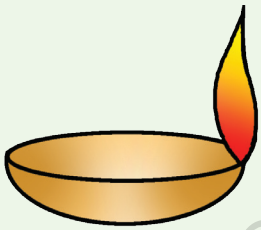
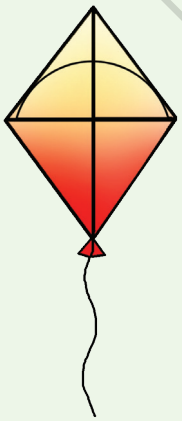
Let one student from group 'A' pick one flash card (either number flash card or letter flash card) and put the flash card in the appropriate tray.

If the card is placed in the correct tray, the group will score one mark.

Now, another student from group 'B' picks-up one flash card and puts in appropriate tray. In this way the game will continue.

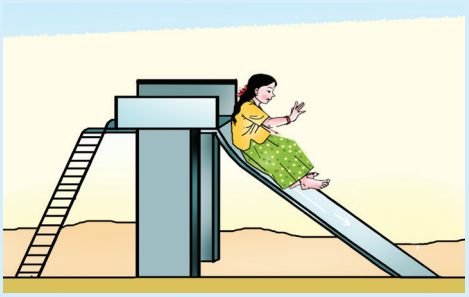
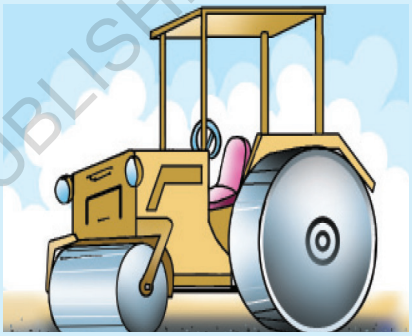
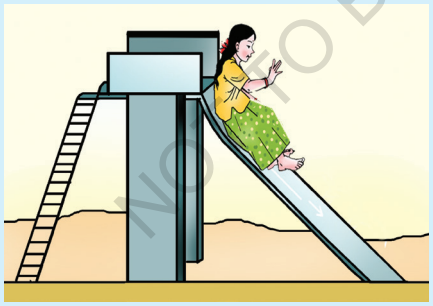
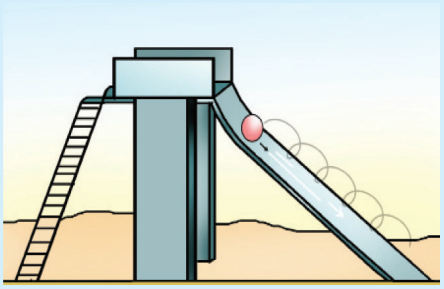
The team which scores more points is declared the winner.

Write the number of straight lines and curved lines in the following pictures.

Figure.	Straight lines	Curved lines
	1	2
		
		
		

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Features of Geometry : What rolls ? What slides?

	Slides		Rolls
1)		1)	
2)		2)	
3)		3)	

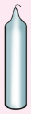
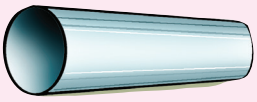
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LOOK AT THE PICTURE.

- Some objects only roll and some slide.
- There are a few, which can both roll and slide.
- Objects with plane surface will slide.
  Example : book, wooden plank.

- Objects with curved surface will roll.
  Example : ball, marble.
- Objects with plane and curved surfaces will roll and slide.
  Example: coins, carrom pawn.

I. Find out whether these objects roll, slide, both roll & slide with (✓) mark in the correct box.

Sl.No.	Object	Roll	Slide	Both roll & slide
1				
2				
3				
4				
5				
6				
7				

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1) Write the names of any two objects which can only roll.

_____

2) Write the names of any two objects which can only slide.

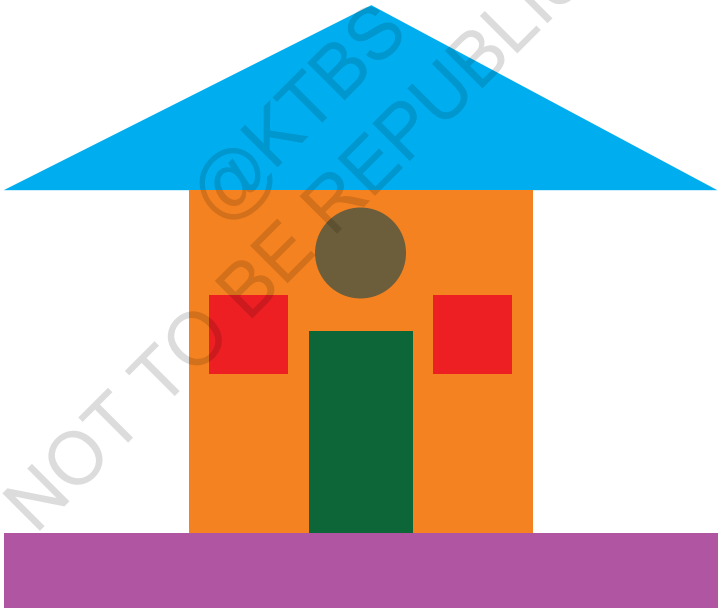
_____

3) Write the names of any two objects which can both roll and slide.

_____

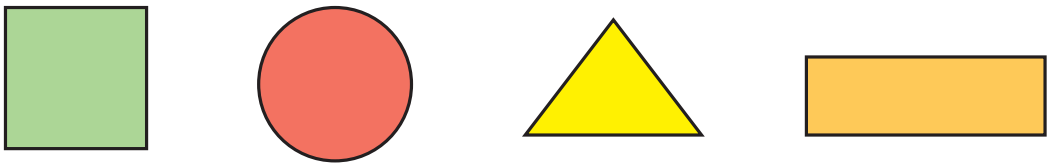
Two dimensional Shapes and their features :

Look at the picture of the house. Observe the different shapes in the picture.

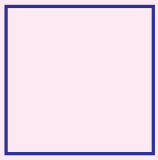
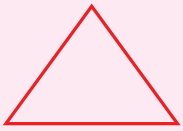
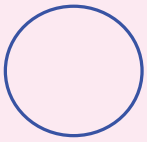


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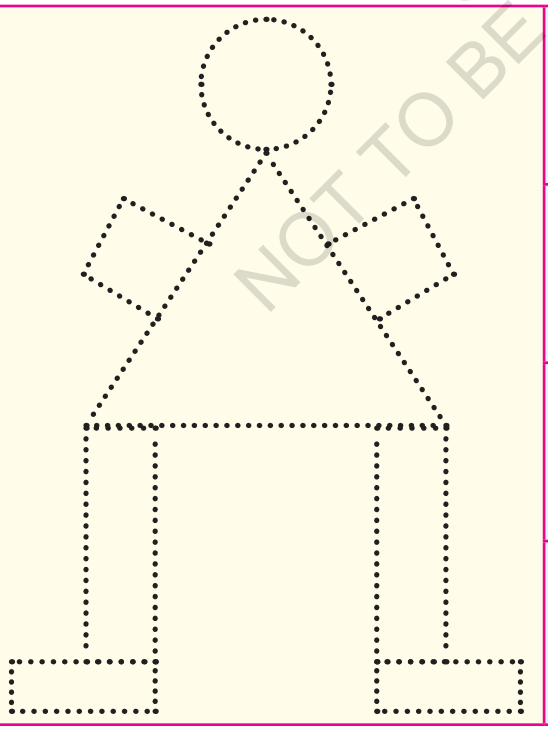
You observe the following shapes in the above picture.



Know their names.

	Square
	Rectangle
	Triangle
	Circle

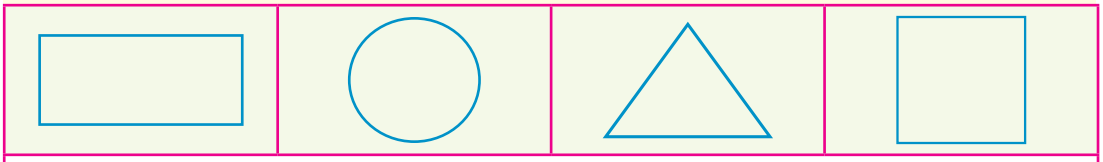
Activity : *Join the dots. Count and write the number of squares, rectangles, triangles and circles.*



Square	
Rectangle	
Triangle	
Circle	

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Draw a picture in the space given below using the following shapes only once.

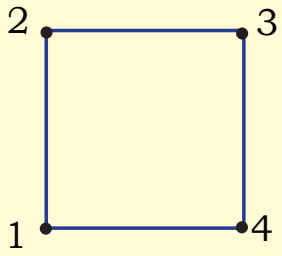
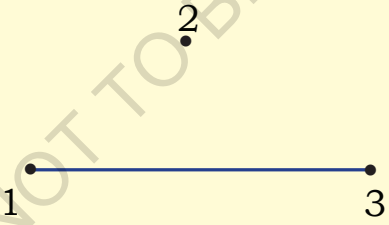
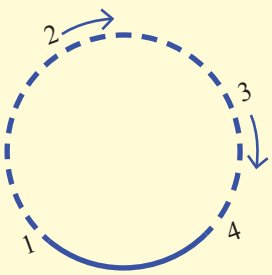


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By using each of the above shapes twice, draw a picture of your own.

Activity :

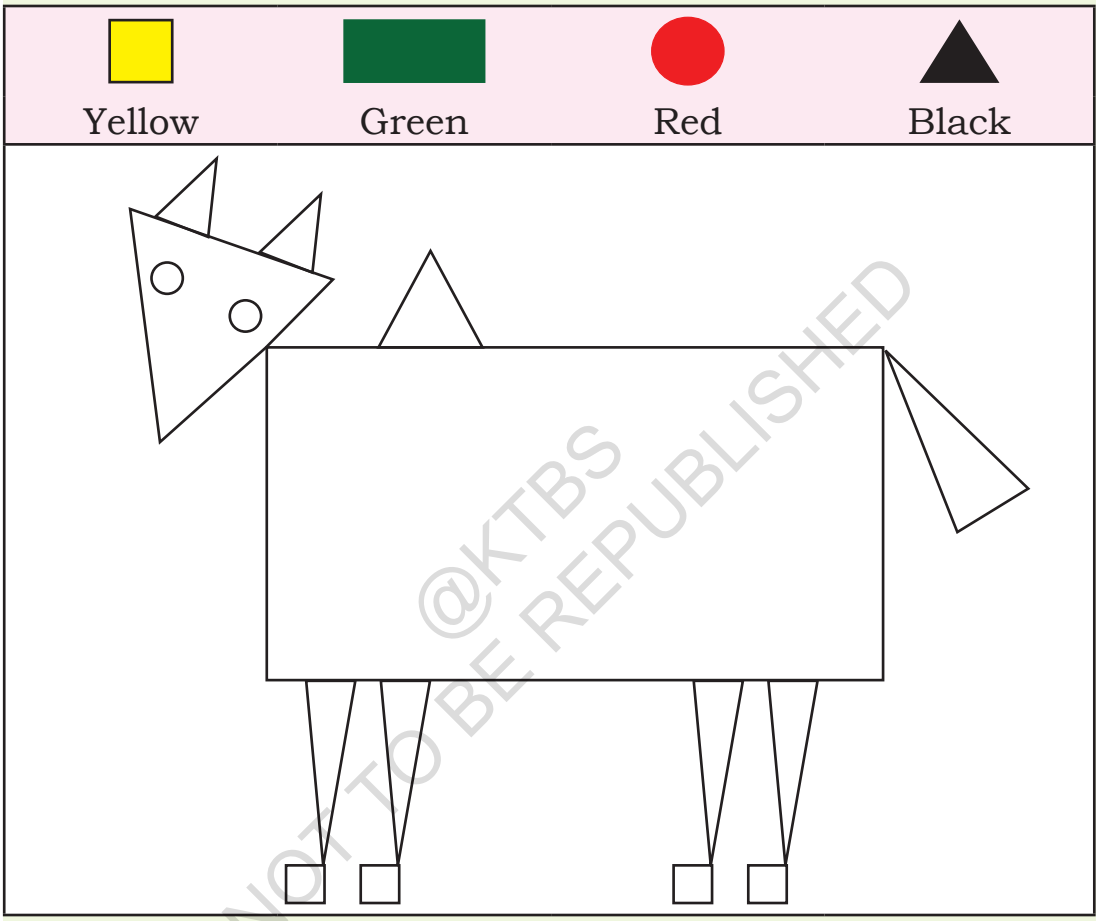
Join the dots according to the numbers and name the shapes.

Example :		Square
2)		
3)		
4)		

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Colour..... Colour..... What Colour ?

Colour the picture as directed :



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- **In the above picture,**

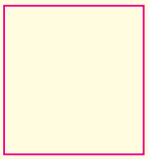
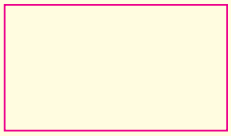
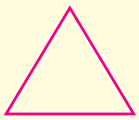
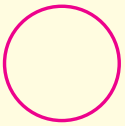
1) Number of rectangles _____

2) Number of squares _____

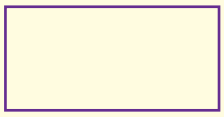
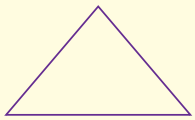
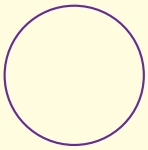
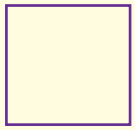
3) Number of triangles _____

4) Number of circles _____

Learn more about shapes.

1)		**Square**	• A square has four sides • All four sides of a square are equal.
2)		**Rectangle**	• A rectangle has four sides. • Opposite sides of a rectangle are equal.
3)		**Triangle**	• A triangle has 3 sides.
4)		**Circle**	• A circle is a shape bounded by a curved line.

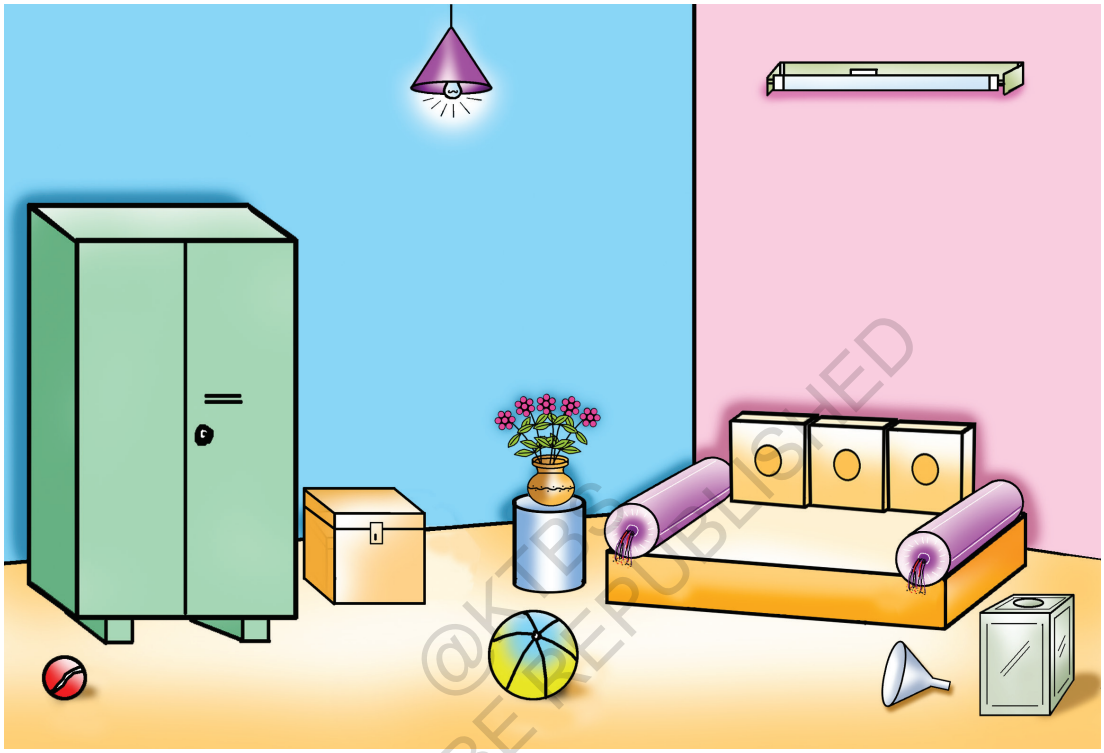
Give few examples of objects which are similar to the following shapes.

Shape	Object resemble the Shape	Write another example
	Book	
	Traffic signal board beside a road	
	Wall clock	
	Hand kerchief	

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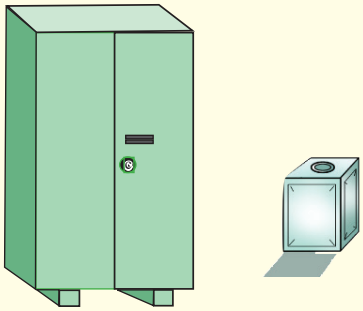
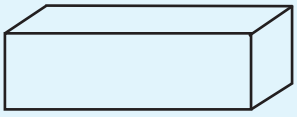
Three dimensional shapes.(Solid shapes)

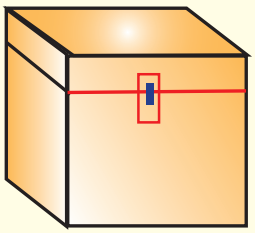
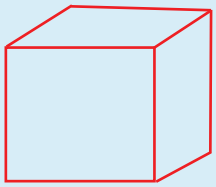
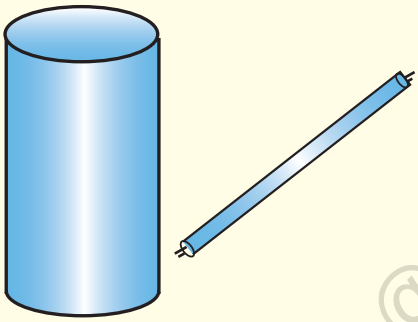
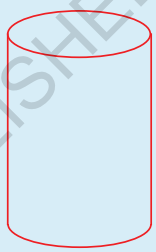
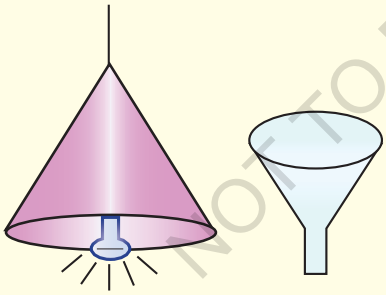
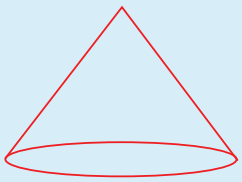
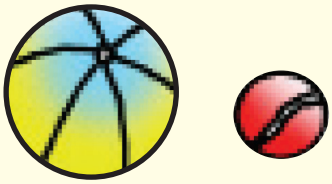
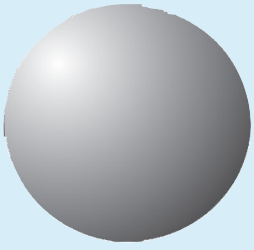
Observe the objects in the pictures given below :



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Observe the objects which resemble these geometrical shapes and know their names.

Objects	Geometrical Shapes
	 Cuboid

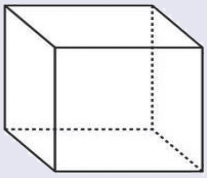
Objects	Geometrical Shapes
	 Cube
	 Cylinder
	 Cone
	 Sphere

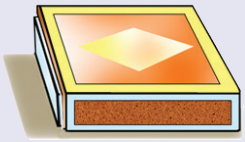
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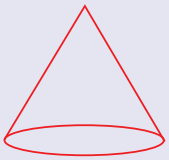
Match the objects to the shape they resemble as shown in the example.

Example:





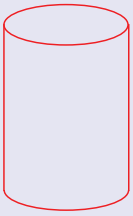


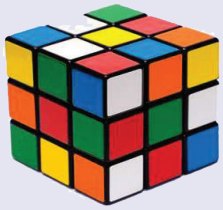














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Make a list of solid objects you see at home, Name the solids they resemble.

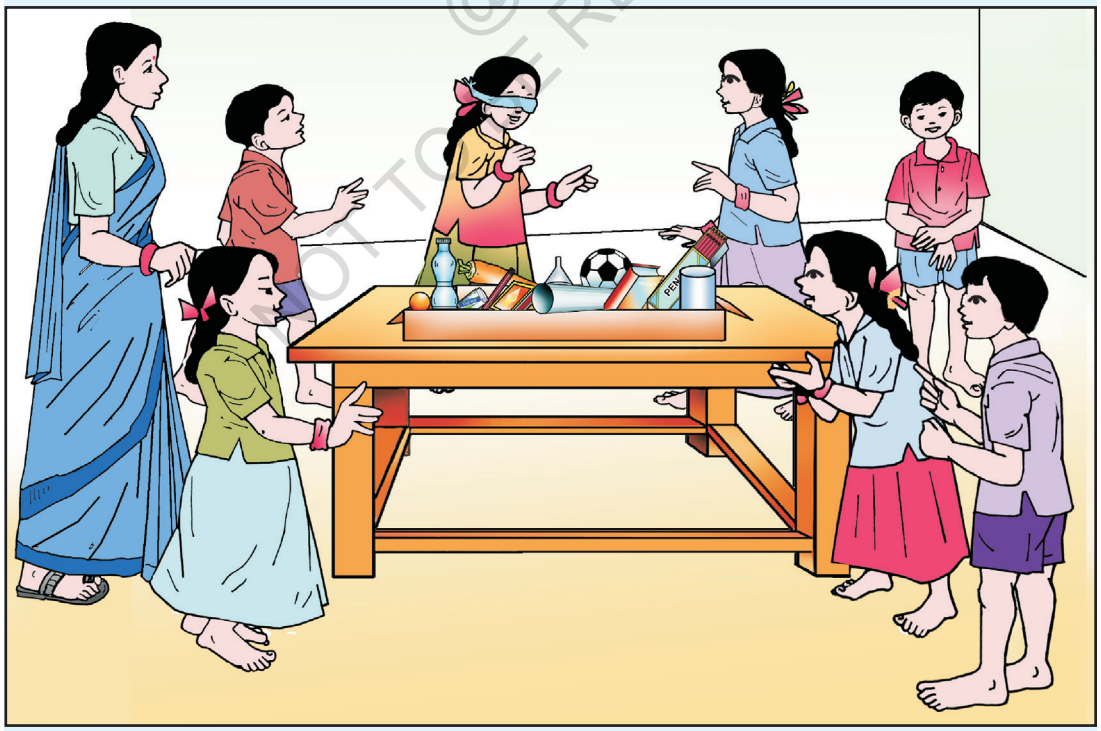
Activity :

What is the shape ? Guess !

The teacher keeps a few objects like marble, book, pencil , box, rubber, pencil, pipe, carrot, ball in a cardboard box and place it on the table.

One of the students is asked to close his/her eyes and pick out one object from the box, feel it and then mention the solid it resembles. If the answer is correct, let the other students encourage him/her by clapping their hands.

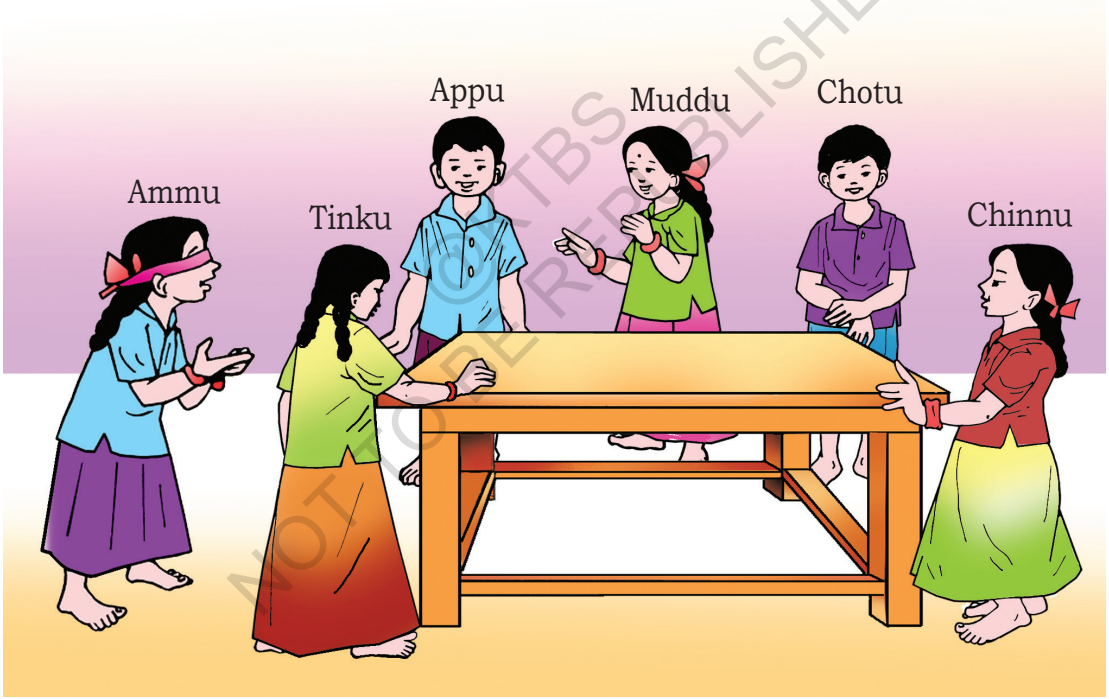
Next another student is called upon to pick an object from the box and thus the game continues.



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Edges and Corners

Chotu and five of his friends are playing a game. Ammu has tied a cloth to her eyes and clapping her hands, others are moving around the table. When Ammu stops clapping, immediately all of them stand wherever they are. Those who are away from the corners have to leave the game. others continue to play.



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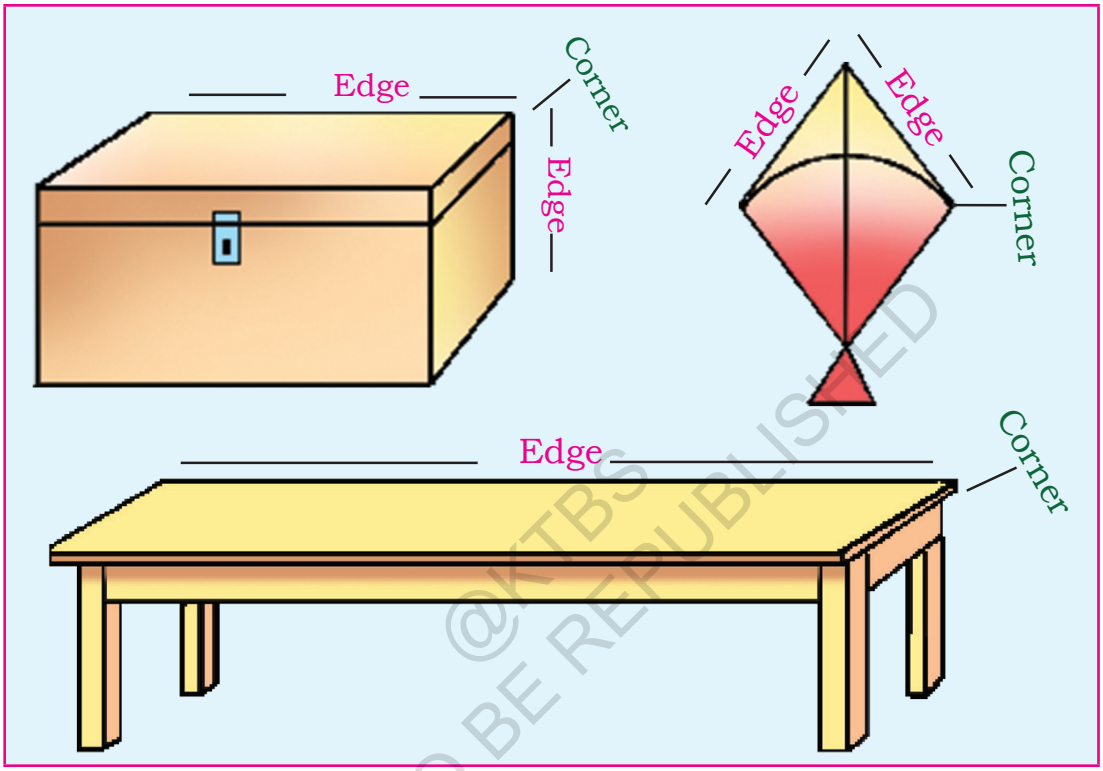
A) Observe the picture given above and find who has to leave the game?

B) Who is standing at the corners of the table?

C) Where is Muddu standing?

Most of the objects around us have straight edges.

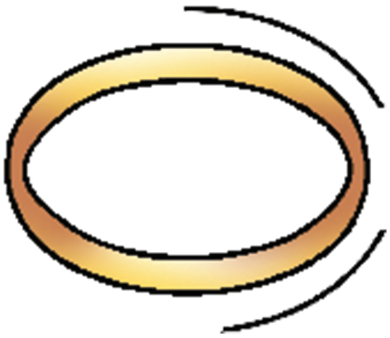
Example:



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Some objects have curved edges





a) Name any five objects around you which have Straight edges.

_____

b) List any five objects which have curved edges.

_____

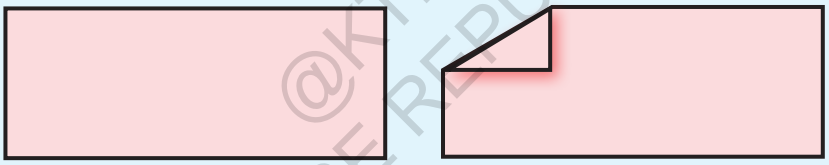
c) Do objects having straight edges have corners?

_____

d) Do objects having curved edges have corners ?

_____

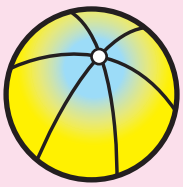
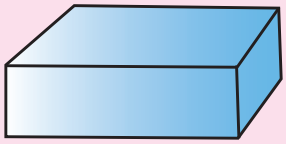
Activity:



1) Take a piece of paper rectangular in shape.
2) Count the corners of the paper.
3) How many edges does the paper have?
4) Fold a corner of the paper as shown.
   a) Now how many corners does the paper have ?
   b) How many edges does it have?
   c) Fold another corner of the paper. Now count the number of edges and corners of the paper.

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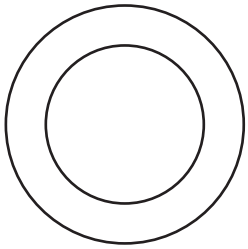
Observe the list of objects given below: Mark (✓) for the objects having corners: Count the edges and corners and write them

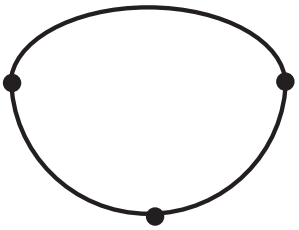
Name of the objects	Does the object have corners	Number of edges	Number of corners
 Dice	✓	12	8
 Ball			
 Rubber			
 Cucumber			
 Paper			

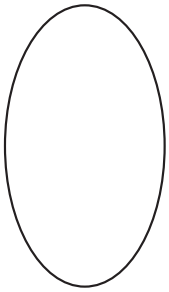
Objects having corners also have edges.

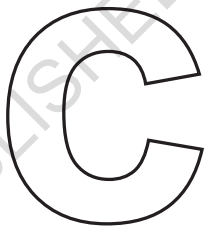
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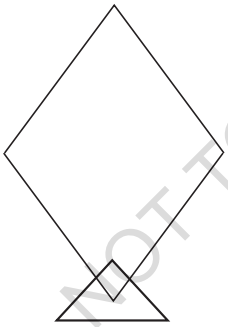
In the picture given below, colour the objects having straight edges with red, curved edges with green, both the types of edges with yellow.

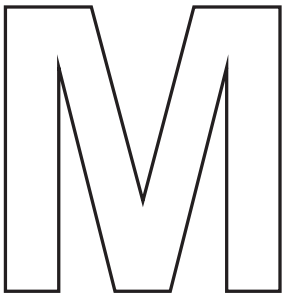


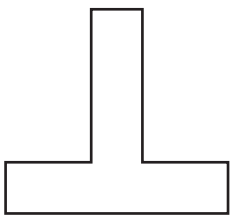


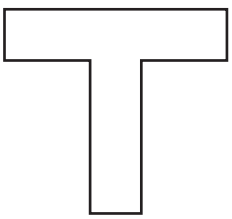










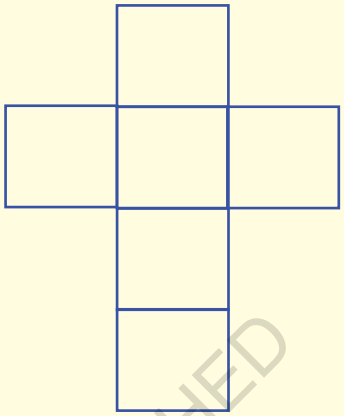


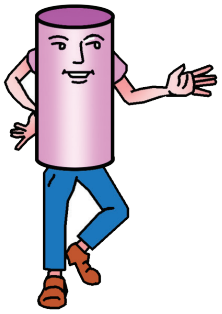
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How many faces do I have!



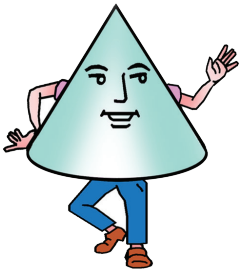




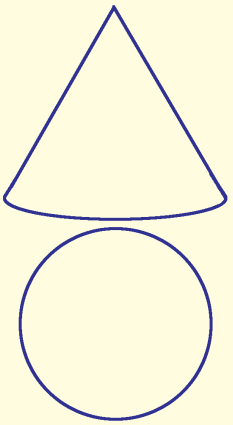












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With the help of solid figures their out line can be drawn.



Activity 1 :

* Take a few objects such as tumbler, funnel, match box, radish, etc.
* Keep each object on a paper and draw a line around the edge with a pencil.
* Name the object formed.
* Draw the shape of other objects also in the same way.

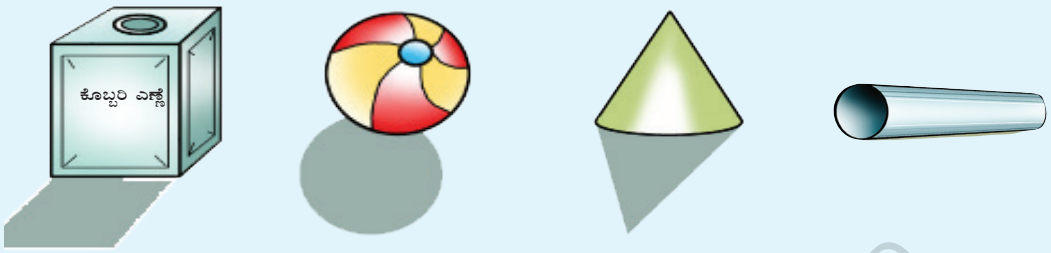
Activity 2 :

Find which objects can give a circular shape.

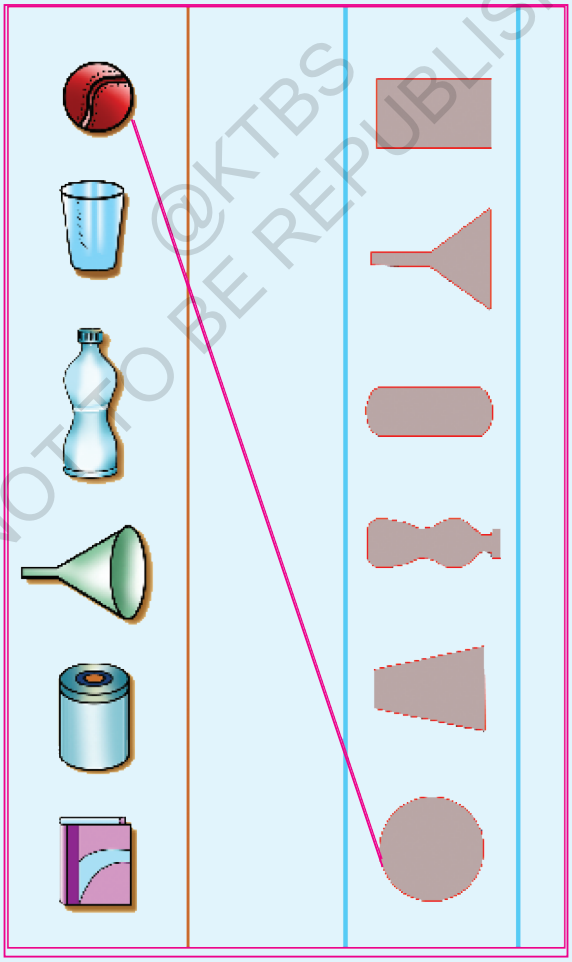
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To identify the shadows of solid figures.

Observe the shadows of solid figures :



Match the solids with their shadows with the help of a line:



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Lesson - 2

NUMBERS

G7P6U1

After studying this lesson you :

- read and write the numbers from 0 to 99.
- write the numbers in tens and units place (0-99).
- know the place value and face value of each numeral (digit) in a given number and compare.
- expand the given number and write short form of the expanded number.
- count the numbers in various ways.
- Know concepts of the before, between and after number, also the smallest and biggest number.
- arrange the numbers in ascending and descending order.
- form the greatest and smallest two digit number from the given numerals.
- identify and indicate the position of an object on a number line.

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Reading and Writing of Numbers from 0 to 99

Activity : *Prepare flash cards from 0 to 99, and arrange them in order.*

0	1	2	3	4	5	6	7	8	9	10
	11	12	13	14	15	16	17	18	19	20
	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-
	91	92	93	94	95	96	97	98	99	

• What is the number next to 19 ?	20
• What is the number next to 28 ?	
• What is the number next to 44 ?	
• What is the number next to 58 ?	
• What is the number next to 76 ?	
• What is the number next to 80 ?	
• What is the number next to 94 ?	

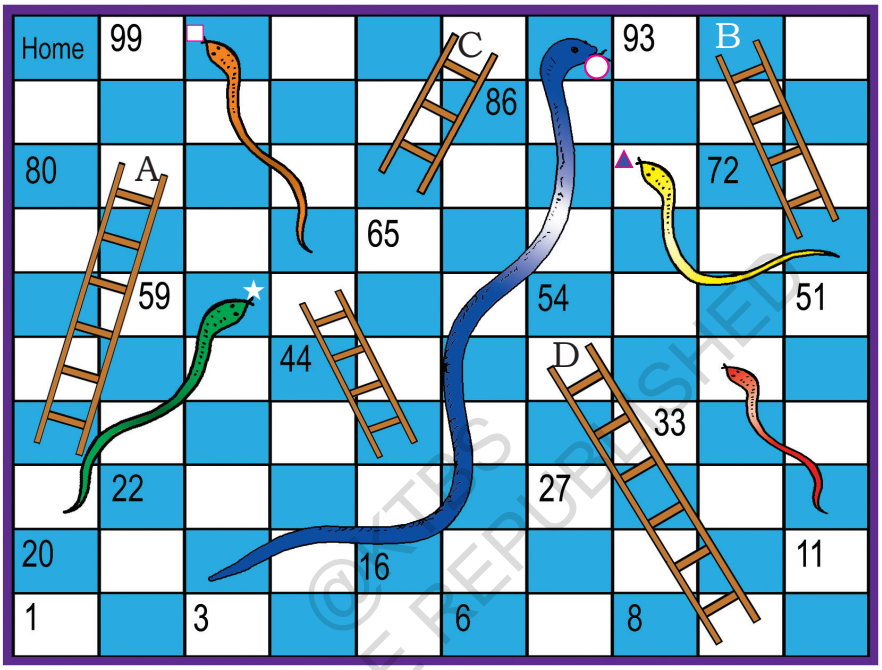
Fill in the blanks with correct number.

1)	19,	20,	,	,	23,	,	25
2)	34,	,	,	,	,	39,	,
3)	48,	49,	50,	,	,	,	54
4)	62,	,	,	65,	,	,	68
5)	77,	78,	,	,	,	,	83
6)	90,	,	,	,	,	,	,

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Activity: *Snake - ladder game.*

Here is a Snake and ladder board. Fill in the missing numbers.



Answer the following questions from the above Snake and ladder board.

1) A snake has its head on a square with fruit. Name the number of the square ?

_____

2) In which number box is the head of snake holding ☆ ?

_____

3) In which number box is the head of snake holding △?

_____

4) In which number box does the bottom of the ladder 'D' lie ?

_____

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5) In which number box does the top of the ladder 'A' lie ?

_____

6) In which box does the top of the ladder 'C' lies ?

_____

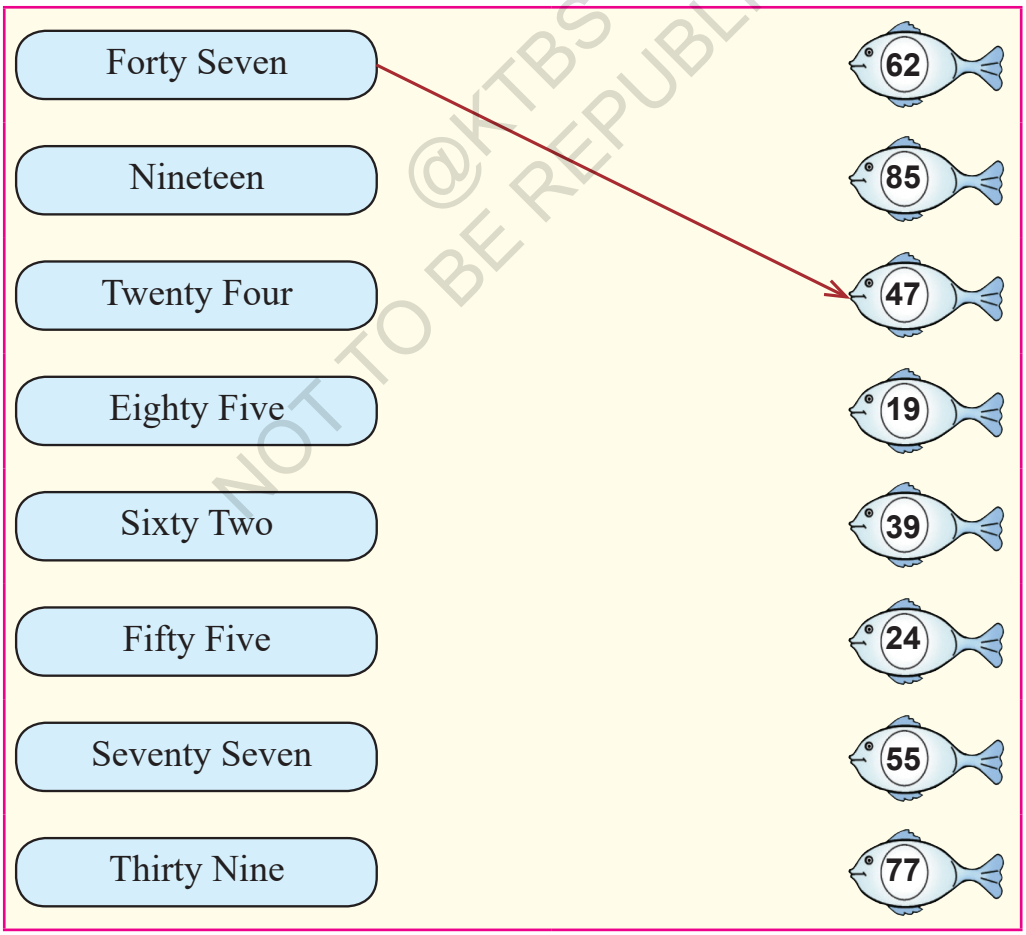
7) In which number box does the bottom of the ladder 'B' lies?

_____

8) Which is the last number from which you jump to your house ?

_____

Match the following by drawing lines :



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Write the following numbers in words :

Example : 31 = Thirty one

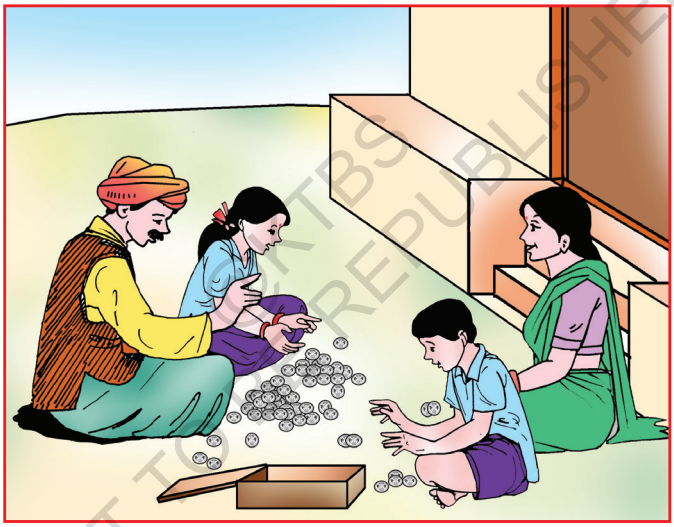
1) 79 = _____ 2) 69 = _____

3) 28 = _____ 4) 85 = _____

5) 34 = _____ 6) 53= _____

7) 29= _____ 8) 91 = _____

Grouping and counting the objects (0-99) :



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Activity :

Gowramma, mother of Ramu and Radha owns a telephone booth. She opens the coin box and collects all the coins in a bag.

Gowramma : Ramu, and Radha, count the number of coins in the box.

Ramu & Radha : Yes mother.

After some time.....

Gowramma : Did you finish counting ?

Ramu : Yes mother, there are 97 coins.

Radha : No mother, there are 98 coins.Ramu and Radha starts arguing each other.

Gowramma : Stop it! Both of you together count ten coins and make a pile. Again count 10 coins from the remaining and make another pile. Keep on doing until all coins are counted.

Ramu & Radha : We have arranged them mother.

Gowramma : Ok, Let me see.



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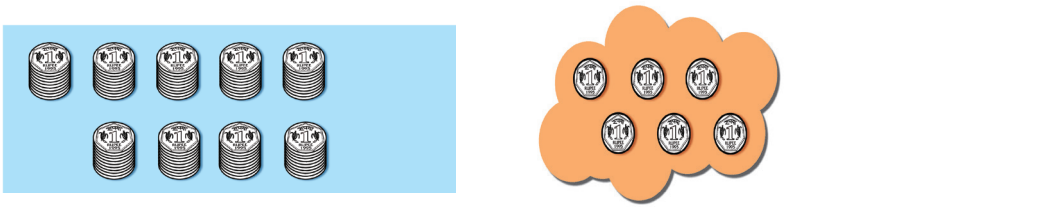
1. How many piles of 10 coins are there ?

   9

2. How many coins are left ?

   6

Gowramma : There are 9 piles containing 10 one rupee coins and 6 coins are left



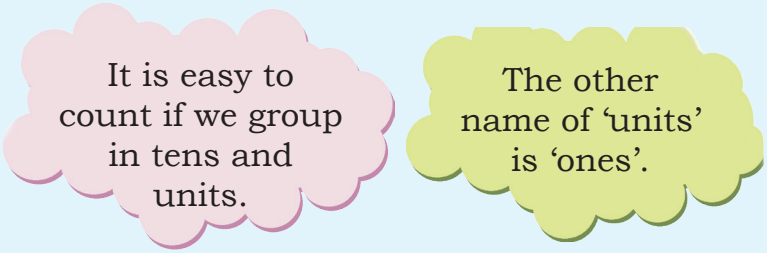
9 Tens

6 Units

96

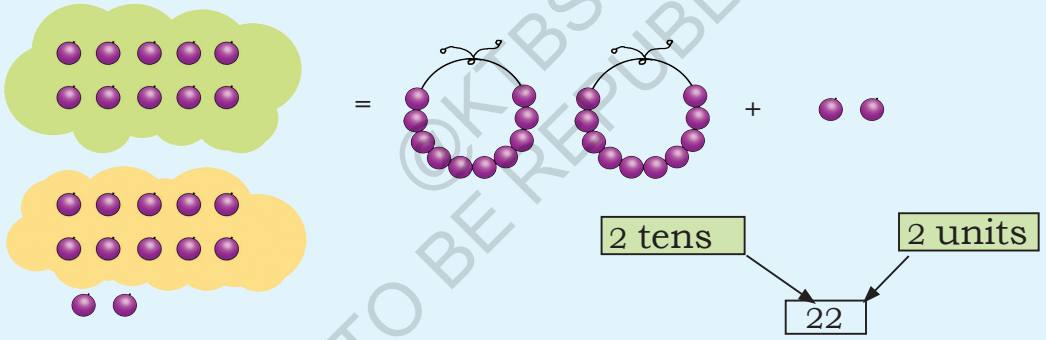
There are 96 one rupee coins in total.

Since Ramu and Radha did not count the coins by grouping both of them made mistakes.

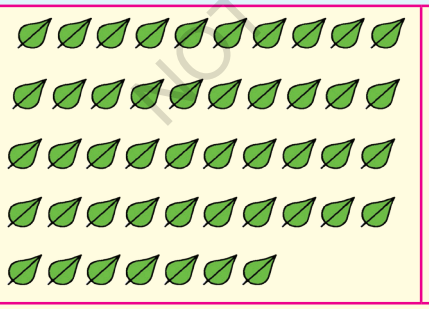


Group the given objects into tens and units and fill in the boxes :

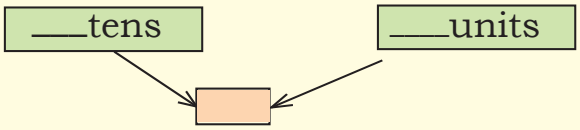
Example :



1)

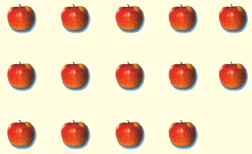






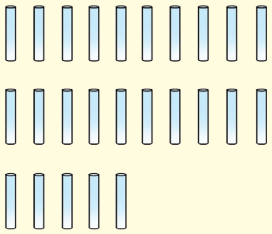
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2)



=

3)



=

4)



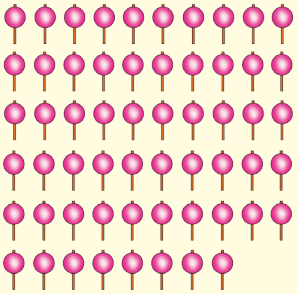
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5)



=

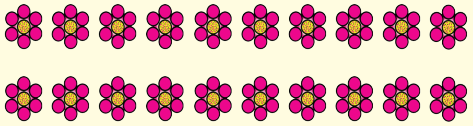
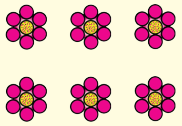
6)



=

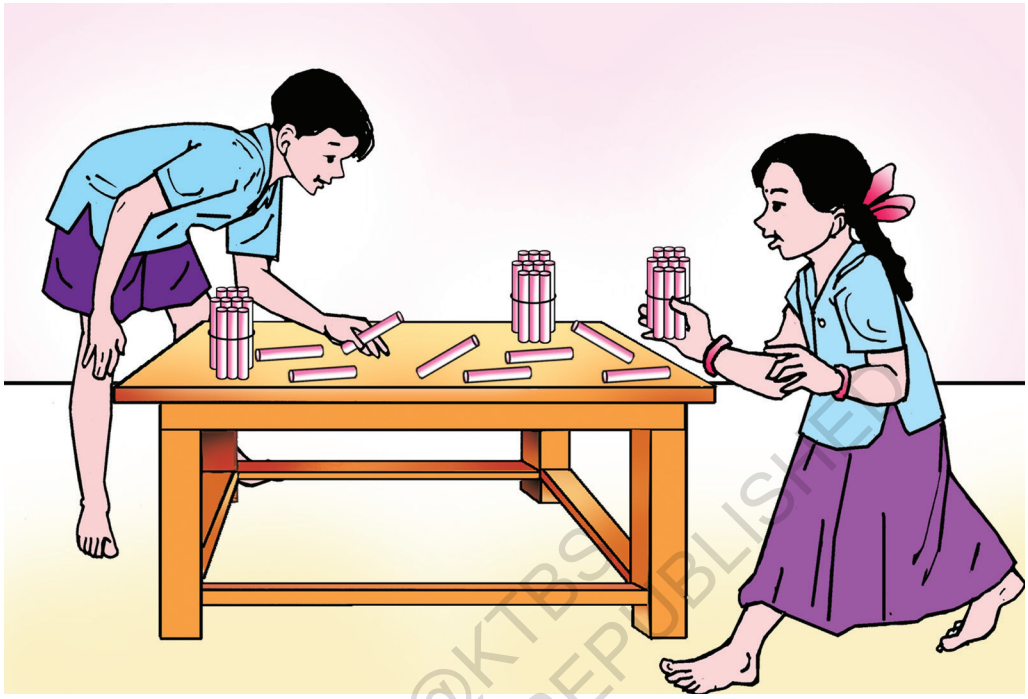
@KTBS
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Draw the number of objects for the given numbers in groups of tens and units as shown in the example.

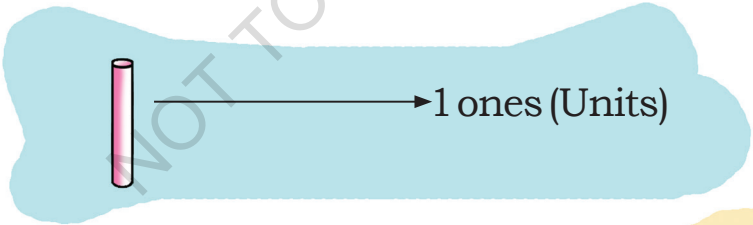
Example :	26 = 		+	
1)	19 = 		+	
2)	44 = 		+	
3)	39 = 		+	
4)	23 = 		+	
5)	50 = 		+	

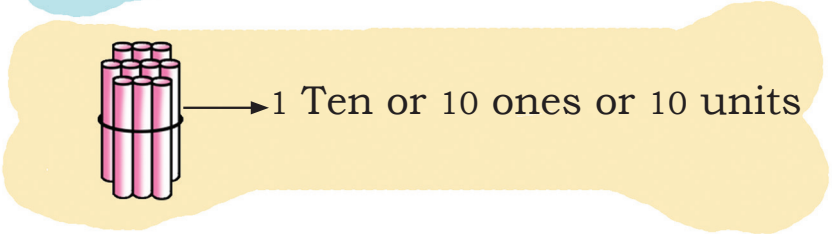
@KTBS NOT TO BE REPUBLISHED

Writing the numerals in tens and units place (0 - 99)



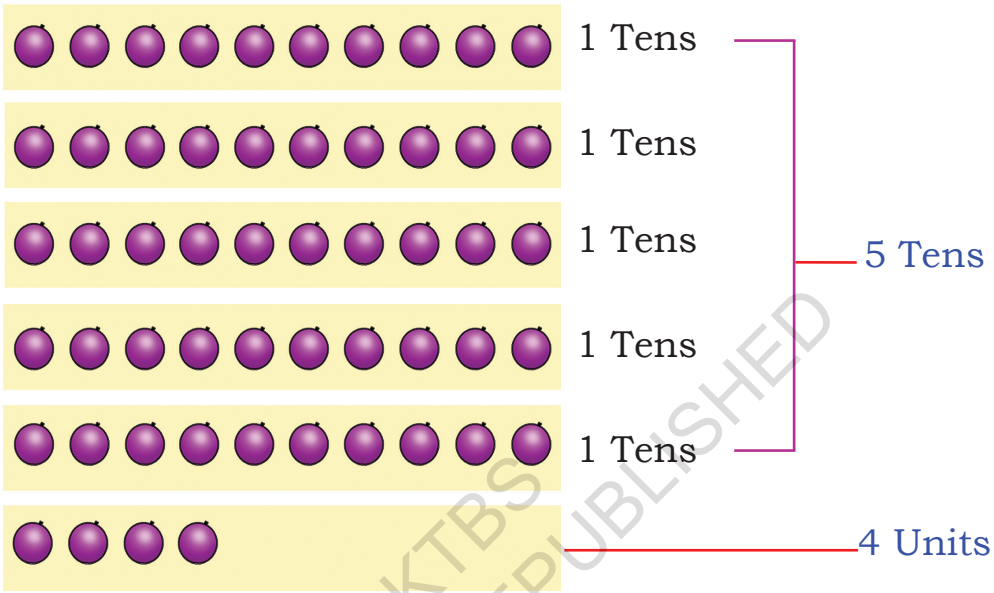
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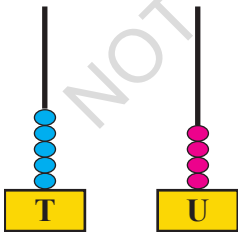
Count on Abacus

Here are some beads. Group them into tens and units.



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Here is a wooden base with two rods fixed on it. It is labelled 'U' for units rod and 'T' for tens rod. Place the above grouped numbers in their places.



Place Value Chart

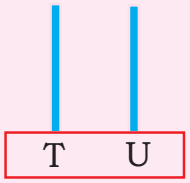
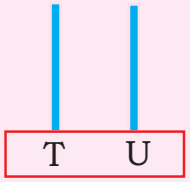
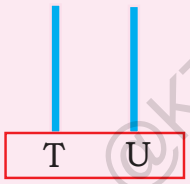
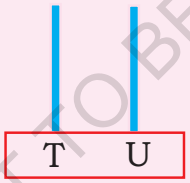
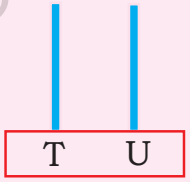
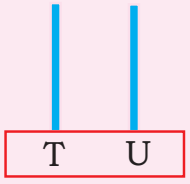
T	U
5	4

5 Tens and 4 units

The number can be written as **54**.

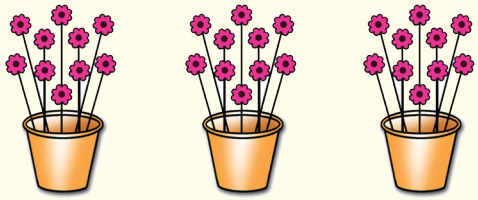
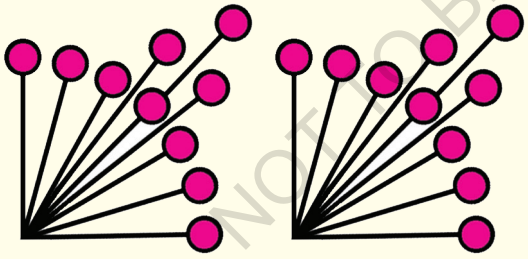
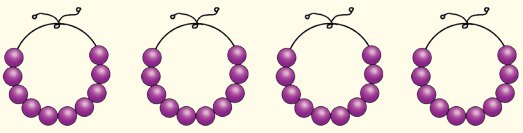
Read as Fifty four.

Draw the beads on the abacus to express the given number and write in the place value chart.

1)	47		T U
2)	59		T U
3)	77		T U
4)	86		T U
5)	65		T U
6)	99		T U

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Match the following objects with the suitable place value chart by drawing line.

'A'		'B'
Tens	**Units**	
		T U 4 5
		T U 3 4
		T U 4 8
		T U 2 0

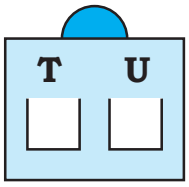
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Place Value and Face Value (0-99)

Activity

Prepare two sets of flash cards from 0 to 9 and a chart to place the cards as shown.

0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9

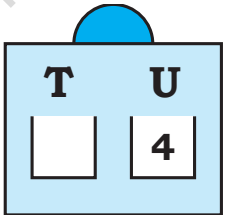


1) Take a card say [4], place it in the units place in the chart.

Now 4 is in the units place.

It represents four ones.

The place value of 4 is four

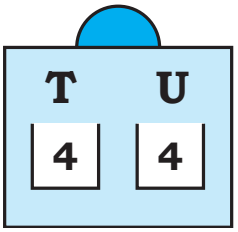


2) Take another card say [4]. Place it in ten's place in the chart.

Now 4 is in the tens place.

It represents four tens.

The place value of 4 is forty.



The card [4] used in the two places is same. This value on the card is called face value. When the card is placed in units place, its place value is 4 and the same card when placed in the tens place, takes the value of tens. Hence its place value is 4 tens or forty.

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Face Value

T	U
4	4

4 Tens (Place Value)

4 Ones (Place Value)

Note : The numbers can be expanded as per the place value as shown.

Example : 46 = 4 tens and 6 units.

= 40 + 6

Place Value

T	U
2	8

20 8

T	U
9	9

90 9

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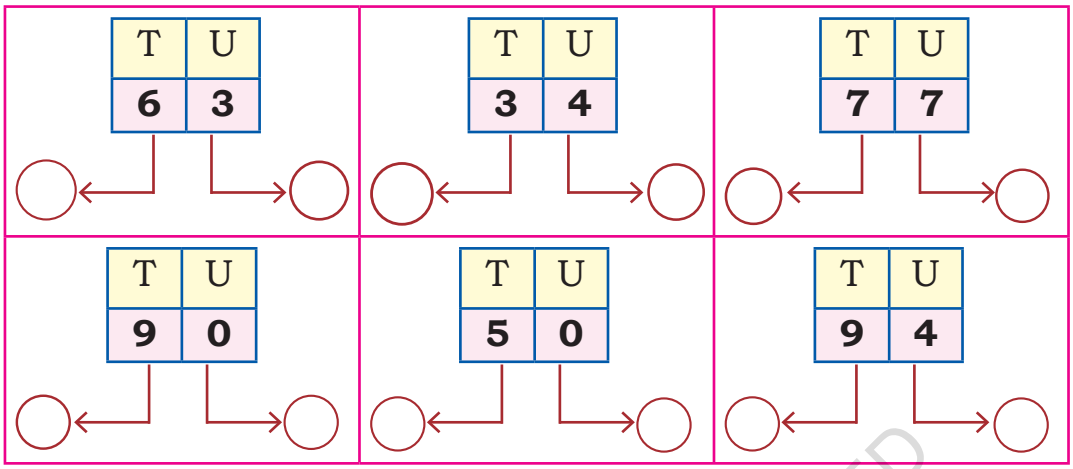
Note : The number in units place has the same face value and place value.

Write the place value of the numbers in the given circles :

Example :

T	U
4	9

40 9



Write the place value and face value of the encircled digit in each number given below :

Numbers	Place value	Face value
Example ⑤4	**50**	**5**
⑦6		
9③		
4④		
9⑧		
③5		
4⑨		
⑥8		
⑤5		

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Write the place value of the red coloured digits :

Example :

9 5 ⟶ **9 0**

5 9 ⟶

4 6 ⟶

5 4 ⟶

9 6 ⟶

1 6 ⟶ **6**

8 7 ⟶

7 7 ⟶

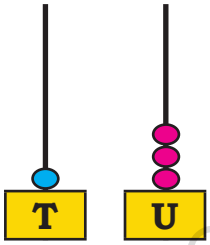
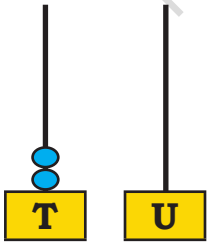
5 6 ⟶

1 4 ⟶

You can also show tens and units on an abacus.

Abacus has two sticks, one for tens and the other for units.

Look at these pictures.

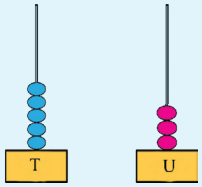
	1 bead in tens place is one ten. 3 beads in units place is three units. 1 ten and 3 units is written as 13. It is read as thirteen.
	2 beads in tens place is two tens. 0 bead in units place is Zero units. 2 tens and 0 unit is written as 20. It is read as twenty.

Note : Use abacus to do this activity.

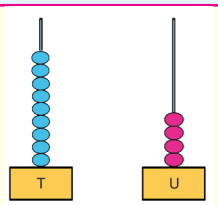
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Write the place value of :

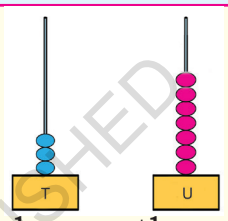
Example :



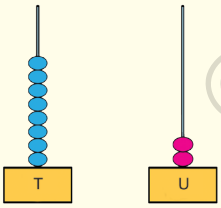
In the abacus the place value of 3 is 3 and the place value of 5 is 50

1) 

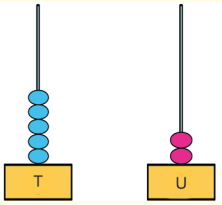
In the abacus the place value of 9 is _____

2) 

In the abacus the place value of 7 is _____

3) 

In the abacus the place value of 8 is _____

4) 

In the abacus the place value of 2 is _____

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Write the place value in the given boxes:

Example : The place value of 7 in 76 is **70**

1)	5 in 59			5)	1 in 13	
2)	3 in 63			6)	9 in 96	
3)	9 in 89			7)	2 in 24	
4)	8 in 18			8)	4 in 49	

Fill in the boxes as shown in the example :

Example : 17 = 1 ten and 7 units.

1) 28 = ☐ tens and ☐ units.

2) 99 = ☐ tens and ☐ units.

3) 62 = ☐ tens and ☐ units.

4) 34 = ☐ tens and ☐ units.

5) 19 = ☐ tens and ☐ units.

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Fill in the blanks :

Example : There are 2 tens in 25.

1) There are _____ units in 37.

2) There are _____ tens in 53.

3) There are _____ tens in 69.

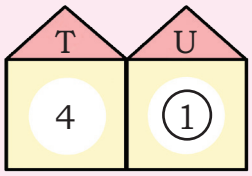
4) There are _____ units in 99.

5) There are _____tens and ____ units in 96.

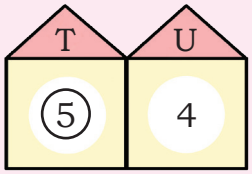
6) There are _____tens and____ units in 66.

Write the place value of the numbers encircled :

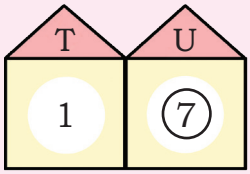
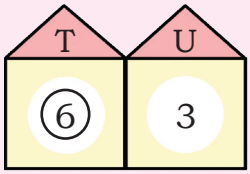
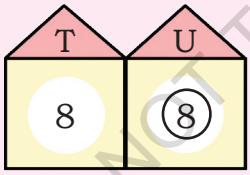
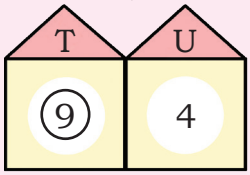
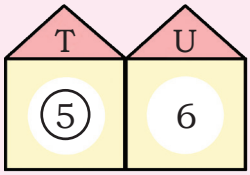
Example :



1 unit = 1



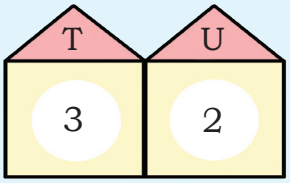
5 tens = 50

1)		7 units = _____
2)		6 _____ = _____
3)		8 _____ = _____
4)		9 _____ = _____
5)		5 _____ = _____

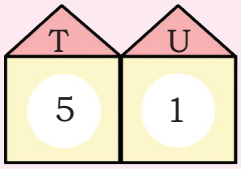
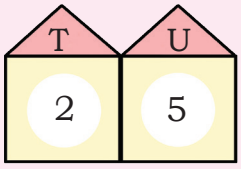
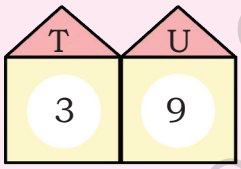
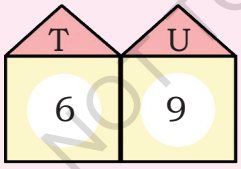
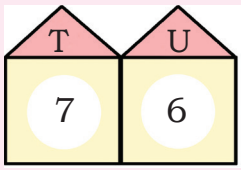
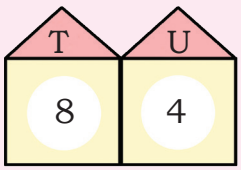
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Write in the expanded form :

Example :



= 30 + 2

1)		= _____
2)		= _____
3)		= _____
4)		= _____
5)		= _____
6)		= _____

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Write in Short form

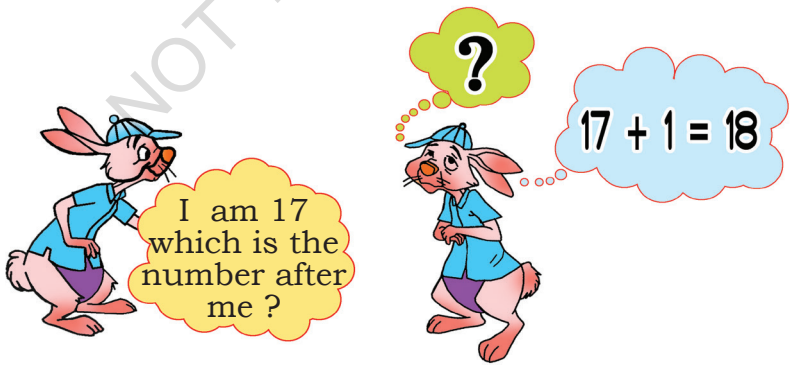
1)	***Example*** 10 + 1 = 11	5)	70 + 9 = _____
2)	20 + 6 = _____	6)	80 + 8 = _____
3)	40 + 3 = _____	7)	90 + 2 = _____
4)	50 + 7 = _____	8)	90 + 5 = _____

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Before and After numbers :

After number :

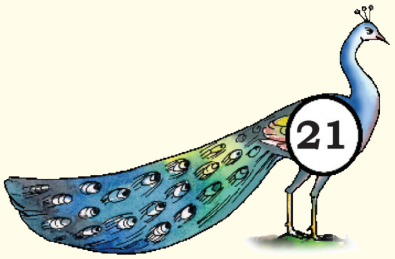
Example 1 :



The number after 17 is 18.

To get the after number, add one to the given number.

Example 2 :



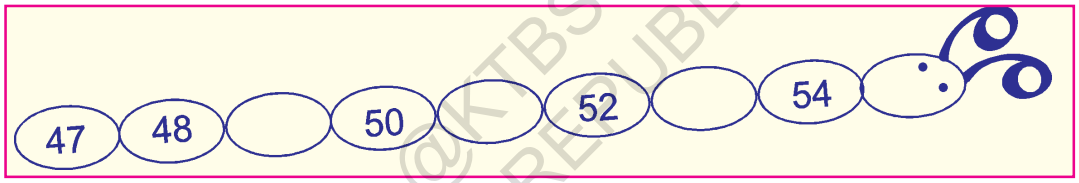
I am 21. Write numbers after me in order.

To get the after numbers of a given number, go on adding 1 in order.



Example 3 :

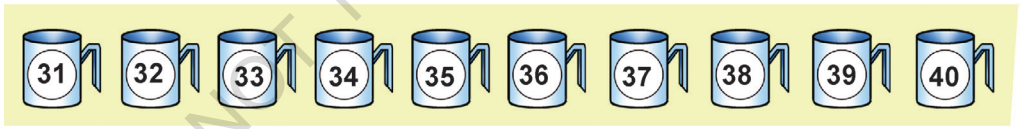
Complete, the blanks with the numbers 47 to 54 in order.



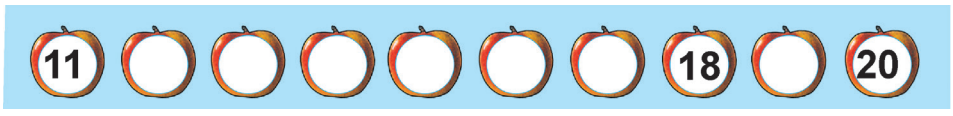
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Write the after numbers

Example 4 :



1)



2)



3) 21 ☐ 23 ☐ ☐ ☐ ☐ ☐ 29 30

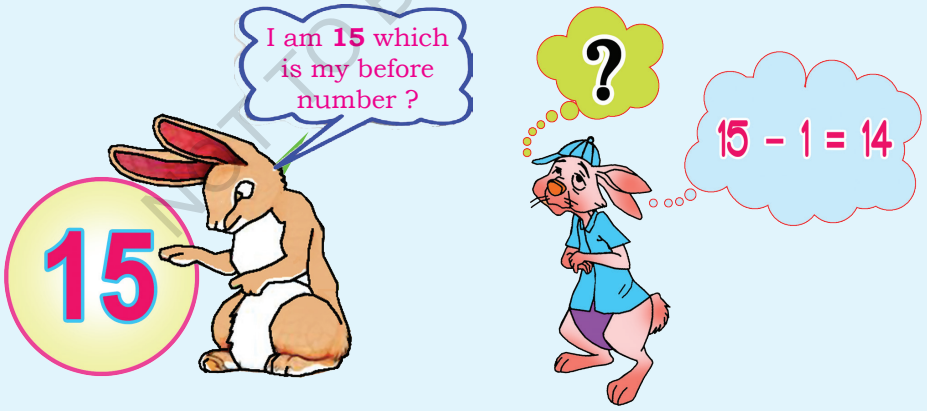
4) 51 52 ○ ○ ○ ○ 57 ○ ○ ○

5) 91 ☐ ☐ 94 ☐ ☐ ☐ ☐ 99

6) 61 62 ○ ○ ○ ○ ○ ○ ○ ○

Before number

Example 1:

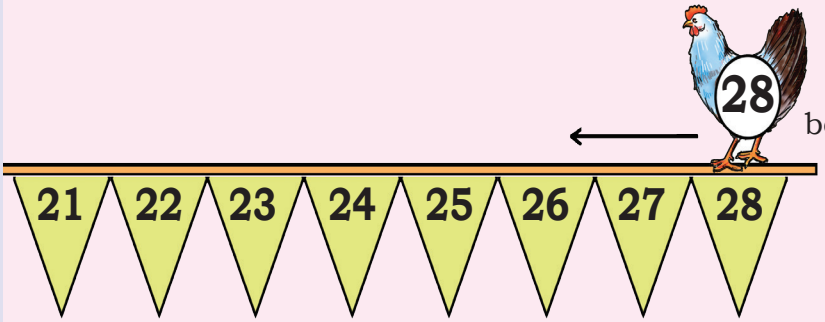


The number before 15 is 14.

To get the before number, subtract 1 from it.

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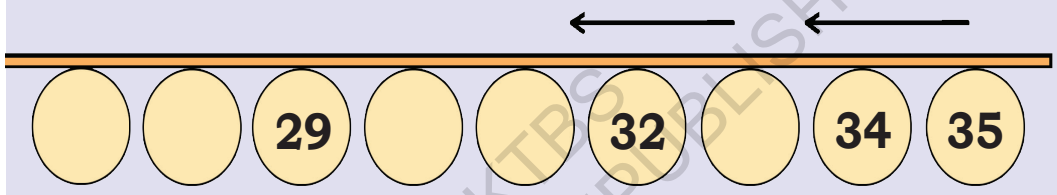
Example 2:



I am 28
observe my
before numbers
in order.

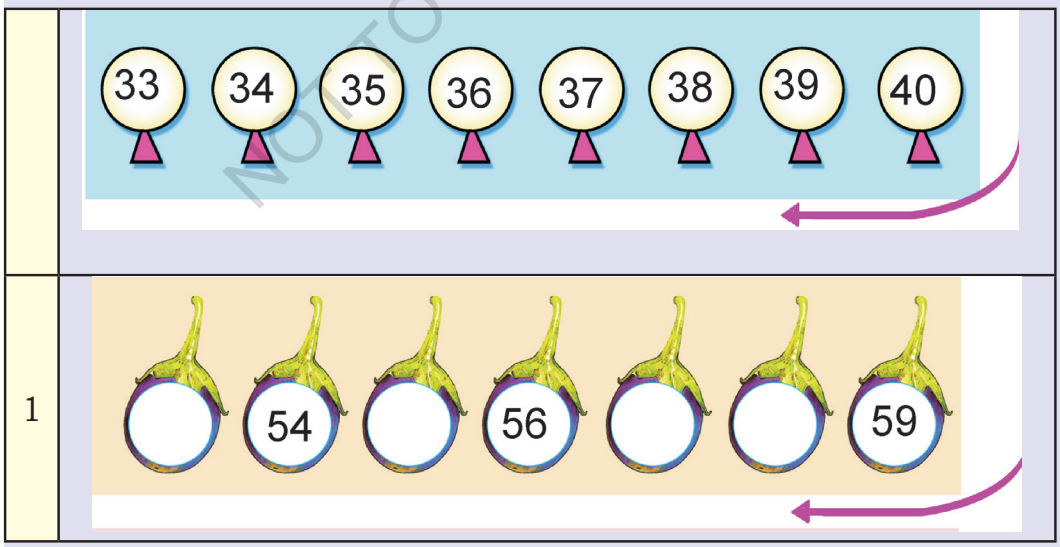
Example 3:

Fill in the missing numbers.

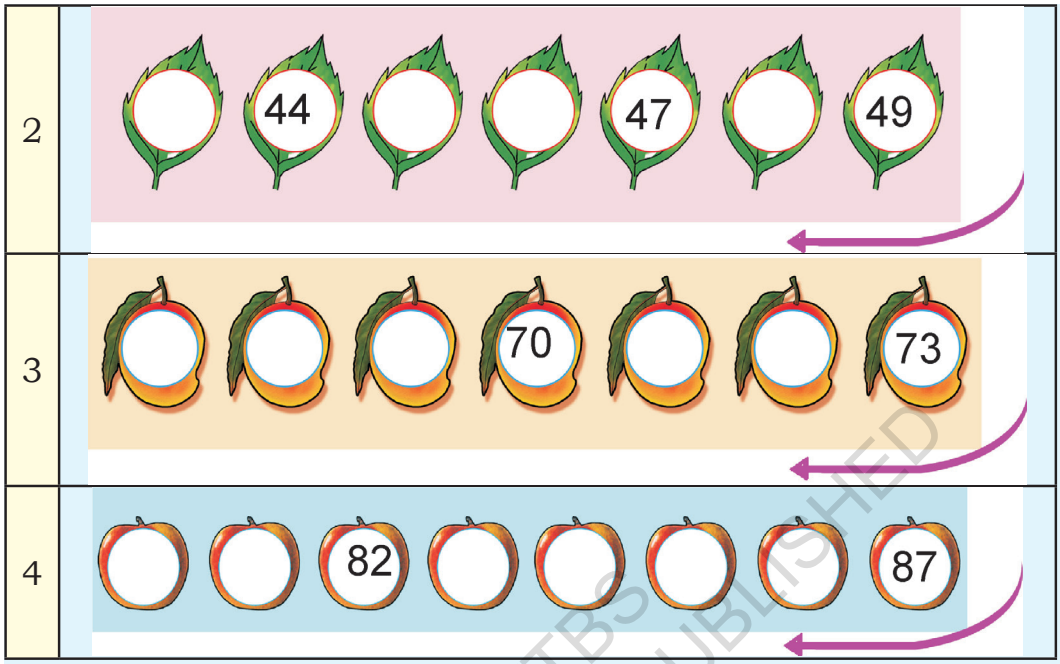


Write the missing number in the following pictures (Follow the arrow and proceed).

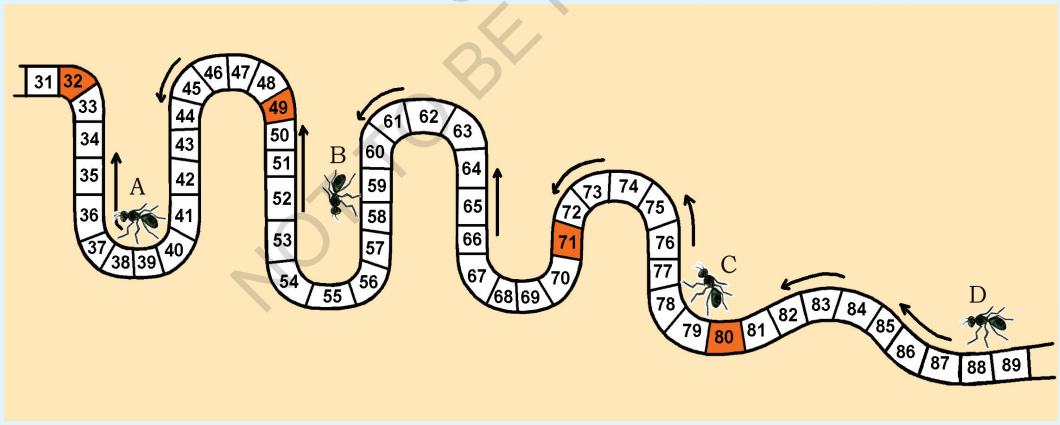
Example 4:



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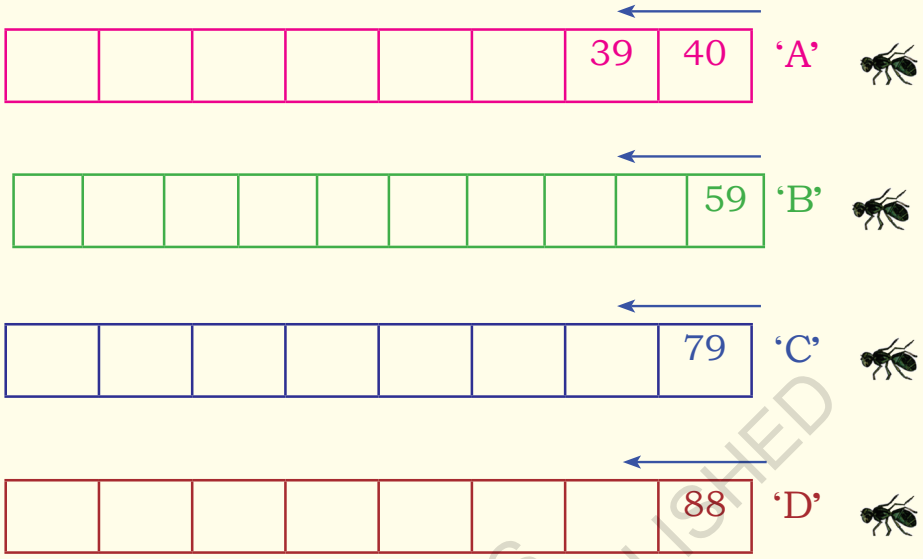


Walk with me



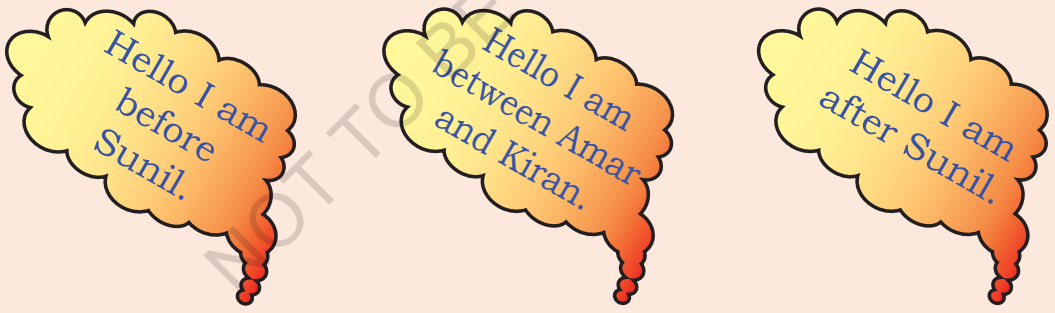
A, B, C and D are ants, they move according to the arrow mark . They move till they reach the red colour house. Write the numbers that ants pass by, as they move.

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Before, after and between numbers:





Now let us know more :

30 31 32



The number which comes to the right to given number is after number and which comes to the left is before number.

1) Which number comes before 31 ?

   30

2) Which number comes before 32?

   31

3) Which number comes after 31 ?

   32

4) Which number comes after 30 ?

   31

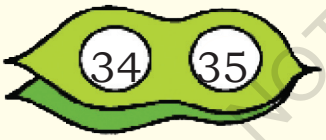
5) Which number comes between 30 and 32 ?

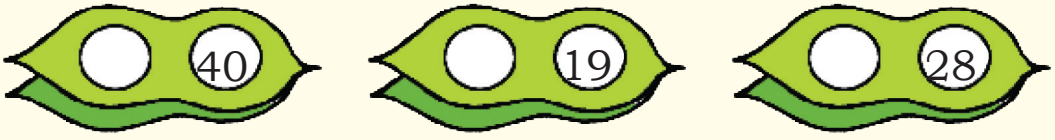
   31

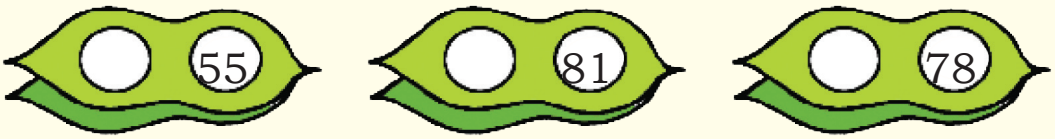
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Write what number comes just before the given number:

Example 5:

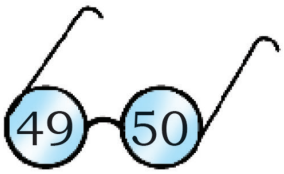


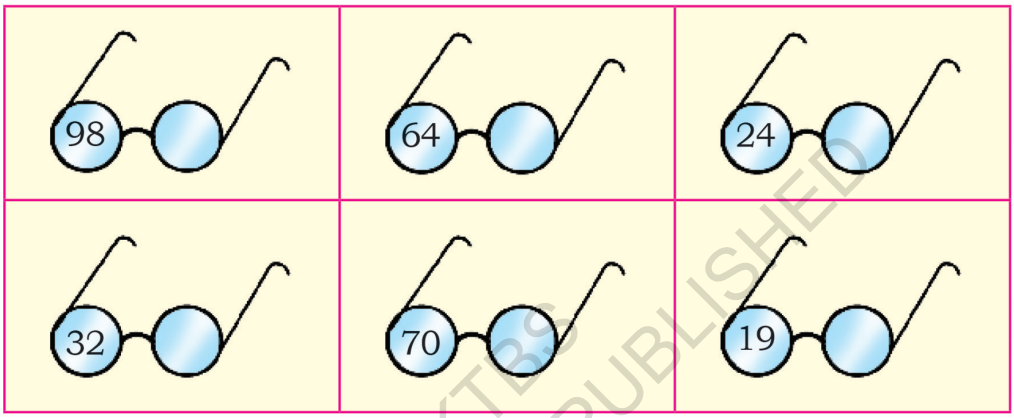




Write the number that comes after the given number :

Example 6:





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Fill in the blanks :

1) 78 comes before .....

2) The number between 6 and 8 is .....

3) 98 comes after .....

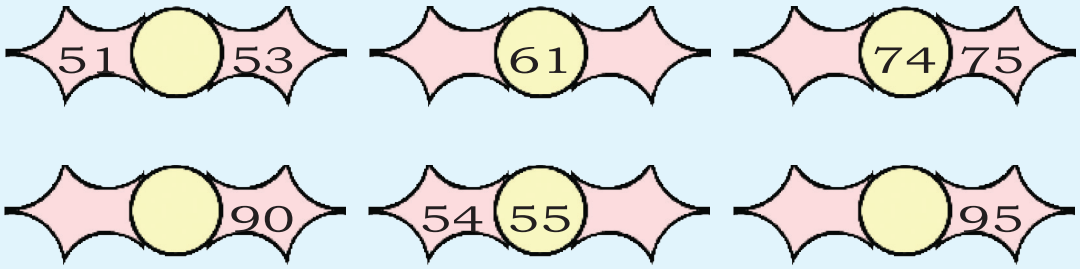
4) 50 comes after .....

5) 36 comes before .....

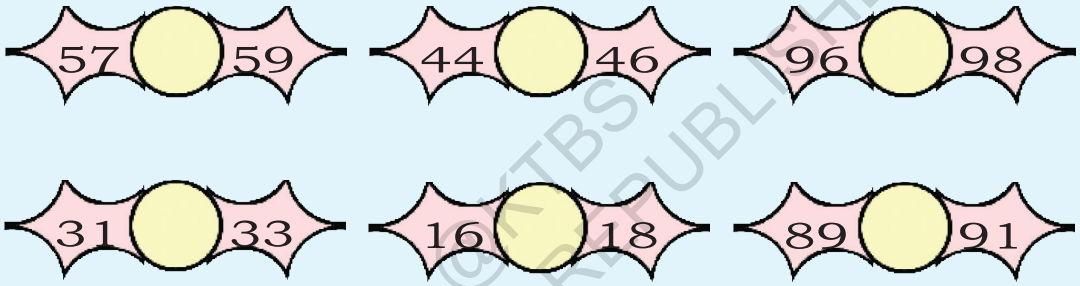
6) 48 is in between ..... and .....

7) 39 comes before .....

Write the Suitable missing number :



Write the missing middle number :



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Write the number that comes after the given number :

10		21		52	
63		79		98	

Write the number that comes before the given number:

	11		37		29
	64		78		96

Complete this exercise :

Write the before number	Write the between number	Write the after number
_____, 16	13, _____, 15	19, _____
_____, 25	48, _____, 50	26, _____
_____, 38	59, _____, 61	35, _____
_____, 51	86, _____, 88	66, _____
_____, 69	41, _____, 43	71, _____
_____, 74	95, _____, 97	90, _____

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The Big and Small numbers.

Example 1:



Observe the birds on the trees.

* How many birds are there on the first tree ?

  10

* How many birds are there on the second tree ?

  6

* Which tree has more number of birds ?

  First tree.

* In 10 and 6, 10 is the bigger number, 6 is the smaller number.

Example 2 :

Count the number of leaves and write below. Circle the bigger number and tick the smaller number.





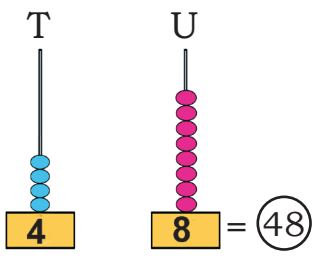
3 ✓

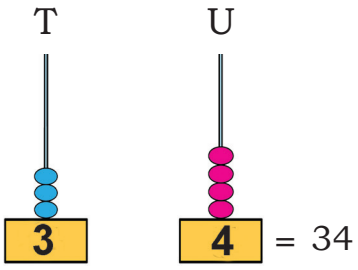
(6)

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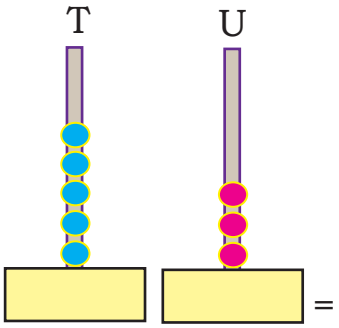
Count the beads on abacus, write the number below. Encircle the big number :

Example :

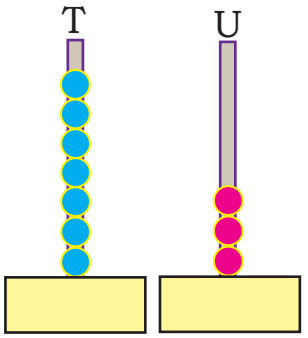




1)

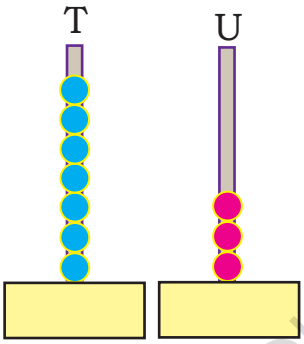


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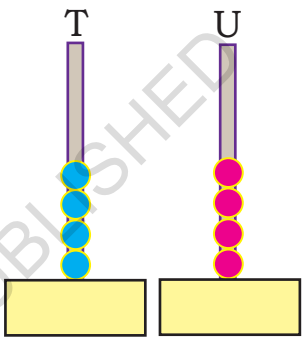


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2)

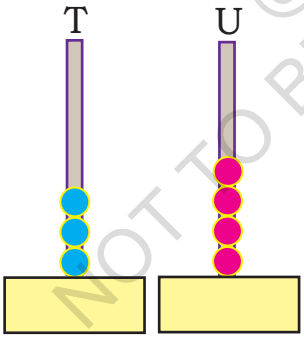


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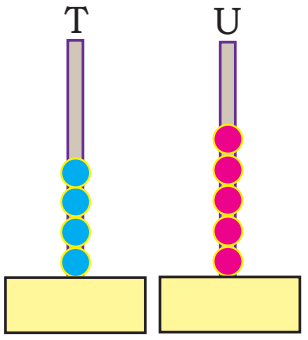


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3)

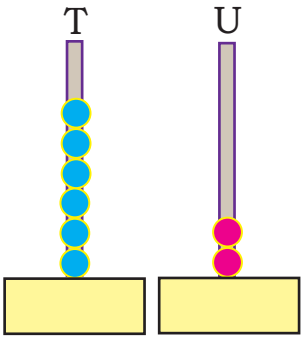


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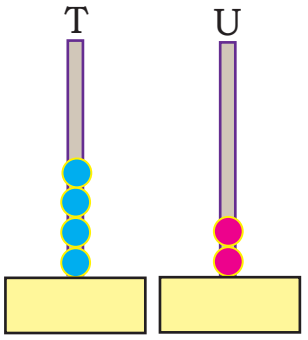


=

4)



=



=

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Count the beads on abacus, Write the number below and circle the small number:

Example :



1)



2)



3)



4)



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Write the small number in a box from given two numbers:

Example : 94, 99, **94**

1)	16, 18		4)	56, 59	
2)	71, 78		5)	36, 38	
3)	29, 25		6)	46, 36	

Circle the small number in the box:

Example : (49) 52

64 69	35 36	19 17
84 82	76 80	55 44

Circle the big number in the box:

Example : 59 (63)

44 33	15 19	17 19
36 32	71 69	40 50

Write the bigger number in the box from given two numbers:

Example : 43. 54, 54

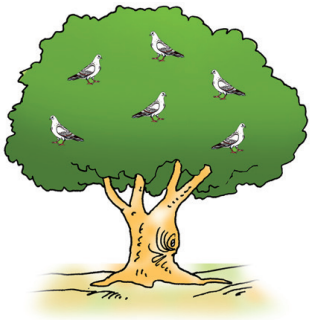
1)	31, 36		3)	56, 93	
2)	98, 58		4)	69, 78	

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The biggest and the smallest numbers.

Activity:

Observe the birds on the tree.



1st Tree



2nd Tree



3rd Tree

How many birds are there in each tree ?

6	10	4

* Which tree has less number of birds ?

  Third tree.

* How many birds are there in the third tree ?

  4

* Which tree has more number of birds ? How many?

  Second tree, it is ten.

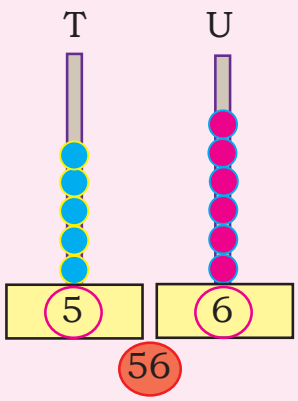
* Among 6, 10 and 4, 10 is the biggest and 4 is the smallest number.

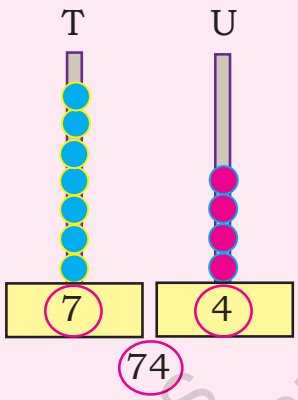
Note : Two digit number is bigger than any single digit number.

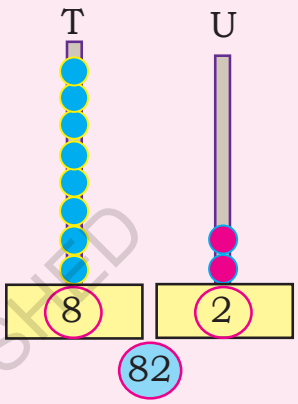
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Count the beads on the abacus and write the number below. Colour the biggest number with blue colour and small with red colour.

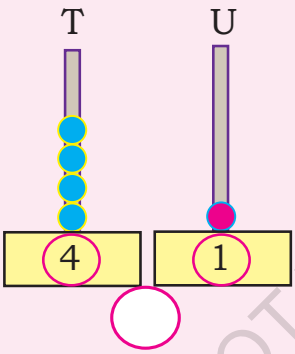
Example :

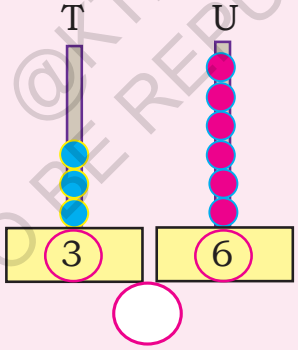


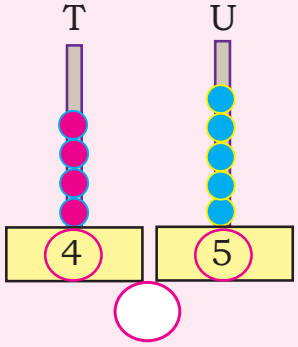




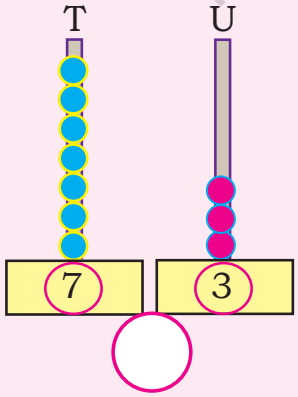
1)

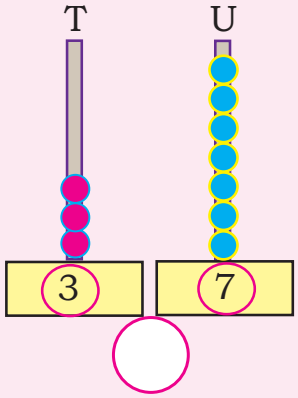


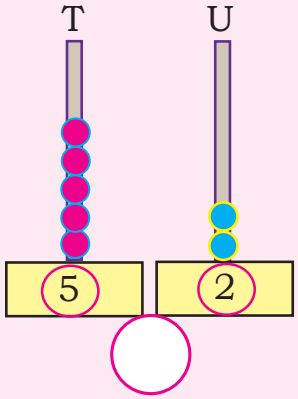




2)

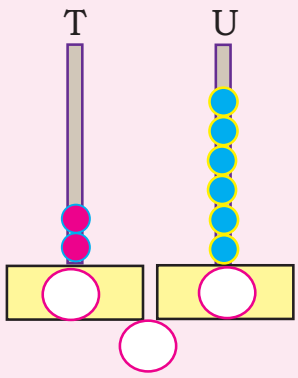


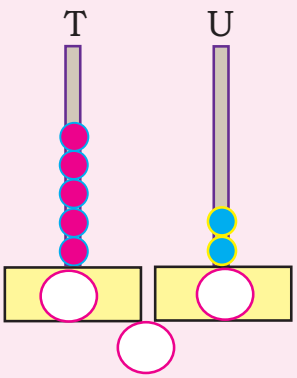


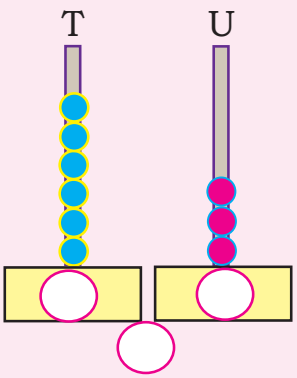


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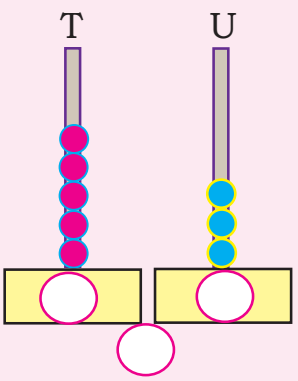
3)

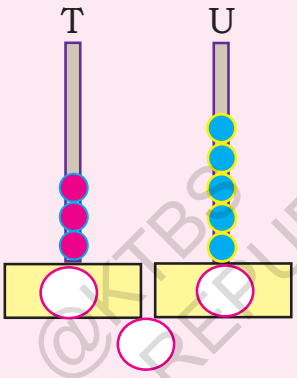


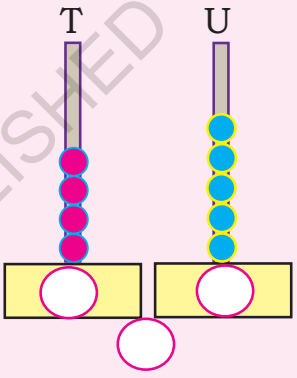




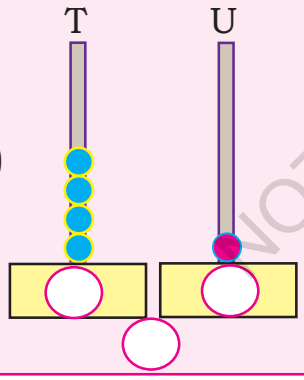
4)

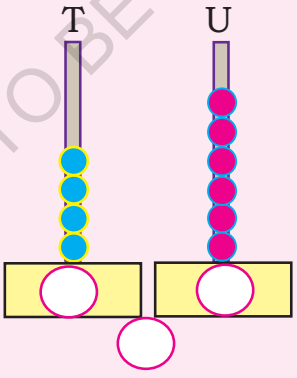


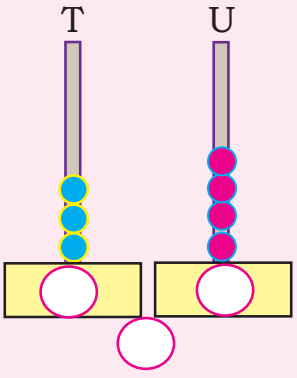




5)





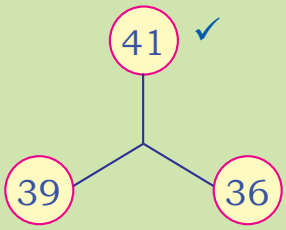


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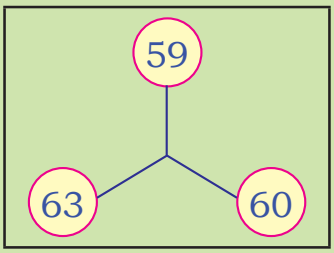
Note : In the given two numbers, to find out the bigger number first compare the numbers in tens place. Big number in the tens place is the bigger number among two numbers. If the numbers in tens place are equal then compare the numbers in the unit place.

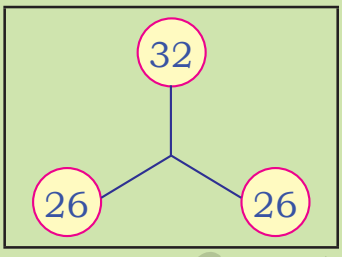
Tick the biggest number in the given figures.

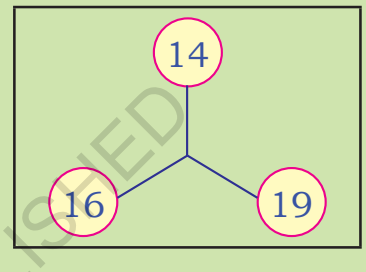
Example :

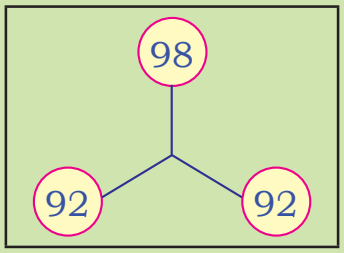


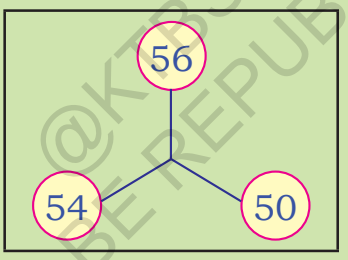
✓

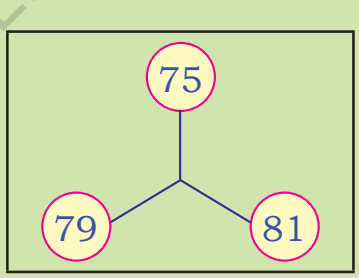












Circle the smallest number in the given numbers :

Example : 35, 46, (28)

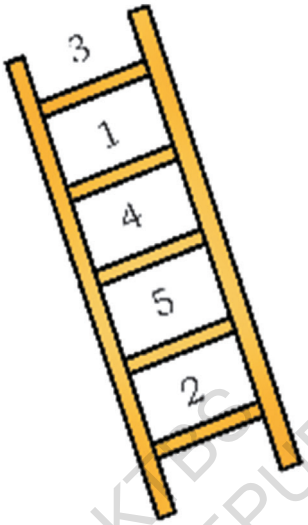
51, 39, 48	16, 19, 21	74, 71, 78
76, 86, 56	91, 94, 99	45, 49, 41

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Ascending and Descending order

Ascending order

Activity : *Here is a ladder with different numbers.*



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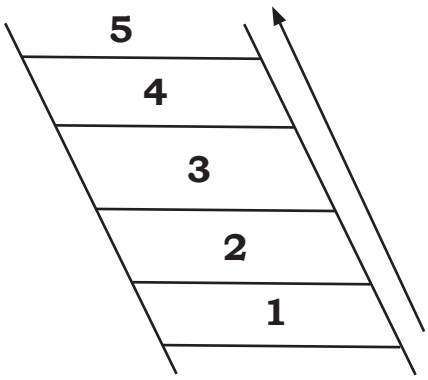
* Which is the smallest number on the ladder ?

1. Colour it with blue

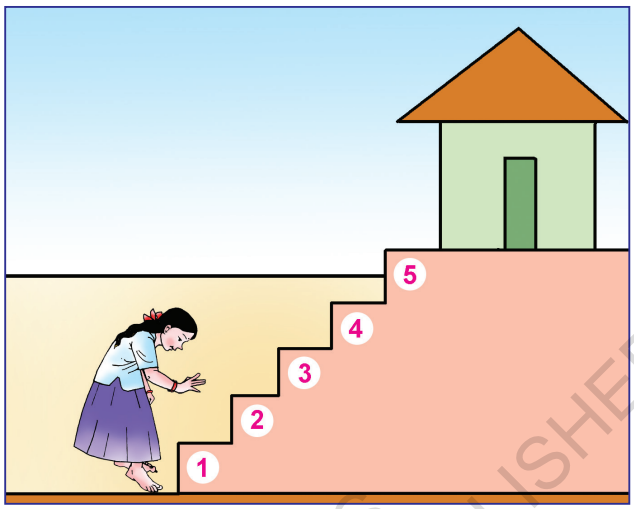
* Which is the biggest number on the ladder ?

5. Colour it with red

Now let us rearrange the numbers on the ladder in ascending order from bottom to top.



In this way arranging numbers from small to big is called Ascending order.



Going up is ascending order.

Arrange the numbers in ascending order:

Example : Arrange **2, 42, 12, 22** in ascending order.

Identify the smallest number and write it in the first box

→ [2] [ ] [ ] [ ]

Identify the smallest number in the remaining numbers and write it in the second box

→ [2] [12] [ ] [ ]

In the remaining two numbers, identify the smallest number and write it in the third box.

→ [2] [12] [22] [ ]

Write the only remaining number in the last box. This will be the largest of the given numbers.

→ [2] [12] [22] [42]

Ascending Order = 2, 12, 22, 42

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1) Arrange 40,80, 60, 20, in ascending order.

Ascending order = _____ _____ _____ _____

2) Arrange 75, 45, 55, 65 in ascending order.

Ascending order = _____ _____ _____ _____

3) Arrange 13, 7, 77, 96 in ascending order.

Ascending order = _____ _____ _____ _____

Arrange these numbers in the ascending order :

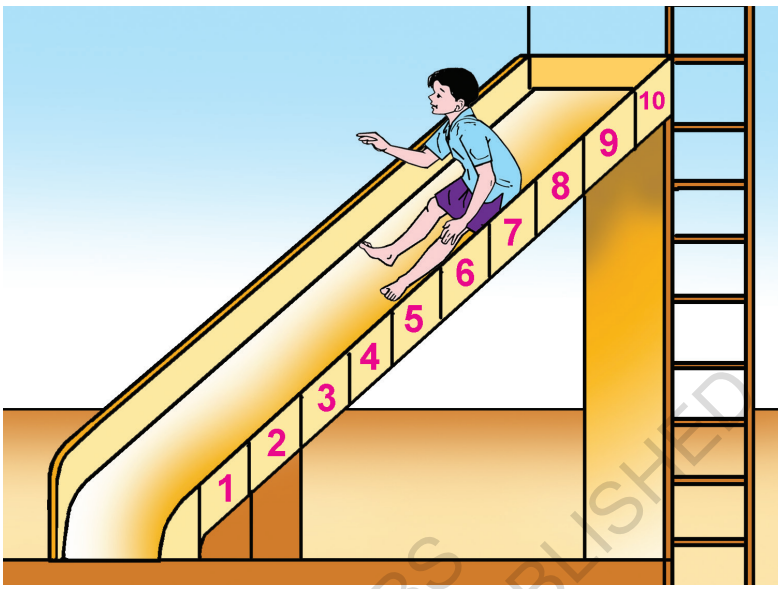
Example : **15, 19, 14, 10 → 10, 14, 15, 19**

1)	61, 52, 59, 46	=	
2)	82, 85, 83, 80	=	
3)	76, 74, 72, 68	=	
4)	18, 38, 28, 48	=	
5)	44, 48, 52, 32	=	
6)	13, 31, 51, 91	=	

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Ascending order: *Arrangement of numbers from small to big, from left to right or from bottom to top.*

Descending order :



Going down is called descending order

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Arrange the numbers in descending order.

Example : Arrange **51, 48, 36, 40** in descending order

* Identify the biggest number in the given numbers and write in the first box. → [51] [ ] [ ] [ ]

* Identify the biggest number among the remaining numbers and write in the second box.

→ [51] [48] [ ] [ ]

* Out of the remaining two numbers, write the biggest number in the third box → [51] [48] [40] [ ]

* Write the remaining number in the last box. This will be the smallest of the given numbers.

→ [51] [48] [40] [36]

Descending order = 51, 48, 40, 36

1) Arrange 42, 6, 48, 18 in descending order

Descending order = _____ _____ _____ _____

2) Arrange 28, 9, 16, 35 in descending order

Descending order = _____ _____ _____ _____

3) Arrange 96, 82, 8, 75 in descending order

Descending order = _____ _____ _____ _____

Arrange these numbers in descending order :

Example : **54, 96, 32, 98 → 98, 96, 54, 32**

1)	42, 48, 56, 38	=				
2)	62, 69, 63, 60	=				
3)	96, 46, 26, 76	=				
4)	55, 75, 35, 95	=				
5)	11, 7, 15, 6	=				
6)	38, 46, 82, 78	=				

Descending order : *Arrangement of numbers from big to small, from left to right or from top to bottom.*

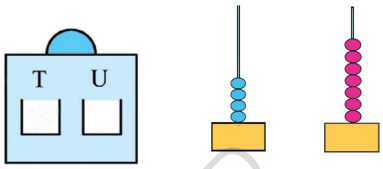
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To form numbers from given digits.

To form the biggest and smallest two digit numbers from the given 2 digits.

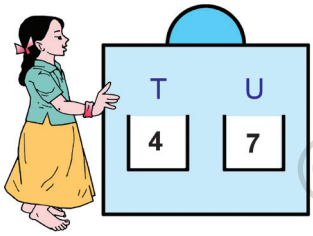
Example 1 :

❊ Here are two number flash cards and place value chart. 4 7

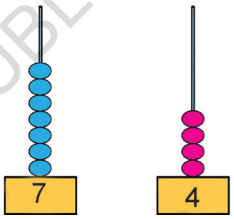


❊ Which are the two digit numbers that can be formed by placing these number flash cards in the place value chart ?

1)



2)



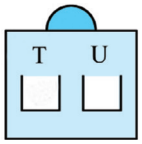
❊ Which is bigger among 47 & 74? 74

❊ Which is the smaller number out of 47 and 74 ? 47

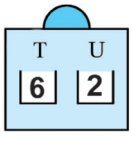
Example 2 :

1) Form the biggest possible two digit number using 2 and 6.

❊ Which is the bigger number out of 2 and 6 ? place it in the bigger place of the place value chart.



❊ Place the other flash card in the unit place of the place value chart.

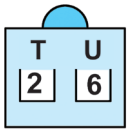


❊ So, the biggest possible two digit number that can be formed using 2 and 6 is 62.

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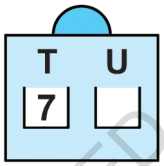
2) Form the smallest possible two digit number using 2 and 6

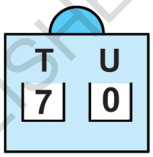
- Out of 2 and 6 smaller number is 2.
- Place this in the tens place of the place value chart.
- Place the other number in the units place.
- So, the smallest possible two digit number that can be formed using 2 and 6 is 26.



Example 3:

Which is the biggest two digit number that can be formed using 0 and 7 ?





- Identify the bigger number out of 0 and 7 and place it in the tens place in the place value chart.
- Place the remaining number in the units place.
- 70 is the biggest possible two digit number that can be formed using 0 and 7.

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Think : *Can a smaller two digit number be formed using 0 and 7 ? While forming 2 digit numbers, if '0' is written in tens place then the resulting number (07) will be a single digit number. So we can form only one two digit number using 0 and 7 and that is 70.*

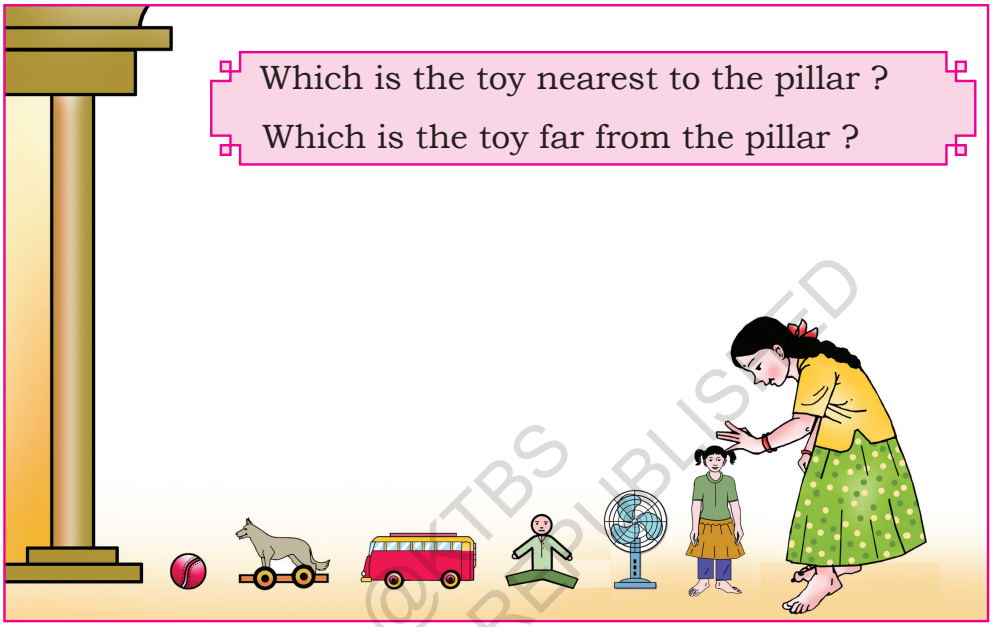
Remember : While forming 2 digit numbers using 0, 0 cannot be written in tens place.

Fill in the blanks :

1. The biggest two digit number that can be formed using 3 and 5 is _____
2. The biggest two digit number that can be formed using 7 and 2 is _____
3. The smallest two digit number that can be formed using 6 and 5 is _____

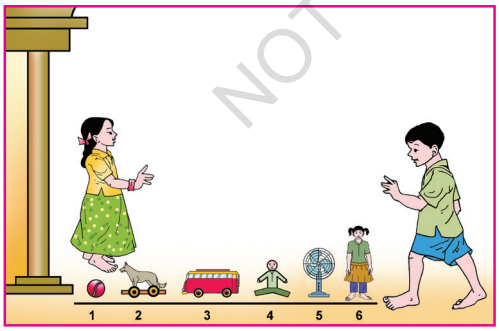
Number Line

Observe the given Picture. Mamatha has arranged her toys in a line from the pillar.



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Mamatha 's brother comes there. He draws a line from the pillar along the line of toys. He marks each toy with a number in order starting from one.



From Pillar

Which is the first toy ?

Ball.

Which is the fourth toy?

Teddy bear.

Where is the fan placed ?

Fifth place.

The line drawn by Mamatha's brother is as follows.

From the pillar :-



* The line is drawn starting from the pillar.
* The starting point is marked as '0'
* Then marks are made at equal distances on the line.
* Each marking is given a number in order from the starting point.

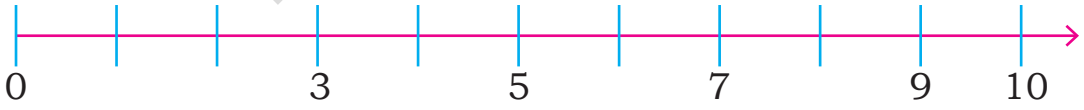
This is called a 'Number line'

Observe the number line. Write the missing numbers :

1)



2)



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Lesson - 3

ADDITION

N1B7B9

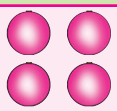
After studying this lesson you :

- add two-digit numbers without carry (Sum not to exceed 99) and solve the problems related to daily life.
- add two-digit numbers with carry (Sum not to exceed 99) and solve the problems related to daily life.
- Addition by interchanging the place of the numbers.
- add numbers on a number line (Sum not to exceed 9)

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Addition without carry

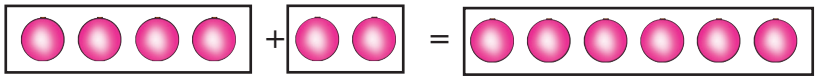
Activity -1: Rani and Mary went to a stationery shop to buy beads. Beads were kept in bundles of tens and units. Rani wanted 24 beads and Mary wanted 32 beads. How many beads does the shopkeeper give them in all?

Name	Number of beads	Ten	Units
Rani	24		
Mary	32		

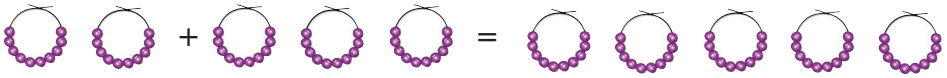
In 24 there are [2] Tens, [4] Units

In 32 there are [3] Tens, [2] Units

First add units



Now, add tens



4 units + 2 units = 6 units

2 Tens + 3 Tens = 5 Tens

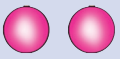
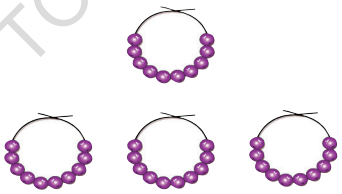
No of beads Rani wants	2	4
No of beads Mary wants	3	2
Total Number of beads	5	6

T	U
2	4
3	2
5	6

5 Tens + 6 units = 56

Total number of beads, given by the shopkeeper to Rani and Mary = 56

Activity - 2: *Add 41 beads to 12 beads*

Number of beads	Tens	Units
12		
+ 41		
	5	3

In 12 there are [1] Ten [2] Units

In 41 there are [4] Tens [1] Unit

Total [5] Tens [3] Units

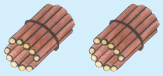
T	U
1	2
+ 4	1
5	3

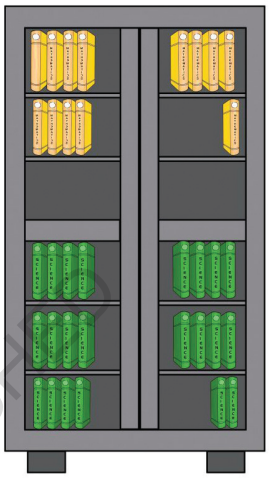
=53

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Activity 3 :

There are 13 Mathematics books and 22 Science books in a cupboard. How many books are there in the cupboard in all?

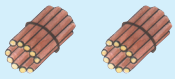
	Books	Tens	Units
Maths	1 3		
Science	2 2		
Total	3 5	3	5



							T	U
Units	3	+	2	=	5	+	1	3
Tens	1	+	2	=	3		2	2
							3	5

Activity 4:

If the cost of a lungi is ₹ 52 and the cost of a towel is ₹ 23, what is the total cost of both lungi and towel?

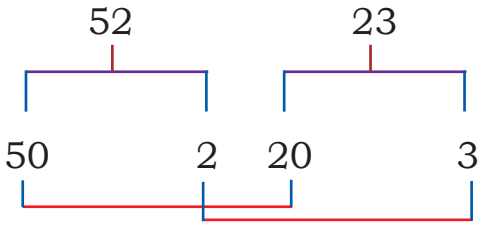
Things	Cost	Tens	Units
Lungi	₹ 52		
Towel	₹ 23		
Total cost			

							T	U
Units		+		=		+	5	2
Tens		+		=			2	3

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Observe: It could also be solved in this method

$$\begin{array}{r} 52 \rightarrow 50 + 2 \\ +\ 23 \rightarrow 20 + 3 \\ \hline 75 \rightarrow 70 + 5 \end{array}$$



$= 50 + 20 + 2 + 3$
$= 70 + 5$
$= 75$

I. Add the following as shown in the example

Example: $28 + 31 = 20 + 8 + 30 + 1$
$= 20 + 30 + 8 + 1$
$= 50 + 9$
$= 59$

1) $32 + 13$ = $\square + 2 + \square + 3$
= $\square + \square + 2 + 3$
= $\square + \square$
= $\square$

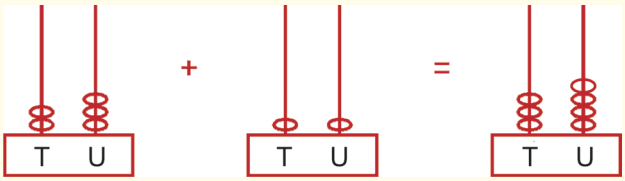
2) $50 + 14$ = $\square + \square + \square + \square$
= $\square + \square + \square + \square$
= $\square + \square$
= $\square$

3) $41 + 35$ = $\square + \square + \square + \square$
= $\square + \square + \square + \square$
= $\square + \square$
= $\square$

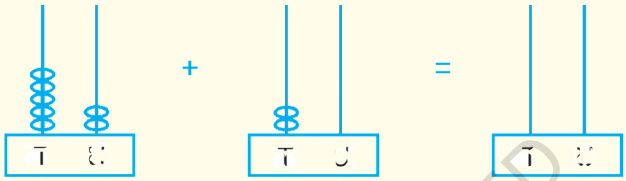
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II. Add the following using abacus as shown in the example

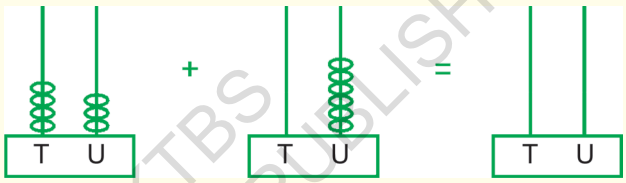
	2	3
+	1	1
	3	4



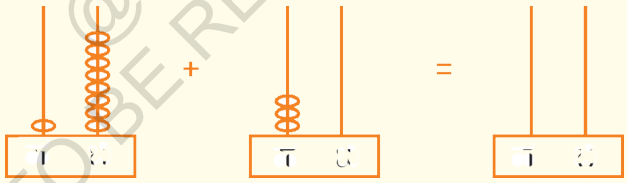
	5	2
+	2	0



	4	3
+		6



	1	8
+	3	0



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Exercise

I. Fill in the blanks.

1) 11 + 13 = ☐

2) 16 + 10 = ☐

3) 23 + ☐ = 35

4) 40 + 33 = ☐

5) 20 + 19 = ☐

6) 10 + ☐ = 28

7) 14 + 14 = ☐

8) 35 + 31 = ☐

II. Match the following as shown in the example.

1. 7 + 8	58
2. 13 + 4	28
3. 20 +15	82
4. 10 +18	17
5. 44 +14	15
6. 71+11	35

III. Add the following.

1) 4 3 + 1 4	2) 3 2 + 1 7	3) 2 4 + 1 0	4) 1 8 + 2 1	5) 4 5 + 1 2
6) 1 6 + 5 3	7) 6 4 + 2 2	8) 3 + 1 5	9) 2 2 + 4 4	10) 8 + 4 1

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Do it yourself

In the given magic squares, fill the middle box of each magic square with a number such that if you add three numbers horizontally, vertically or diagonally the sum should be the same.

9	4	5
2		10
7	8	3

11	6	7
4		12
9	10	5

10	5	6
3		11
8	9	4

Problems related to daily life.

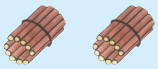
IV. Follow the example and solve the following problems related to daily life.

	Example: There are 12 boys and 17 girls in a class. What is the strength of the class?	Number of boys in the class = 12 Number of girls in the class = 17 Total Strength of the class = 29
1.	There are 23 Rose plants and 12 Marigold plants in a school campus. What is the total number of plants in the campus?	
2.	Mary has 24 marbles. Hussain has 15 marbles. What is the total number of marbles they have?	
3.	A balloon seller has 13 yellow balloons and 14 red balloons. What is the total number of balloons he has?	
4.	Mahesh scored 44 marks in mathematics and 32 marks in Kannada. What is the total marks scored in both the subjects?	
5.	Mamatha has 51 shells and Mary has 13 shells. What is the total number of shells with both of them?	

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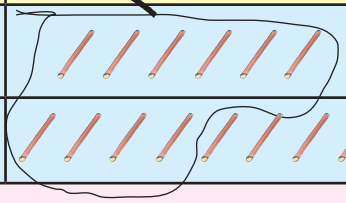
3.2 Addition with carry over

Activity - 1 : Amith has 26 sticks and Shwetha has 38 sticks. What is the total number of sticks they both have?

Steps -1	No of Sticks	Tens	Units
Amith	2 6		
Shwetha	+ 3 8		

In 26, there are 2 tens 6 units

In 38, there are 3 tens 8 units

Steps -2	No of Sticks	Tens	Units
Amith	2 6		
Shwetha	+ 3 8		

When we add 6 units to 8 units it becomes 6 + 8 = 14

From this, form a bundle of 10 units and transfer it to tens place. Write the remaining 4 units in the units place.

Step -3	Total no of 60 + 4 = 64		

	T	U
	2	6
+	3	8
	6	4

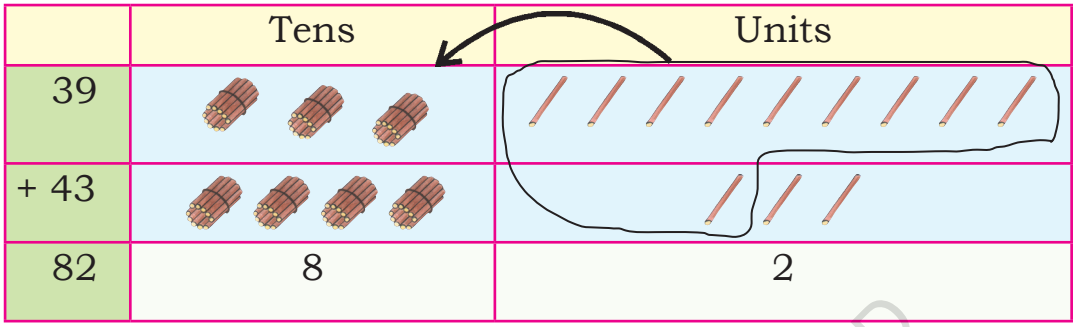
6 + 8 = 14

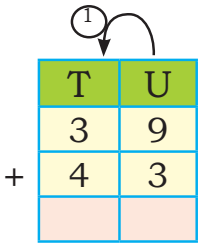
1 + 2 + 3 = 6

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Activity - 2

Add 43 to 39





9 + 3 = 12

1 + 3 + 4 = 8

Activity 3 :

Addition game by using the cards of tens and ones.

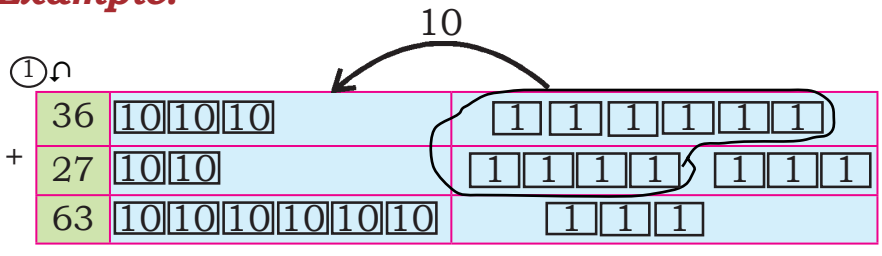
Prepare 19 cards with ones and 10 cards with tens. Exchange ten cards of 1 ones to one card of 10 tens.

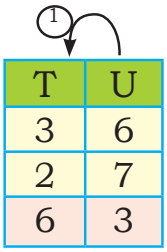
1 = Ones card

10 = Tens card 1 1 1 1 1 1 1 1 1 1 = 10

Add 27 to 36.

Example:



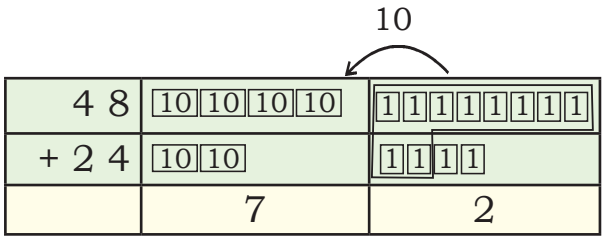


Add 6 and 7 in unit places, that is 6 + 7 = 13

Add 1 + 3 + 2 in tens that is 6 tens.

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Do as shown in the example

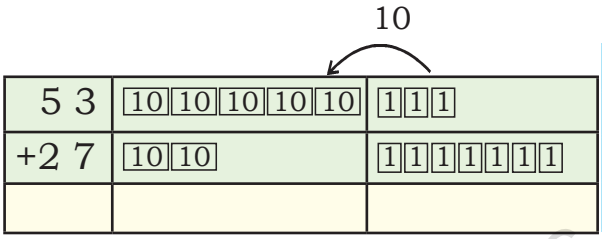


T	U
4	8
2	4
7	2

8 + 4 = 12

1 + 4 + 2 = 7

1)

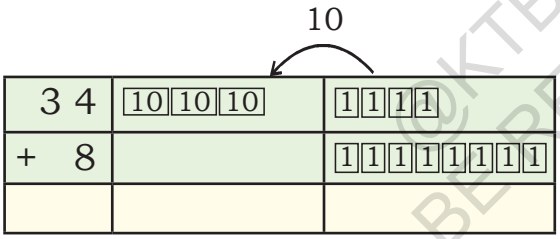


T	U
5	3
2	7

3 + 7 = ☐

☐ + 5 + 2 = ☐

2)

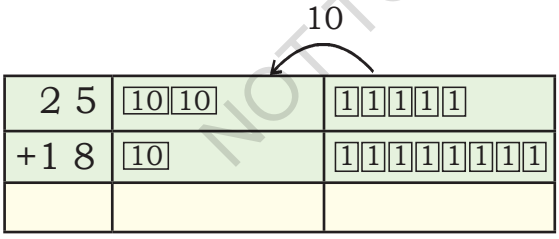


T	U
3	4
0	8

4 + 8 = ☐

☐ + 3 = ☐

3)



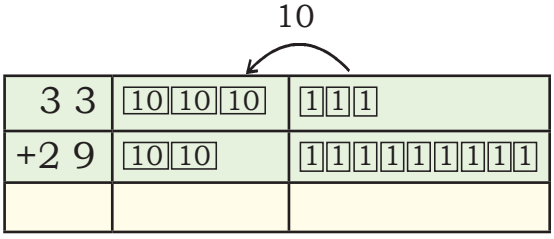
T	U
2	5
1	8

5+8 = ☐

☐

+2+1 = ☐

4)



T	U
3	3
2	9

3+9 = ☐

☐

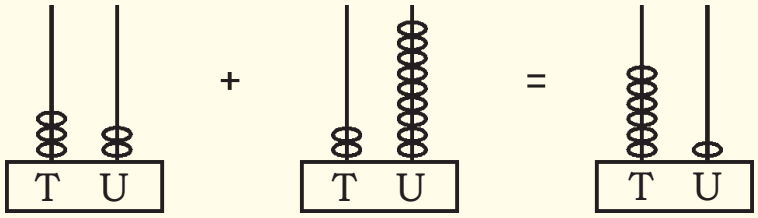
+3+2 = ☐

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I. Do addition using abacus as shown in the example:

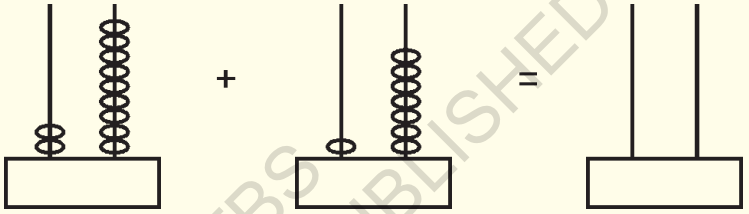
Example:

	T	U
	3	2
+	2	9
	6	1



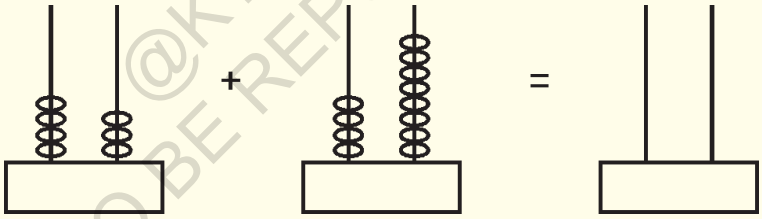
1)

	T	U
	2	9
+	1	7



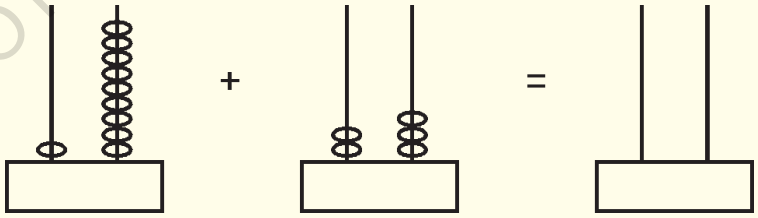
2)

	T	U
	4	3
+	4	8



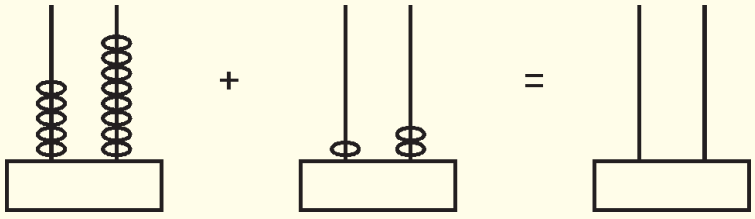
3)

	T	U
	1	9
+	2	3



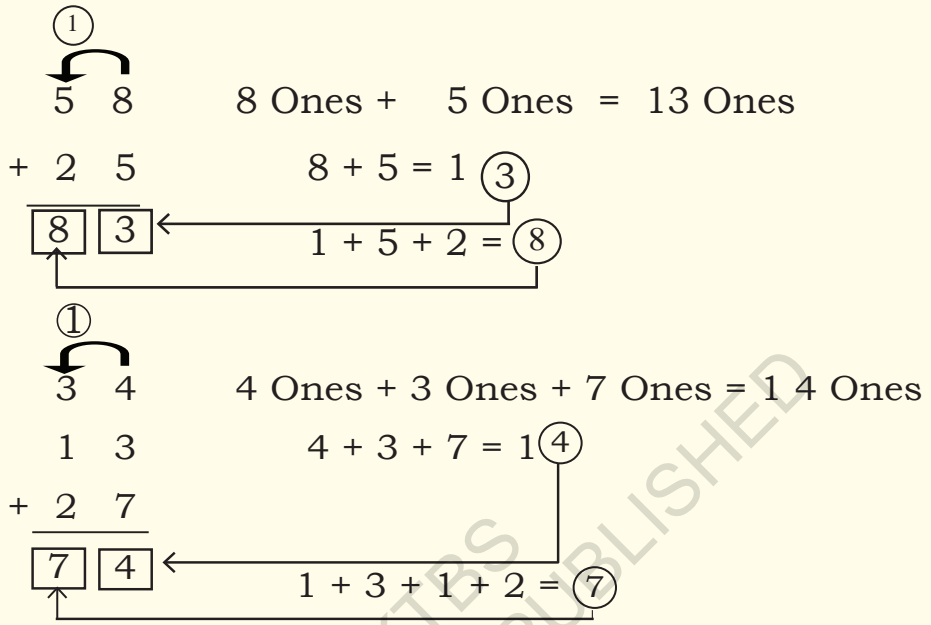
4)

	T	U
	5	8
+	1	2



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Observe



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Exercise

I Find the sum of.

1) 3 8 + 1 9	2) 2 6 + 1 7	3) 4 4 + 3 7	4) 5 9 + 2 3	5) 4 8 + 1 2
6) 3 6 1 1 + 1 4	7) 2 8 1 0 + 1 6	8) 4 1 1 4 + 1 8	9) 1 3 8 + 1 9	10) 1 0 3 6 + 4 4

II. Solve these statement Problems

	Example: Rekha had ₹ 48. If her father gives ₹ 26 to her, how much money does she have in all?	Amount Rekha had = ₹ 4 8 Amount her father gave = ₹ 2 6 Total amount = ₹ 7 4
1.	In a school, there are 29 students in class one. and 33 students in class two. What is the total number of student in both the classes?	
2.	Hussain has 13 chocolates and Raziya has 18 chocolates. what is the total number of chocolates both of them have?	
3.	The price of brinjal per kilogram is ₹14 and the price of carrot per kilogram is ₹18. What is the total price of both the vegetables?	
4.	A Cricket player scored 52 runs in the first innings and 19 runs in the second innings. What is the total number of runs scored.?	
5.	A coconut seller sold 28 coconuts on the first day and 26 on the second day. What is the total number of coconuts he sold in two days?	

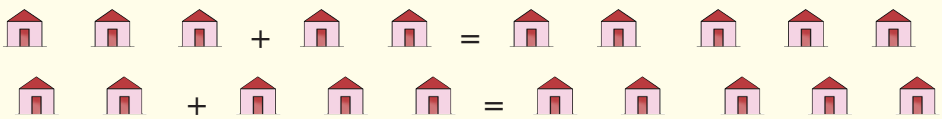
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Addition by interchanging the place of the numbers.

Veena and Pavan while returning home from school discussed addition in this way.



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3 + 2 = 5

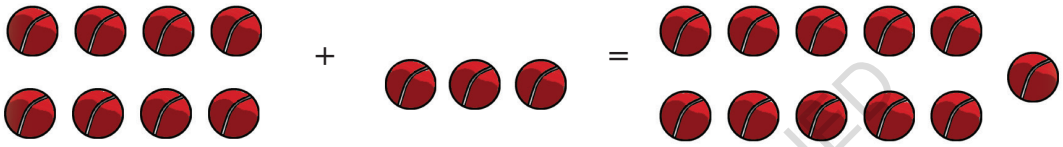
2 + 3 = 5

3 + 2 = 2 + 3

That's fine give me one more problem to solve

Solve this problem now.

Add 3 to 8, as well as add 8 to 3



8 + 3 = 11



3 + ☐ = 11

8 + ☐ = 3 + ☐

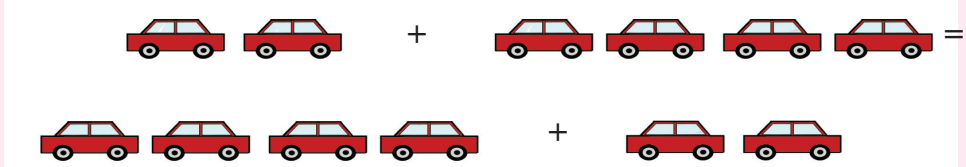
What did you know by this?

Even though the numbers are exchanged and added, the sum remains the same.

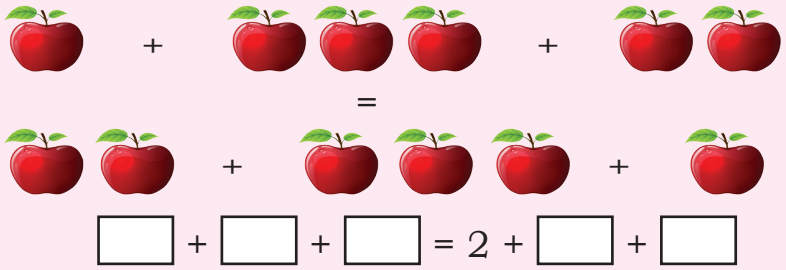
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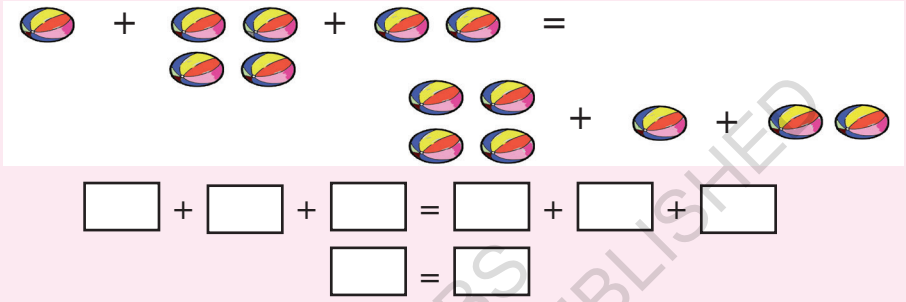
Exercise

I. Observe the picture and fill in the blanks with appropriate numbers.

1) 

☐ + ☐ = ☐ + 2

2) 

3) 

II. Observe the example and fill in the boxes with appropriate numbers:

Example 1 : 22 + 13 = 13 + 22

1) 38 + 19 = ☐ + ☐

2) 43 + ☐ = 17 + ☐

3) 13 + 24 = ☐ + ☐

4) ☐ + 51 = ☐ + 11

5) 81 + ☐ = 9 + ☐

Example 2 : 3 + 18 + 7 = 7 + 18 + 3

1) 24 + 13 + 11 = ☐ + 13 + ☐

2) ☐ + 5 + 34 = 34 + ☐ + 18

3) 41 + ☐ + ☐ = 18 + 13 + ☐

4) 0 + 30 + 18 = ☐ + ☐ + ☐

5) 31 + ☐ + ☐ = 10 + 1 + ☐

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III. Match the following as shown in the example

1) 38 + 46	9 + 3 + 34
2) 54 + 69	19 + 24
3) 13 + 11 + 17	18 + 56
4) 24 + 19	46 + 38
5) 56 + 18	11 + 17 +13
6) 3 + 9 + 34	69 + 54

3.3 Addition on Number line

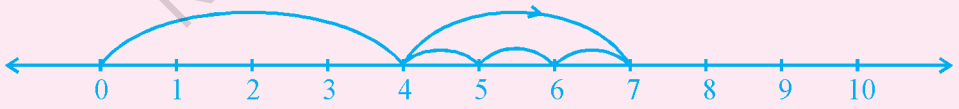
Raziya and Sofia are friends. They were skipping. They were calculating the distance they covered in 2 jumps.

First time Raziya jumped and covered 3 steps and she reached the number 3. Second time she jumped and covered 2 steps. By this what number did Raziya reach by both the jumps? How many steps did she cover?



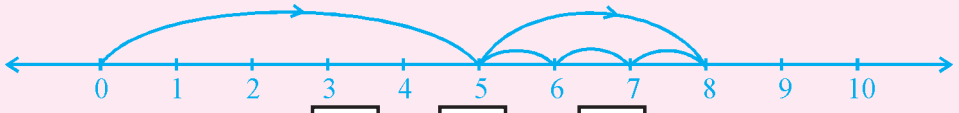
3 + 2 = 5

Sofiya in the first jump reached the number 4 and in the second jump she jumped 3 steps. What number did Sofiya reach after the second jump?



☐ + ☐ = ☐

Look at the number line. Add the numbers.



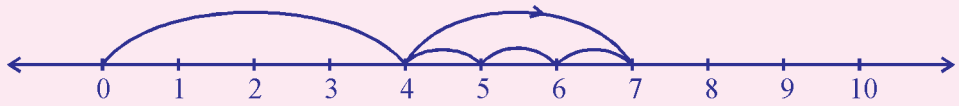
☐ + ☐ = ☐

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Exercise

I. Look at the example and fill in the blanks with the help of number line.

Example:



4 + 3 = 7

1)



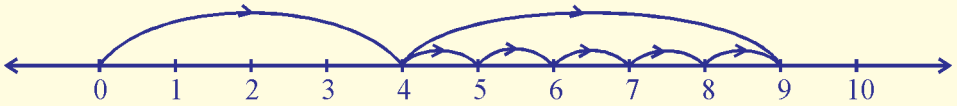
☐ + ☐ = ☐

2)



☐ + ☐ = ☐

3)

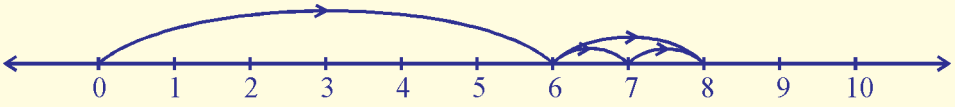


☐ + ☐ = ☐

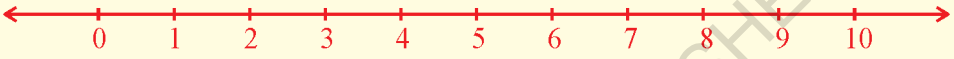
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II Add the following on the number line as shown in the example

Example :



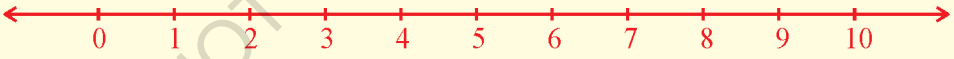
6 + 2 = 8

1) 

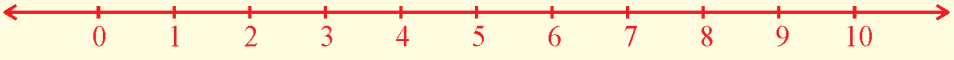
1 + 5 = ☐

2) 

3 + 6 = ☐

3) 

4 + 4 = ☐

4) 

5 + 2 = ☐

Addend + Addend = Sum

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Lesson - 4

SUBTRACTION

J9Q4J4

After studying this lesson you :

- subtract two digit numbers without borrowing and solve the problems related to daily life.
- subtract two digit numbers with borrowing and solve the problems related to daily life.
- add and Subtract the number with Zero.
- estimate the sum and difference of numbers.
- create situations/problems related to simple addition and subtraction.
- orally add and subtract and also solve problems related to daily life.
- identify problems related to addition and subtraction.

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Subtraction without borrowing

Example 1 : Umesh had 28 pencils. He used 16 pencils. How many pencils remained with him?

	Tens	Ones
28		|||||||
-16		||||||
12		||

	T	U
	2	8
–	1	6
	1	2

2 - 1 = 1

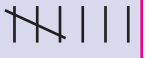
8 - 6 = 2

In 28 there are 2 Tens 8 Ones

In 16 there are 1 Ten 6 Ones

From 8 ones, 6 ones are subtracted [2] ones remain.
In 2 Tens [1] ten is subtracted [1] ten remains.

Example 1 : Pavitra Spends ₹ 23 out of ₹ 36, how much money does she have with her?

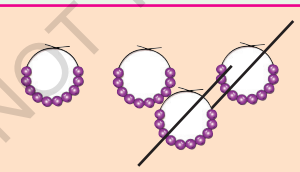
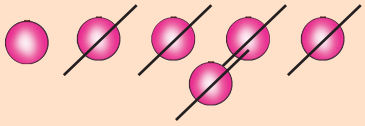
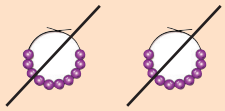
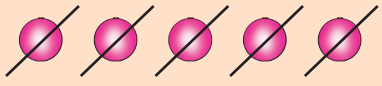
	Tens	Ones
36		
-23		

	T	U
	3	6
–	2	3
	1	3

3 - 2 = [1] 6 - 3 = [3]

In 36 there are [3] Tens [6] ones
In 23 there are [2] Tens [3] Ones
3 Ones are subtracted from 6 ones, [3] ones remain.
2 tens are subtracted from 3 tens, [1] ten remains.

Example 1 : Kamala had 46 beads. She gave 25 beads to Savitha . How many beads are remaining with kamala?

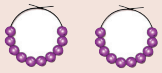
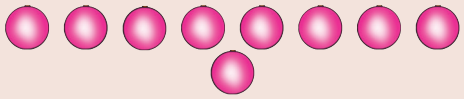
	Tens	Ones
46		
-25		
21	2	1

4-2 = [ ] ⟶ 4 6 / - 2 5 / [ ][ ] 6-5 = [ ] ⟵

	T	U
	4	6
–	2	5

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***Example* 4: Subtract 17 from 29**

29		
-17		

	T	U
	2	9
–	1	7

2 - 1 = ☐ ← 9 - 7 = ☐

***Example* 4: Radha had ₹ 45. She bought one instrument box for ₹ 32. How much money remained with her ?**

Amount Radha had	45	10 ~~10~~ ~~10~~ ~~10~~	~~1~~ ~~1~~ 1 1 1
Amount Paid for Instruments box	-32	~~10~~ ~~10~~ ~~10~~	~~1~~ ~~1~~
Remaining Money	13	10	1 1 1

Subtract 2 ones from 5, ones, remaining ones ☐

Subtract 3 tens from 4 tens, remaining tens ☐

	T	U
	4	5
–	3	2
	1	3

4 - 3 = 1 ← 5 - 2 = 3

= ₹ 13

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Exercise

I. Follow the example and subtract the following:

Example :

	Tens	Ones
38	10 10 ~~10~~	~~1~~ ~~1~~ ~~1~~ ~~1~~ 1 1 1 1
- 14	~~10~~	~~1~~ ~~1~~ ~~1~~ ~~1~~
24	10 10	1 1 1 1

	T	U
	3	8
-	1	4
	2	4

8 - 4 = 4

3 - 1 = 2

1)

	Tens	Ones
48	10 10 10 10	||||||||
- 27	10 10	||||||

	T	U
	4	8
-	2	7

8 - 7 = ☐

2 - 1 = ☐

2)

	Tens	Ones
36	10 10 10	||||||
- 13	10	|||

	T	U
	3	6
-	1	3

6 - 3 = ☐

3 - 1 = ☐

3)

	Tens	Ones
65	10 10 10 10 10 10	|||||
- 21	10 10	|

	T	U
	6	5
-	2	1

5 - 1 = ☐

6 - 2 = ☐

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II. Follow the example and subtract the following:

Example : **Subtract 32 from 45**

	T	U
	4	5
-	3	2
	1	3

If 2 units are subtracted from 5 units units remain. ☐

If 3 tens are subtracted from 4 tens ten remains ☐

1) Subtract 27 from 39

	T	U
	3	9
-	2	7

If 7 units are subtracted from 9 units units remain. ☐

If 2 tens are subtracted from 3 tens ten remains ☐

2) Subtract 22 from 66

	T	U
	6	6
-	2	2

If 2 units are subtracted from 6 units units remain. ☐

If 2 tens are subtracted from 6 tens remain. ☐

3) Subtract 10 from 48

	T	U
	4	8
-	1	0

If 0 units are subtracted from 8 units units remain. ☐

If 1 ten is subtracted from 4 tens remain. ☐

4) Subtract 17 from 39

	T	U
	3	9
-	1	7

If 7 units are subtracted from 9 units units remain. ☐

If 1 ten is subtracted from 3 tens ten remain. ☐

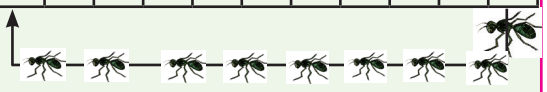
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Activity :-

Ant Game

An ant is in 56th square. It is moving back in order. Observe the diagram.

35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56



Example

From 56th square

If the Ant moves 10 squares backwards, fill the square where it reaches with red colour.

56 - 10 = ☐

From 56th square.

If the ant moves backwards 16 squares, fill the square where it reaches with blue colour.

56 - 16 = ☐

If the ant moves 18 squares backward, fill the square where it reaches with green colour.

56 - 18 = ☐

If the ant moves back 21 squares, fill the square where it reaches with yellow colour.

56 - 21 = ☐

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Exercise

I. Subtract the following.

1)	4	8	2)	3	7	3)	7	5	4)	8	8	5)	3	6
-	2	3	-	1	6	-	5	3	-	1	2	-	1	3

6)	4	9
-	1	5

7)	6	5
-	2	4

8)	5	7
-	3	6

9)	4	6
-	2	6

10)	5	4
-	2	0

II Fill in the blanks with appropriate number

1) 35 - ☐ = 25

2) 23 - ☐ = 10

3) 18 - 8 = ☐

4) 55 - ☐ = 43

5) ☐ - 20 = 50

6) 43 - 11 = ☐

7) 59 - 17 = ☐

8) 62 - ☐ = 10

9) 76 - ☐ = 50

10) 39 - ☐ = 21

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III. Ambuja's mathematics note book was wet in the rain. Some numbers are not visible. Fill those numbers.

1)
4	9
- 3	☐
1	3

2)
☐	8
- 1	2
4	6

3)
4	5
- ☐	☐
3	5

4)
8	8
- 6	☐
☐	3

5)
7	5
- 1	☐
6	0

6)
1	9
-	☐
1	1

7)
6	8
- ☐	8
5	0

8)
9	4
- ☐	0
3	4

Follow the example and solve the Problems on Daily life.

Example:

Ramesh had 24 Chocolates. On his birthday he distributed 13 chocolates among his friends. How many Chocolates remained with him?	No. of Chocolates with Ramesh = 24 No. of chocolates he gave to friend's - = 13 Remaining Chocolates = 11
(1) In a class of 38 students, 16 students walk to school and others come on bicycle. How many students are coming on bicycle?	
2) Vinay had ₹ 43. He bought note books for ₹ 31. How many rupees remain with him?	
(3) A Florist had 39 roses. He sold 18 roses. How many roses remained?	
(4) There were 89 bags of rice in a truck. If 36 bags of rice were unloaded in a shop how many bags of rice remained in the truck?	
(5) Sudarshan took ₹ 80 from his father to go on a trip. He spent ₹ 50. How many rupees remained with him?	

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Subtraction (With borrowing)

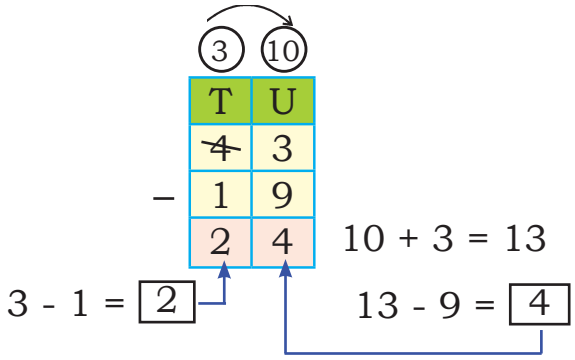
Example 1 : **Ramayya had 43 sheep. He sold 19 of them. How many sheep remained with him?**

		Tens	Ones
Total No. of Sheep	4 3		|||
No of Sheep sold	-1 9		|||||||||

9 can not be subtracted from 3. So we have to borrow from tens. One ten is borrowed and changed to units. Then we have 13 units.

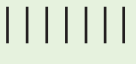
		Tens	Ones
Total No. of Sheep	43		||| 
No. of sheep sold	-19		
Remaining	24		||||

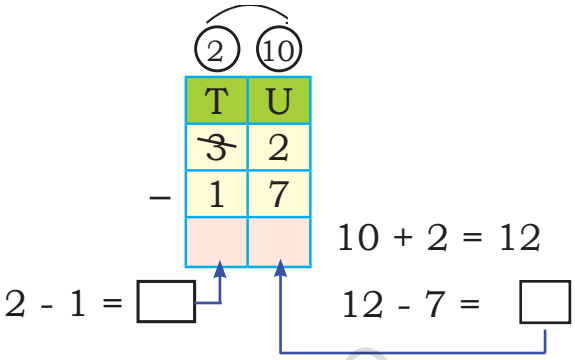
If 9 units are subtracted from 13 units, 4 units remain. In 10 place there are 3 tens. If 1 ten is subtracted 2 tens remain.



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Example 2 : Subtract 17 from 32

	Tens	Ones
32		
-17		



	Tens	Ones
3 2		
- 1 7		
15	1	5

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Subtraction using flash cards

Prepare 20 cards of 1 and 10 cards of 10 Using them do subtraction sums.

Example : **Subtract 18 from 44:**

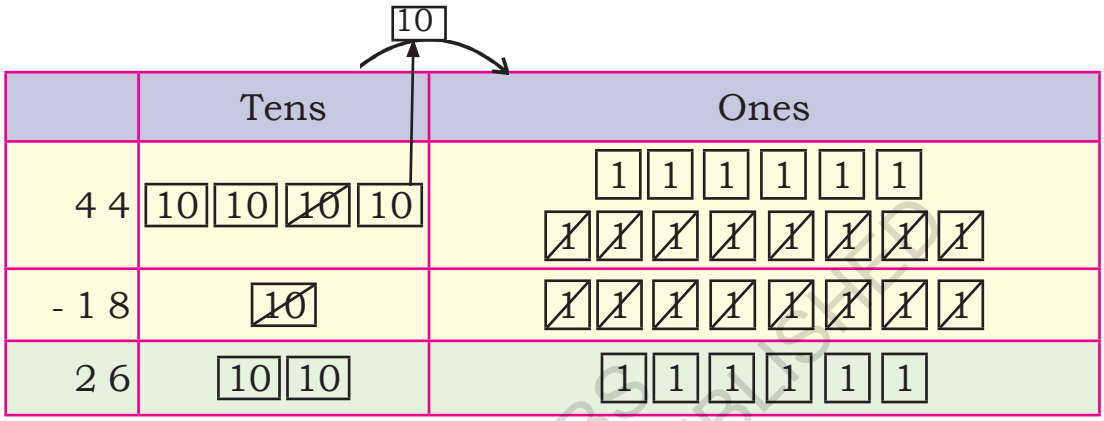
	Tens	Ones
44	10 10 10 10	1 1 1 1
-18	10	1 1 1 1 1 1 1 1

8 units cannot be subtracted from 4 units. Hence borrow one ten from tens place and change it into ten units.

Now there are 14 units 10+4=14

If 8 units are subtracted from 14 units, 6 units remain.

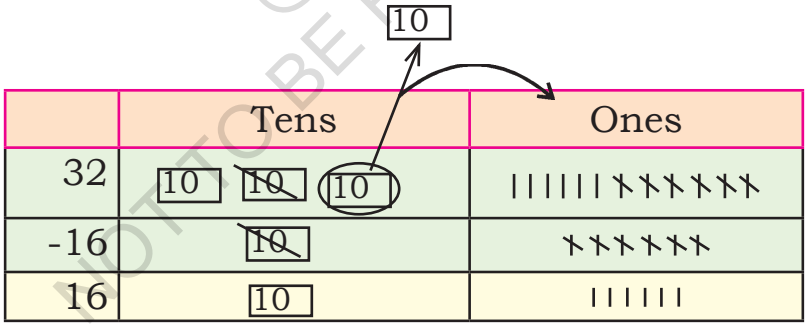
Now in tens place, instead of 4 tens 3 tens remain, If 1 ten is subtracted from 3 tens, 2 tens remain.



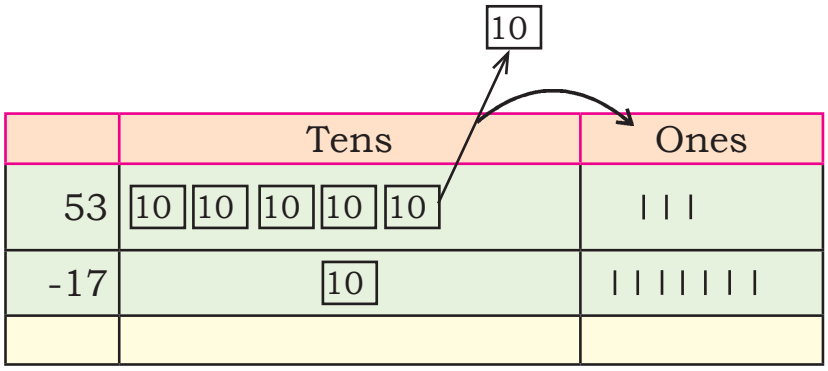
Exercise

I. Subtract the following as shown in the example.

Example:

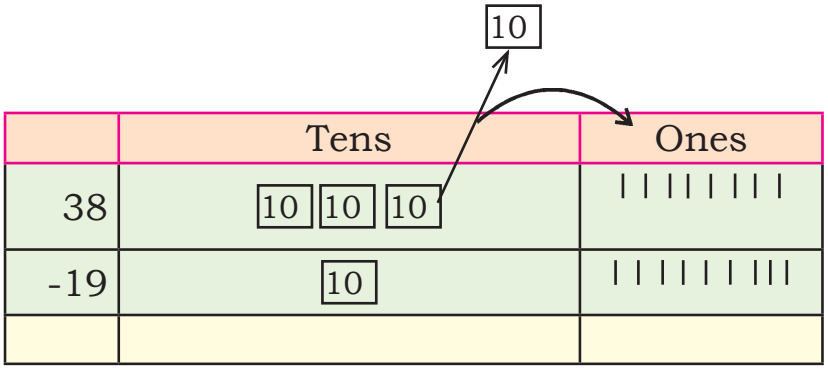


1)

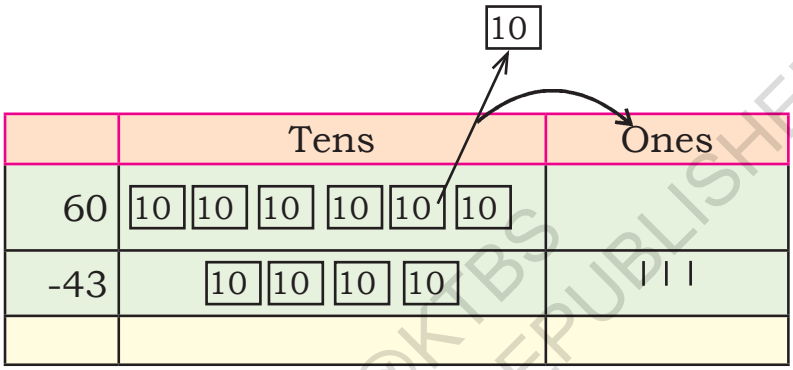


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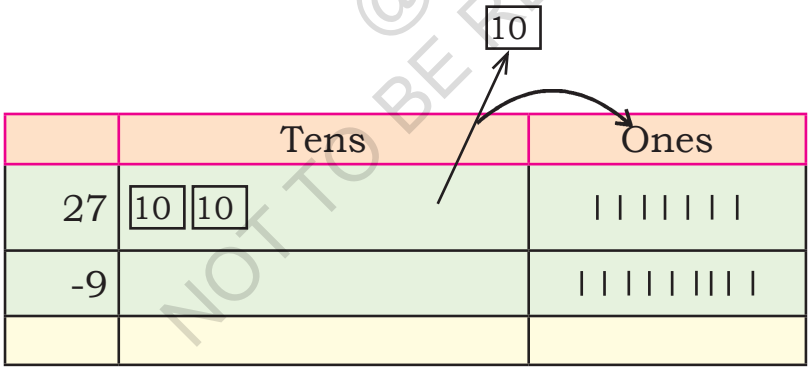
2)



3)



4)



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II. Subtract the following as shown in the example

Example:

4 5 -2 7 ———	3 10 ~~4~~ 5 -2 7 1 8	10 + 5 =15 15 -7 = 8 3 -2 = 1

1)	8 1 -4 6 _____	7 10 ~~8~~ 1 -4 6 _____	10 + 1 = 11 11 - 6 = ☐ 7 - 4 = ☐
2)	6 0 -3 7 _____	5 10 ~~6~~ 0 -3 7 _____	10 + 0 = 10 10 - 7 = ☐ 5 - 3 = ☐
3)	4 3 -1 4 _____	3 10 ~~4~~ 3 -1 4 _____	10 + 3 = 13 13 - 4 = ☐ 3 - 1 = ☐
4)	2 3 -1 8 _____	1 10 ~~2~~ 5 -1 8 _____	10 + 5 = 15 15 - 8 = ☐ 1 -1 = ☐
5)	4 2 -1 8 _____	3 10 ~~4~~ 2 -2 7 _____	10 + 2 = 12 12 - 7 = ☐ 3 - 2 = ☐

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III Subtract:

1) 3 2 -1 9 _____

2) 4 4 -2 7 _____

3) 6 1 - 3 7 _____

4) 7 6 -1 8 _____

5) 20 - 13 _____

6) 30 - 12 = ☐

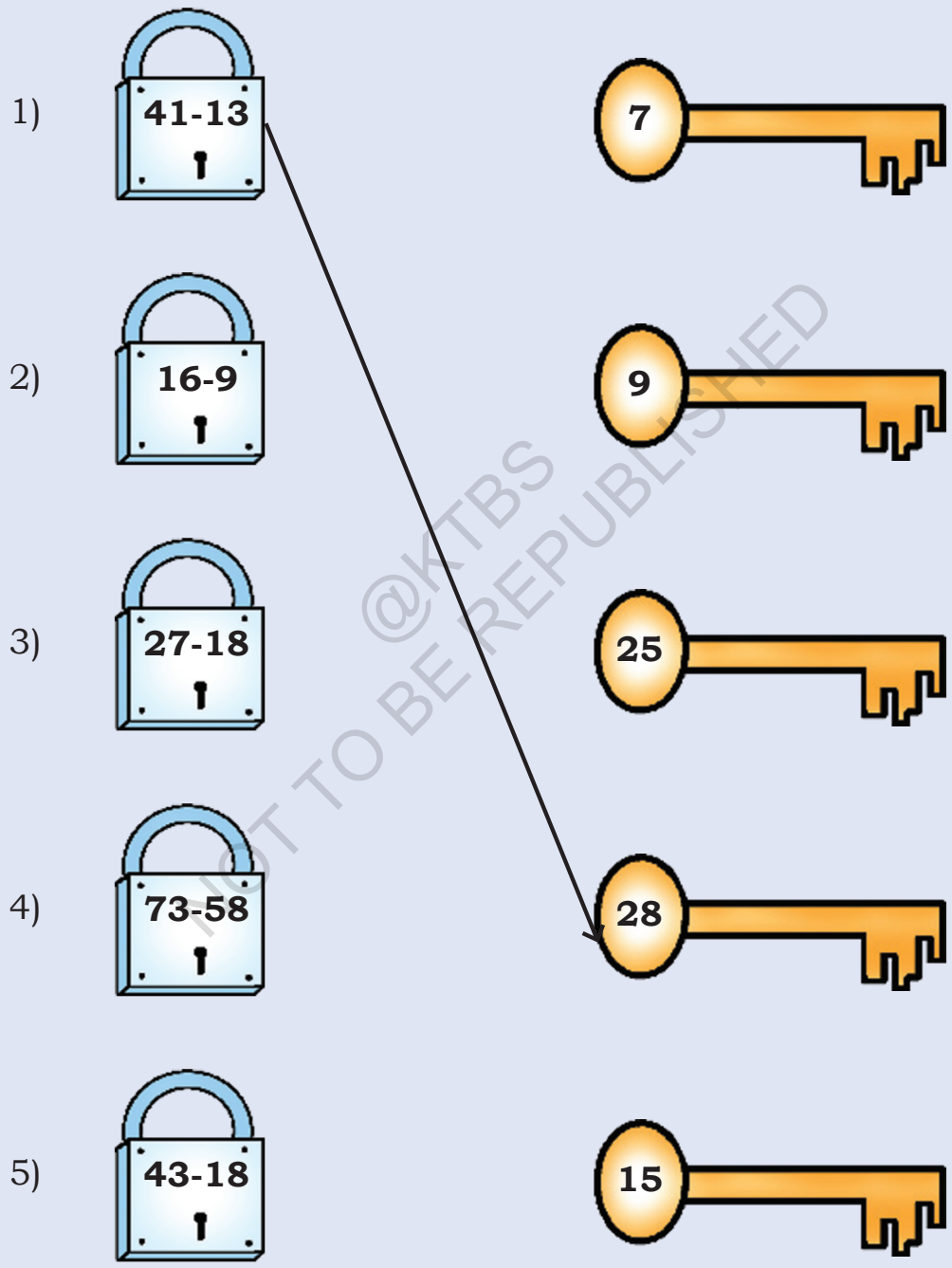
7) 72 - 28 = ☐

8) 60 - 19 = ☐

9) 52 - 14 = ☐

10) 45 - 26 = ☐

IV. Subtract the numbers on the lock and match the answers with the numbers on the keys.



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Subtraction related to daily life

1. Follow the example and solve problems on subtraction related to daily life.

	Example: Praveen had ₹ 43. He spent ₹ 14. How many rupees remained with him?	Total amount Praveen had ₹ 4 3 Amount Spent ₹ 1 4 Remaining amount ₹ 2 9
1.	Vimala had 34 beads. She prepared a necklace by using 26 beads. How many beads remained?	
2.	In a fruit shop, there are 36 mangoes. The shopkeeper sold 17 mangoes. How many mangoes were left with him?	
3.	Ramesh bought a note book for ₹ 24. If he gives a 50 rupee note to the shopkeeper, how much change should the shopkeeper return to Ramesh?	
4.	If 56 chocolates are distributed out of 84 chocolates, how many chocolates are remaining?	

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Addition with zero

A cricket player scored 8 runs in the first over and no runs in the next over. Find how many runs did he score in both the overs.

$8 + 0 = 8$

$$\begin{array}{r} 8 \\ +0 \\ \hline 8 \end{array}$$

A balloon seller sold 10 balloons from morning till afternoon. After that he did not sell any balloon. How many balloons did he sell in all ?

$10 + 0 = 10$

$$\begin{array}{r} 10 \\ +0 \\ \hline 10 \end{array}$$

If zero is added to any number, the sum is the number itself

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Exercise

I. Write the sum of the following numbers.

1) $3 + 0 = \square$
2) $5 + 0 = \square$
3) $11 + 0 = \square$
4) $0 + 13 = \square$
5) $54 + 0 = \square$
6) $22 + 0 = \square$

II. Fill in the blanks :

1) $\square + 0 = 6$
2) $7 + \square = 7$
3) $8 + 0 = \square$
4) $18 + \square = \square$
5) $\boxed{0} + 17 = \square$
6) $35 + 0 = \square$

Subtraction with zero

- Shwetha has ₹ 9. If she does not spend anything, how many rupees are left with her?

$9 - 0 = 9$

$$\begin{array}{r} 9 \\ -0 \\ \hline 9 \end{array}$$

- A Shopkeeper had 8 pumpkins with him. If he does not sell any pumpkin till afternoon, how many pumpkins are left?

$8 - 0 = 8$

$$\begin{array}{r} 8 \\ -0 \\ \hline 8 \end{array}$$

If zero is subtracted from any number, the difference is the number itself.

Exercise

I Find the difference :

1) 1 - 0 = ☐
2) 5 - 0 = ☐
3) 13 - 0 = ☐
4) 28 - 0 = ☐
5) 21 - 0 = ☐
6) 53 - 0 = ☐

II Match the following:

A	B	Answer
1] 20 - 0	17	☐
2] 44 - 0	20	☐
3] 36 - 0	18	☐
4] 18 - 0	36	☐
5] 17 - 0	44	☐

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Estimated sum and estimated difference

Rekha and Sunil went to a fair with their father. In the fair coconuts, vegetables, fruits etc were kept in heaps to sell. Children saw some people buying things not by counting exactly but by approximately.



How many cucumbers are there in a heap ?

How many bananas are there in a bunch ?

How many grapes are there in a bunch ?

How many coconuts are there in a heap ?

Find the sum through approximation.

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Indicate the estimated value.



Observe the above number line

Estimate 32 to tens place

32 is nearer to 30,

32 is far away from 40

Hence 32 is estimated to 30



Estimate 77 to tens place

77 is far away from 70.

77 is nearer to 80.

Hence 77 is estimated to 80.

35 is in between 30 and 40.

Hence 35 is estimated to 40.

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If the unit of a two digit is 5 or more than 5, estimate the ten's digit to the next tens place.	If the unit of a two digit is less than 5, then number is estimated to nearest previous ten's place.
45 ⟶ 50	44 ⟶ 40
86 ⟶ 90	83 ⟶ 80
58 ⟶ 60	31 ⟶ 30

Estimate the value to the nearest tens place.

21 ⟶ 20

36 ⟶ ☐

44 ⟶ ☐

51 ⟶ ☐

75 ⟶ ☐

67 ⟶ ☐

82 ⟶ ☐

23 ⟶ ☐

Estimated sum

Example :1	3 6	The estimated value of 36 to tens place	= 40
+	5 1	The estimated value of 51 to tens place	= 50
		Estimated sum	= 90
Example :2	2 9	The estimated value of 29 to tens place	= ☐
+	1 1	The estimated value of 11 to tens place	= ☐
		Estimated sum	= ☐

Exercise

I. Find the estimated sum in the following

	Example 28 + 32	30 + 30 = 60
1	41 + 36	☐ + ☐ = ☐
2	18 + 12	☐ + ☐ = ☐
3	27 + 24	☐ + ☐ = ☐
4	14 + 36	☐ + ☐ = ☐
5	18 + 28	☐ + ☐ = ☐
6	35 + 21	☐ + ☐ = ☐
7	54 + 16	☐ + ☐ = ☐

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Estimated difference: *Example*

	2 6	Estimated value of 26 to tens place	= 30
-	1 8	Estimated value of 18 to tens place	= 20
		Estimated difference	= 10

Example :2

3	9	The estimated value of 39 to tens place	= ☐
- 1	3	The estimated value of 13 to tens place	= ☐
		Estimated difference	= ☐

Find the estimated difference as shown in the example

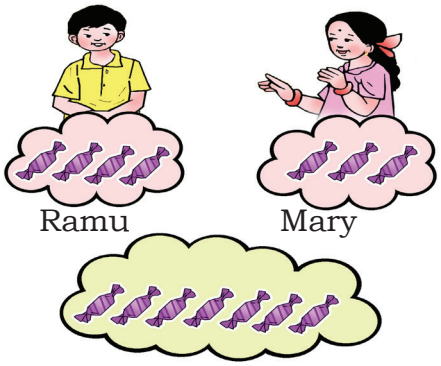
Example	38 - 14	40 - 10 = 30
1	27 - 18	☐ - ☐ = ☐
2	74 - 13	☐ - ☐ = ☐
3	21 - 11	☐ - ☐ = ☐
4	47 - 16	☐ - ☐ = ☐
5	54 - 41	☐ - ☐ = ☐
6	65 - 21	☐ - ☐ = ☐
7	49 - 11	☐ - ☐ = ☐
8	54 - 27	☐ - ☐ = ☐

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Solving word problems on Simple addition and Subtraction and creating situations.

Addition problems / Creating Situation.

- 4 + 3 = ?



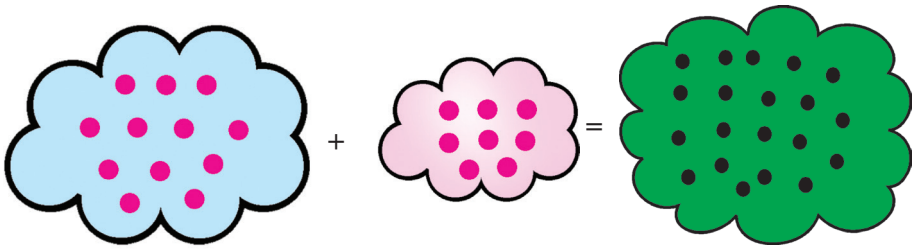
Ramu has 4 chocolates

Mary has 3 chocolates

What is the total number of chocolates both of them have ?

☐

- 12 + 8 = ?



Raziya has 12 marbles. She won 8 more in a game. How many marbles does she have in all?

Exercise

I. Follow the example and orally tell the word problems connected to daily life situations for the following sums

Example : 5 + 4 = ☐

Anthony had 5 note books. He purchased 4 more note books. How many note books has he in total ?

1) 12 + 11 =

2) 18 + 12 =

3) 25 + 6 =

4) 34 + 17 =

5) 20 + 26 =

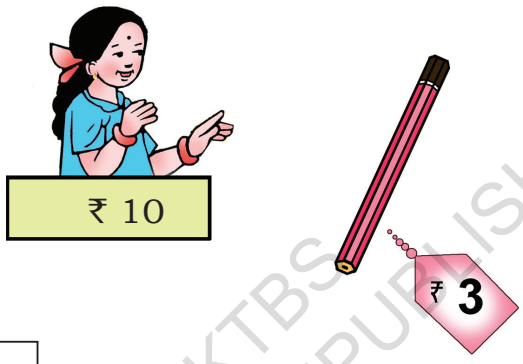
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Subtraction problems / Creating Situation.

Example 1 :

- 10 - 3 = ☐

Anusha had ₹ 10. She purchased a pencil for ₹ 3. How much amount remained with her ?



- 10 - 3 = ☐

Example 2 :

Balloon man had 25 Balloons. He sold 13 of them. How many balloons remained with him?



- 25 - 13 = ☐

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Exercise

Follow the example and orally answer the following sums by forming word problems connected to daily life situations.

Example :

21 – 9 = ☐

In a cycle shop 9 bicycles were sold out of 21 bicycles. How many bicycles remained in the shop?

1) 18 – 14 =

2) 26 – 11 =

3) 46 – 18 =

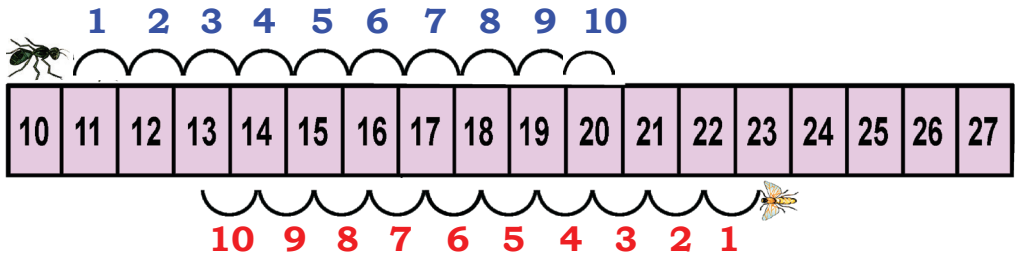
4) 28 – 13 =

5) 30 – 10 =

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Oral Addition & Subtraction

Activity :





An ant is in 10th box, if it moves 10 squares in the ascending order, which box will it reach?

Bee is in which box?



If it moves in the descending order by 10 boxes, which box will it reach?

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Example 1 :

Add 12 to 13

13 + 10 + 2	Or	13 + 2 + 10
23 + 2		15 + 10
= 25		= 25

Example 2 :

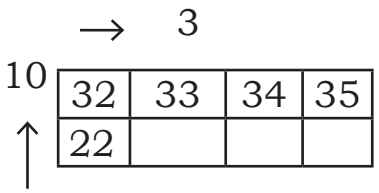
Subtract 12 from 25

25 – 10 -2	Or	25 – 2 – 10
15 – 2		23 – 10
= 13		= 13

Use the Number Chart and add.

41	42	43	44	45	46	47	48	49	50
31	32	33	34	35	36	37	38	39	40
21	22	23	24	25	26	27	28	29	30
11	12	13	14	15	16	17	18	19	20
1	2	3	4	5	6	7	8	9	10

22 + 13 = ?



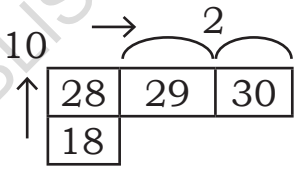
From 22 if you move on 10 boxes, you will reach the 32nd box.

From 32 if you move on 3 boxes, you will reach the 35th box.

- 18 + 12 = ☐

  Add 10 to 18 18 + 10 = 28

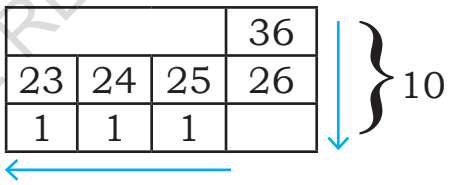
  Add 2 + 28 28 + 2 = 30



- 36 - 13 = ☐

  Subtract 10 from 36 = 26

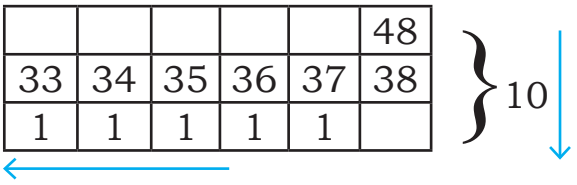
  Subtract 3 from 26 = 23



- 48 - 15 = ☐

  Subtract 10 from 48= ☐

  Subtract 5 from 38 = ☐



24 + 13 = ☐

= 24 + 10 + 3

= 34 + 3

= 37

28 - 15 = ☐

= 28 - 10 - 5

= 18 - 5

= 13

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Exercise

Add orally as shown in the example.

Example:

14 + 12

= 14 + 10 + 2

= 24 + 2

= 26

Oral Exercise

1) 23 + 11

= 23 + 10 + ☐

= 33 + ☐

= ☐

2) 19 + 23

= 19 + ☐ + ☐

= 39 + ☐

= ☐

3) 61 + 13

= 61 + 10 + ☐

= ☐ + 3

= ☐

4) 44 + 11

= ☐ + 10 + 1

= 54 + ☐

= ☐

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II Subtract orally as shown in the example

Example:

36- 14

= 36 - 10 - 4

= 26 - 4

= 22

Oral Exercise

1) 48 - 13

= 48 - 10 -3

= ☐ - 3

= ☐

2) 36 - 13

36 - ☐ - ☐

26 - ☐

= 23

3) 28 - 16

28 - ☐ - 6

18 - ☐

= ☐

4) 53 - 12

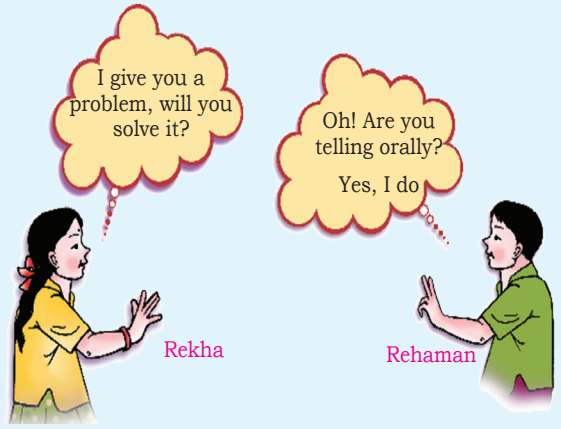
☐ - ☐ - 2

43 - ☐

= ☐

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Oral problems on addition and subtraction with respect to daily life :



Rekha : I have ₹ 20. And my father gives me ₹ 10. What is the total rupees I have?

Rehaman : That is all ! It is ₹ 30.

Rekha : It is very easy. So you solved it quickly. I will tell you one more. There are 18 girls and 12 boys in a class. What is the total strength of the class?

Rehaman : 18 girls & 12 boys. Total is 30 students.

Rekha : How did you solve so quickly ?

Rehaman : First I added 2 to 18 and then 10 to 20

Rekha : Can you solve a subtraction problem? I have ₹ 50. I purchased a note book for ₹ 20 What is the amount that remains with me?

Rehaman : Subtract 20 from 50 what remains is ₹ 30

Rekha : That is easy. Let me tell you one more sum. Subtract 23 from 45.

Rehaman : The answer is 22. Is it correct?

Rekha : How did you solve so quickly

Rehaman : I subtracted 20 from 45. Then I subtracted 3 from 25, The difference is 22.

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Exercise

I. Answer Orally:

1) Mahesh had ₹ 30. If he spends ₹15, what amount remains with him?
2) Amith had 15 marbles. Pavan gave him 5 marbles. What is the total number of marbles Amith has?
3) Rehaman had ₹ 50. He went to a market and purchased vegetables for ₹ 28. What is the amount left with him?
4) If 3 students are absent in a class of 26 students, how many students are present in the class?
5) David scored 60 runs in first innings and 36 runs in the second innings. What is the total score of David?

II. Answer Orally.

A.

1)	6	+	4	5)	40	+	3
2)	8	+	12	6)	60	+	8
3)	20	+	13	7)	20	+	43
4)	30	+	10	8)	60	+	15

B.

1)	6	-	4	2)	48	-	18
3)	12	-	6	4)	36	-	25
5)	24	-	14	6)	18	-	14
7)	13	-	10	8)	26	-	26

Identifying whether the given problem is addition or subtraction.

Discuss whether the given day to day problems are related to addition or subtraction.

1) Mary had ₹ 75. Her brother Thomas gave her ₹ 18. How much money does Mary have now?

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- In above problem Mary had ₹ 75, her brother gave ₹ 18. She has more money. It means add 18 to 75. Hence it is addition.

2) Strength of a class is 48. On a day 36 are present. How many students were absent on that day?

- In a class of 48 students, 36 are present. The number of students present is less than the strength i.e. to find the absentees or difference we should subtract. It is subtraction.

Exercise

Mark by a tick (✓) whether the given day to day word problem is addition or subtraction.

1. Ankitha has ₹ 39. She purchased a note book for ₹ 18. How much amount remained with her? Addition/subtraction.
2. There are 43 bags of rice and 29 bags of wheat in a truck. What is the total number of bags in that truck ? Addition/ Subtraction.
3. Two cricket players scored 24 runs and 45 runs. What is the total score of both the players? Addition/ Subtraction.
4. There were 35 kites in a shop. Out of them, 18 kites were sold. How many kites remained in the shop? Addition/ Subtraction.
5. There are 84 coconuts in a grocery shop. At the end of the day 13 coconuts remained in the shop. How many coconuts were sold ? Addition/ Subtraction.
6. There are 53 coconut trees 18 mango trees in a garden. What is the total number of trees in the garden? Addition/ Subtraction.

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Fill in the blanks with suitable signs (+/ –).

1) 12 ☐ 8 = 20

2) 13 ☐ 3 = 10

3) 19 ☐ 4 = 23

4) 35 ☐ 13 = 48

5) 58 ☐ 18 = 40

6) 37 ☐ 13 = 50

7) 18 ☐ 12 = 6

8) 15 ☐ 15 = 30

9) 19 ☐ 11 = 8

10) 36 ☐ 16 = 20

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Lesson - 5

MULTIPLICATION

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After studying this lesson you :

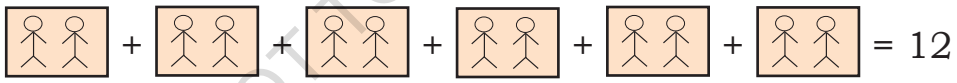
- Understand Multiplication through repeated addition.
- Formation of Multiplication tables.

Activity :

Let the students stand in a circle and play a game. Let the leader stand in the centre and others run around the circle. The leader blows the whistle and says a number within five. Suddenly the students form a group of that number. Count the number of groups formed and total number of children. The students who cannot form a group of that number will quit the game. The game continues.....

***Example:* Let 12 children play a game**

- If the leader ask the children to form a group of 2, they stand as shown below.

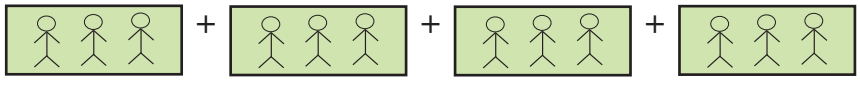


2 + 2 + 2 + 2 + 2 + 2 = 12

Here 2 is repeatedly added 6 times

This can be written as $2 \times 6 = 12$

- If the leader asks the children to form a group of 3, they stand as shown below.



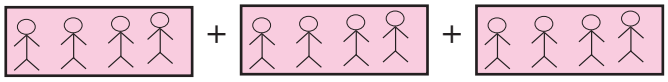
3 + 3 + 3 + 3 = 12

Here 3 is repeatedly added 4 times.

This can be written $3 \times 4 = 12$

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- If the leader asks to form a group of 4, they stand in groups as shown below



4 + 4 + 4 = 12

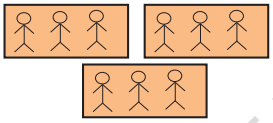
3 groups of 4

4 × 3 =12

In the examples given above, numbers are repeatedly added.

Multiplication is an easy form of repeated addition.

Multiplication groups

Groups	Adding	Multiplication
	2 + 2 + 2 = 6	2 × 3 = 6
	5 + 5 = 10	
	6 + 6 + 6 + 6 = 24	
	4 + 4 = 8	
	3 + 3 + 3 = 9	

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Observe

6 groups of 2 - 2 + 2 + 2 + 2 + 2 + 2 = 12

2 × 6 = 12

2 × 6 = 12

↓ ↓ ↓

Multiplicand × Multiplier = Product

2 Multiplied by 6 is 12

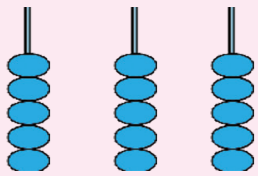
Repeated addition of the same number is called Multiplication.

The Sign of multiplication is '×'

Exercise

I. See the picture and complete the repeated form of addition and multiplication.

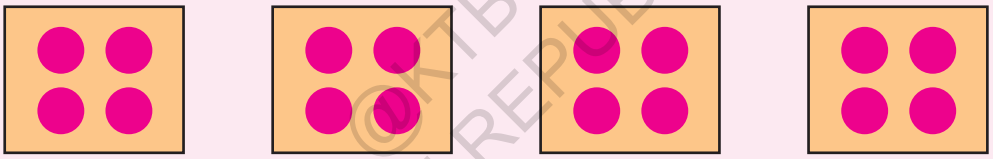
1)



☐ + ☐ + ☐ = ☐

☐ × ☐ = ☐

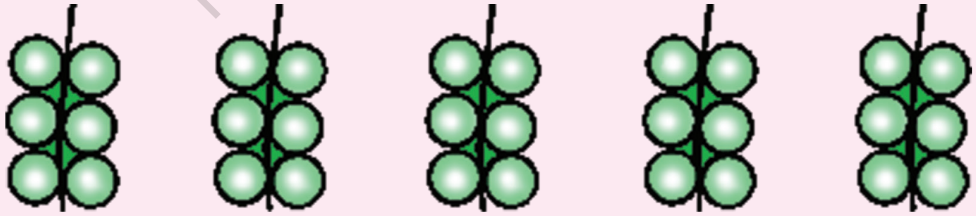
2)



☐ + ☐ + ☐ + ☐ = ☐

☐ × ☐ = ☐

3)



☐ + ☐ + ☐ + ☐ + ☐ = ☐

☐ × ☐ = ☐

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II. Add the numbers on the bat and match them with the products on the balls.

1

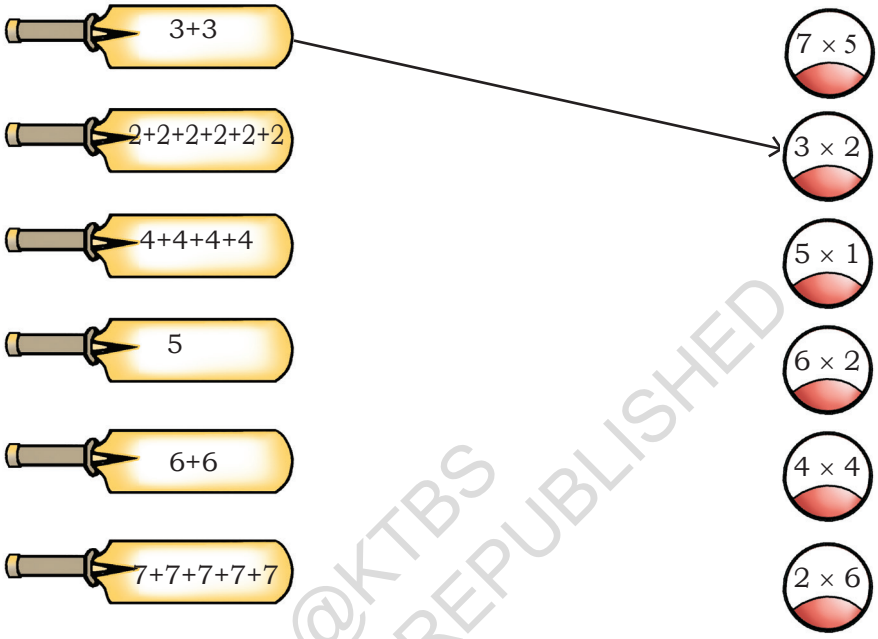
2

3

4

5

6



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III. Fill in the blanks as shown in the example

Example: **3+ 3 + 3 = 3 × 3 = 9**

1) 2 + 2 + 2 + 2 = ------ = ------

2) 0 + 0 + 0 + 0 + 0 = ------ = ------

3) 5 + 5 + 5 + 5 + 5 + 5 = ------ = ------

4) 6 + 6 + 6 = ------ = ------

5) 4 + 4 + 4 = ------ = ------

Any number Multiplied by '0' the product is '0'.

Construction of tables

Table -1

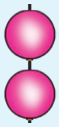
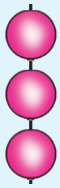
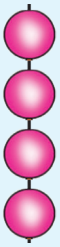
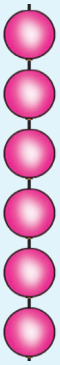
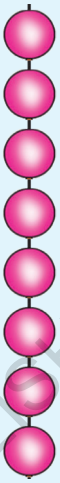
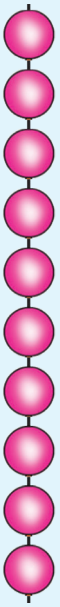
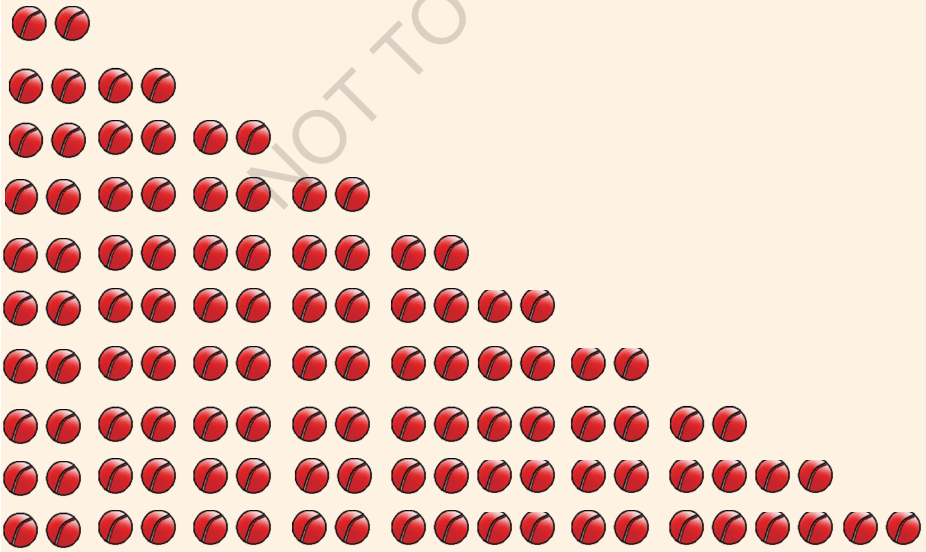
1×1=1	1×2=2	1×3=3	1×4=4	1×5=5	1×6=6	1×7=7	1×8=8	1×9=9	1×10=10
									

Table -2



2×1 = 2
2×2 = 4
2×3 = 6
2×4 = 8
2×5 = 10
2×6 = 12
2×7 = 14
2×8 = 16
2×9 = 18
2×10=20

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Table -5



5 × 1 = 5

5 × 2 = 10

5 × 3 = 15

5 × 4 = 20

5 × 5 = 25

5 × 6 = 30

5 × 7 = 35

5 × 8 = 40

5 × 9 = 45

5 ×10 = 50

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Activity: *Construct multiplication tables of 3 and 4 by using sticks or drawing lines.*

Lesson - 6

DIVISION

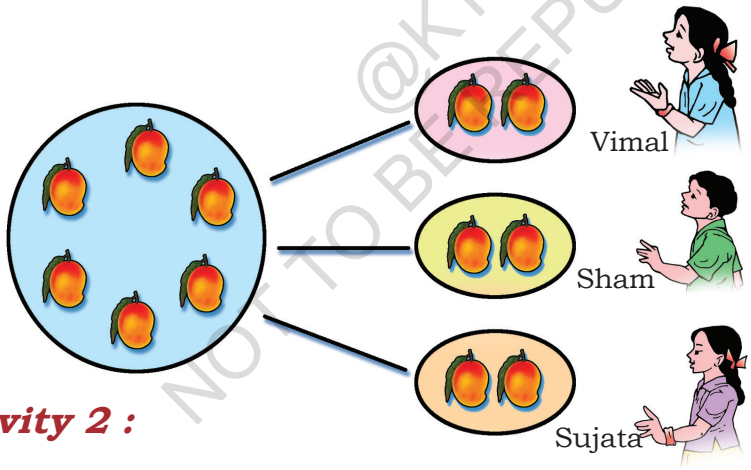
N3N5R3

After studying this lesson you :

- ⋆ understand division through equal sharing.
- ⋆ do the activities related to division through equal sharing.

Activity 1 :

In a village called Ranganahalli there lived an old lady by name Gangamma. Her three grand children came to her house during holidays. She gave them six mangoes and asked them to share equally. How many mangoes does each get?

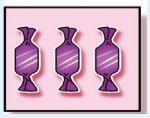


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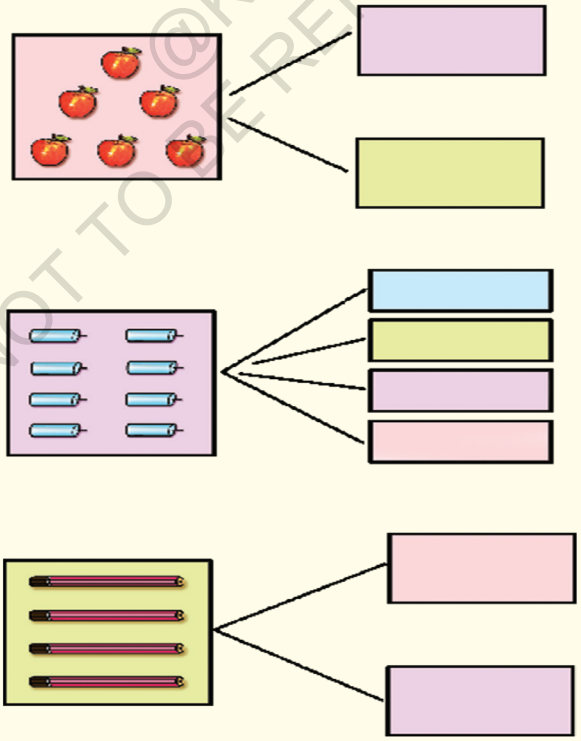
Activity 2 :



There are 9 Chocolates in a plate. Distribute them equally among 3 children. How many chocolates will each get ?

 Vimal	 Sham	 Sujata	
			First time, distribute one to each of them 6 chocolates remain 9 - 3 = 6
			Second time, distribute one to each of them 3 chocolates again 6 - 3 = 3 remain
			Third time distribute one to each of them 0 chocolates remain 3-3 = 0

Count the things in picture and distribute equally in the trays.



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Draw the line and divide them in to equal shares

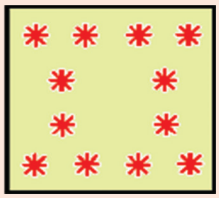
Example:



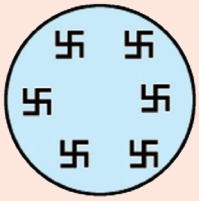
3 equal shares



2 equal shares



2 equal shares



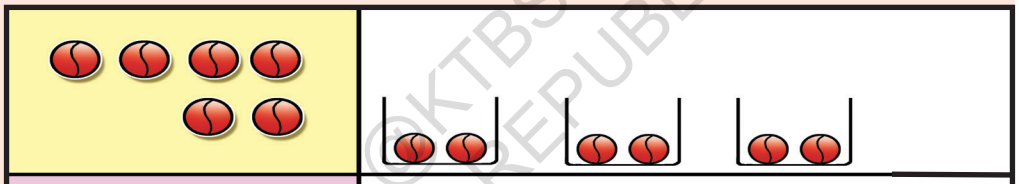
2 equal shares

Exercise

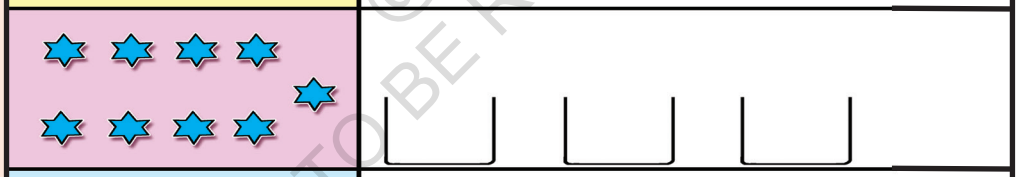
Make equal distribution as shown in the example

Example

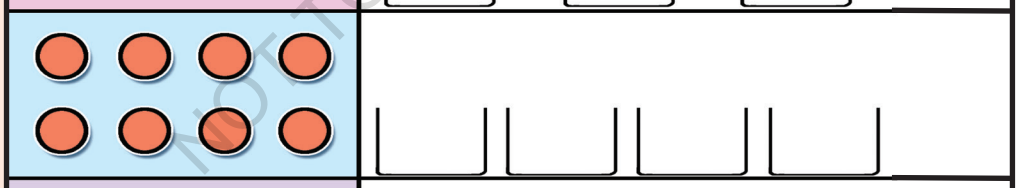
1)



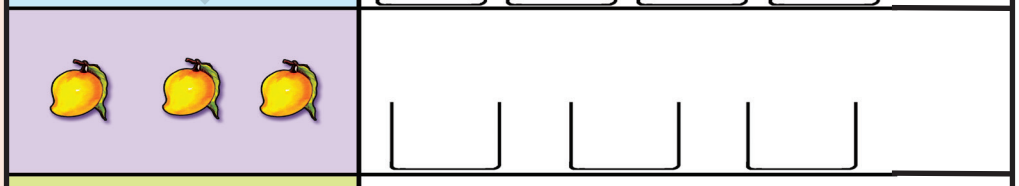
2)



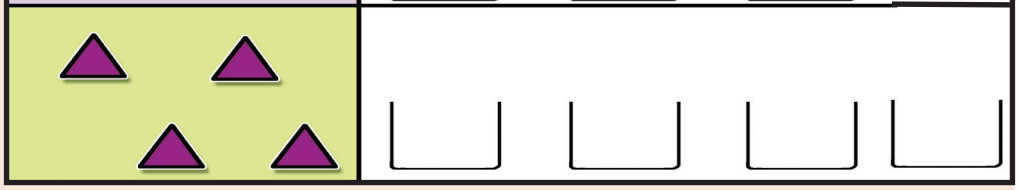
3)



4)



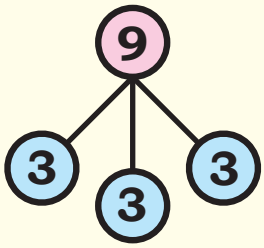
5)

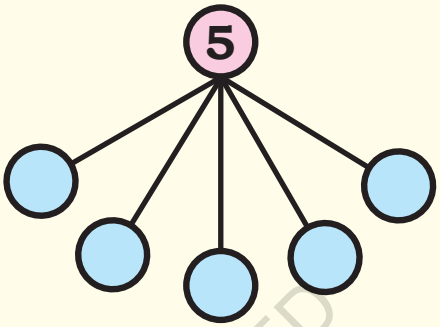


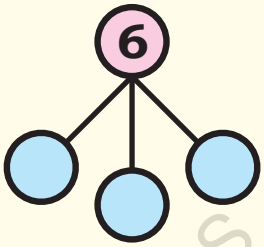
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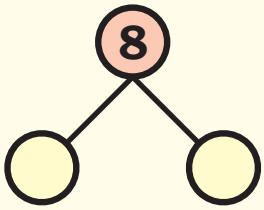
II. Make equal Shares as done in the example.

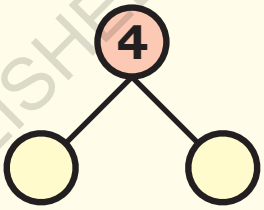
Example



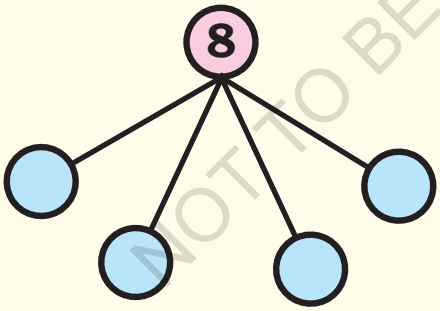


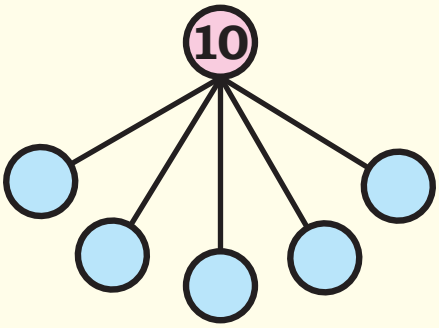


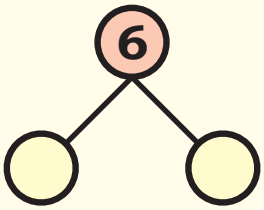


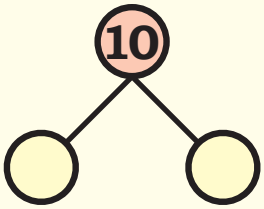


III. Distribute the following into equal parts.







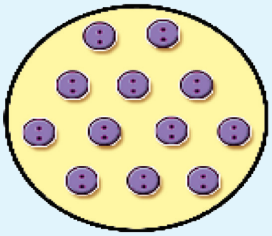


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III Stitch the buttons to shirts equally as shown in the example :

Example : **Stitch twelve buttons to two shirts equally.**





6 6

1) Stitch 15 buttons to 3 Shirts equally.





2) Stitch 16 button to 4 Shirts equally






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NOTE

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