

Lesson-1

Shapes and Patterns

Look at the picture below and identify at least one object similar to the given figure and name them.



Window



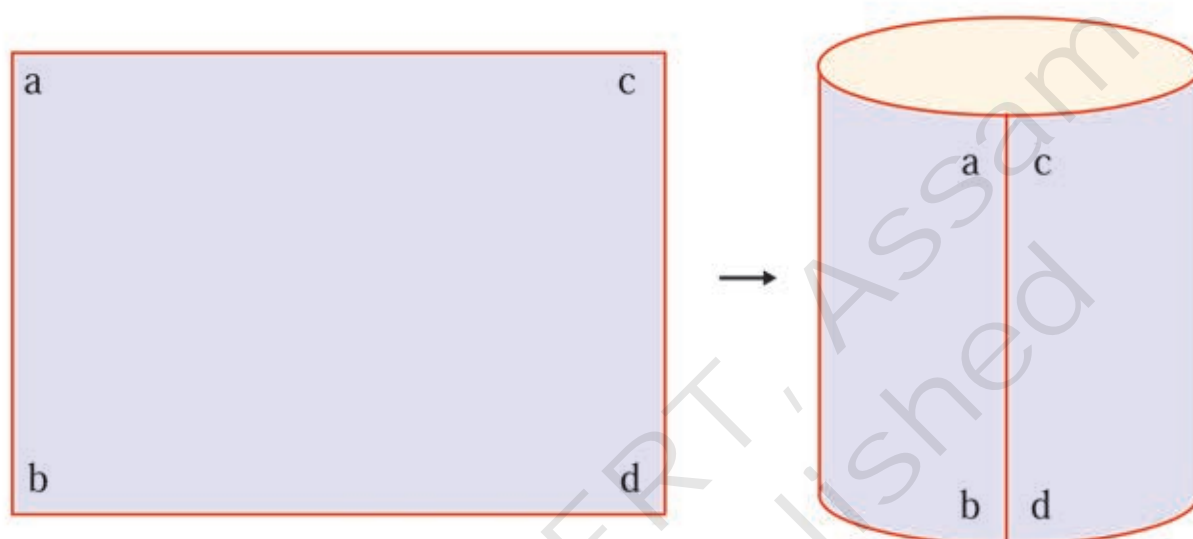
Match the objects with their geometrical figures:

Objects	Geometrical figures	Objects
		
		
		
		
		



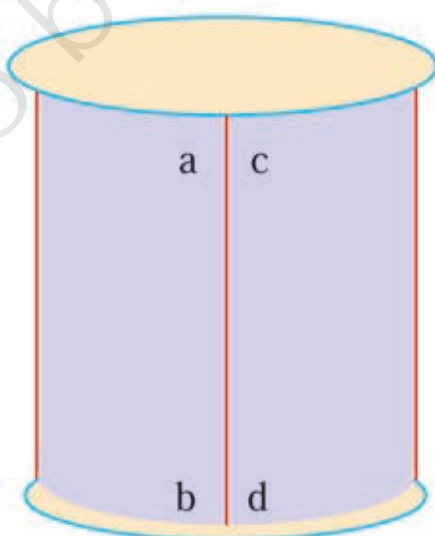
Let us make a cylinder with paper -

- Take a rectangular piece of paper. Colour it. Write a, b, c, d on the paper as shown in the picture.
- Fold the paper in such a manner so that **a** touches **c** and **b** touches **d**.



- Fix the two ends with cellotape.
- Now, you have a cylindrical shape with two open ends which are circular.
- Cut two circular pieces of paper slightly bigger in size than the two open ends.
- Paste the two circular pieces of paper with gum on the two ends of the cylinder.

Have you got a cylinder made of paper?



Let us make a paper boat with a rectangular piece of paper. (The teacher will guide the students to make the paper boat with the help of the pictures given below)

1.



2.



3.



4.



5.



6.



7.



8.



9.



10.



11.



12.



- Unfold the paper boat. Observe the various geometrical shapes in the paper.
- Note down the number of shapes. Write how many of each shape you can find.

Take two empty boxes of sweets. Unfold one of them. Now compare it with the one which is not opened. What do you observe?

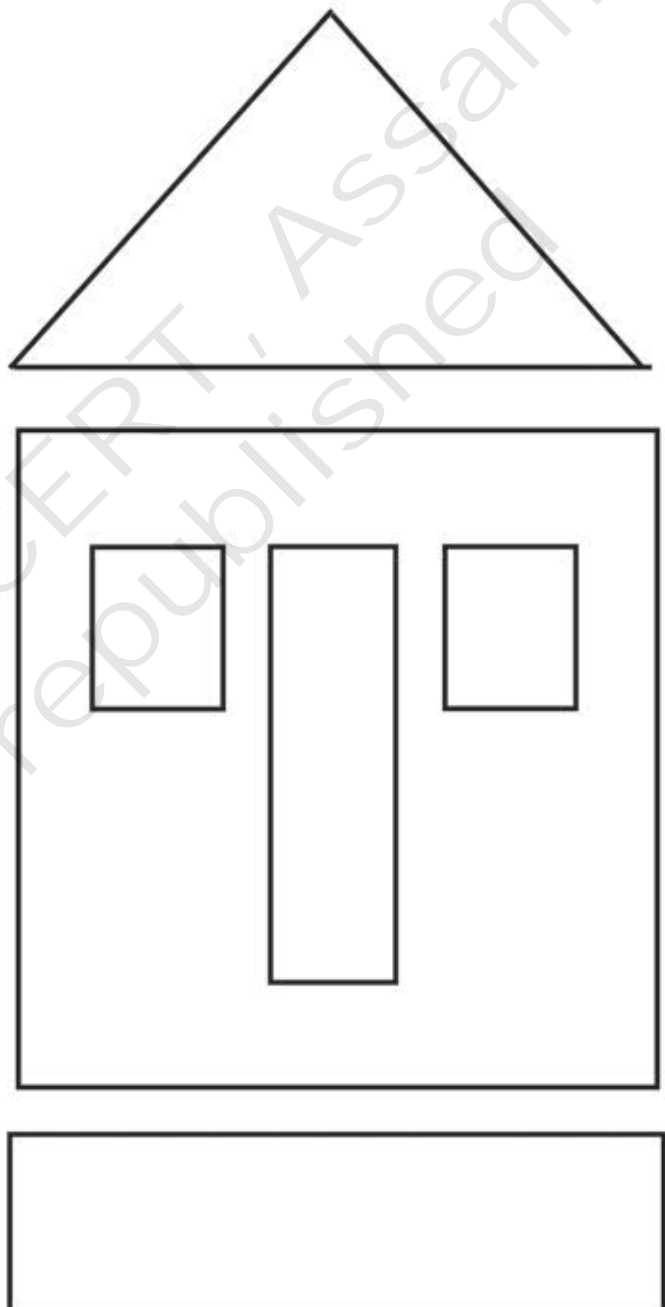
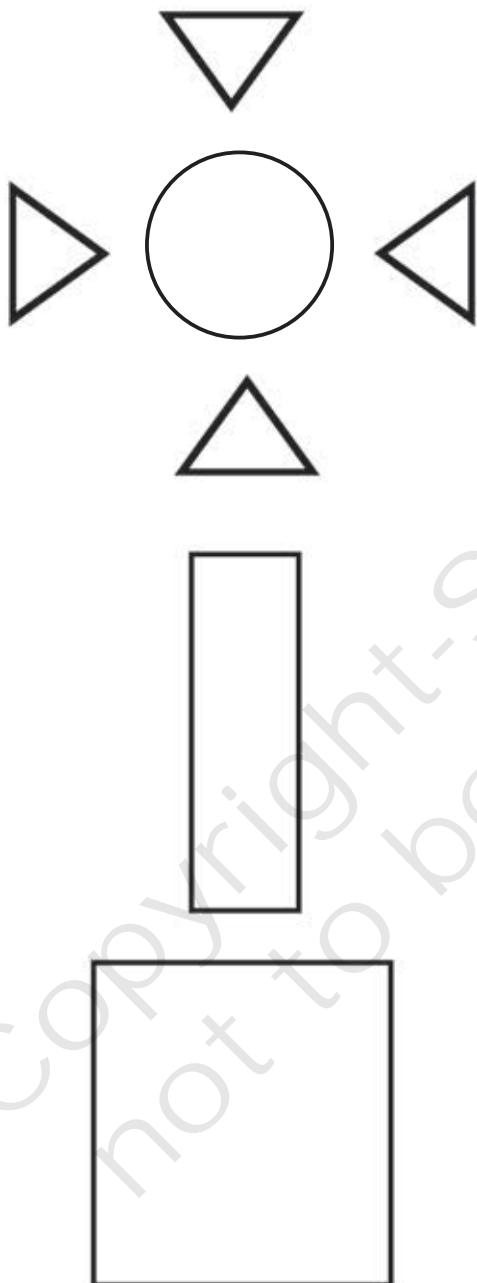
Let us colour the pictures as instructed :

Circles in red

Squares in yellow

Triangles in blue

Rectangles in green



Sides and Corners

Instruction to the teacher : The teacher will divide the students into small groups and ask them to do the following activities.

- Give one ludo dice to each group.
- Ask them to touch each surface of the dice.
- Let them observe whether each surface is even or uneven.
- Now, ask them to draw a surface as shown in the picture.
- Ask them to observe the surface drawn by them and show them that its -



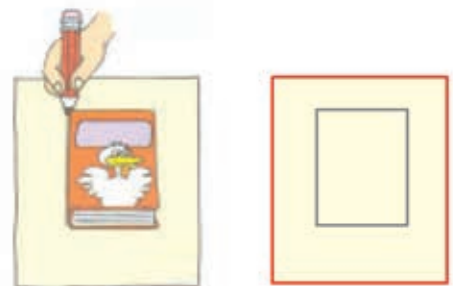
- **four edges are equal**
- **four corners are equal**



- The shape drawn by them is a square
- Its sides are the sides of the square.

Similarly, ask them to touch a book and draw a surface of the book. Now show them that the shape they have drawn is a rectangle. In a rectangle

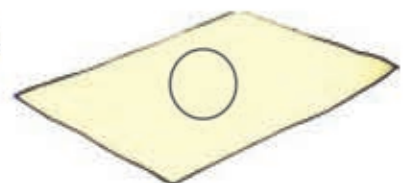
- the opposite edges are equal.
- the edges are the sides of the rectangle.
- the four corners are equal.



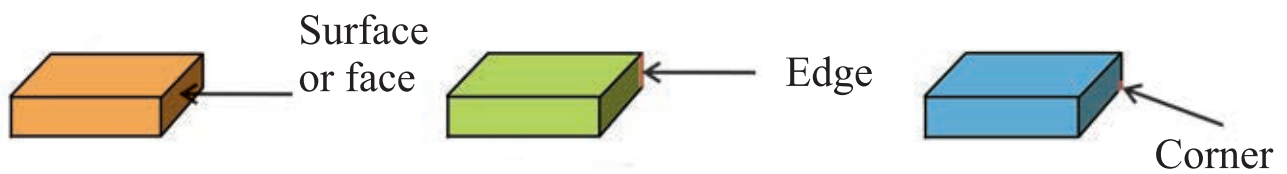
Now, ask the learners to draw as shown below with the help of a funnel. The shape drawn is a circle.

A circle has no sides.

A circle has no corners.



Let us understand -












Look at the picture and put a tick (✓) on the correct answer.

- The girl is touching the edge/corner of the almirah.
- The rat is at the edge/corner of the box.
- The tail of the cat is touching the edge/corner of the box.



Instruction to the teachers: Take a cuboid and show it to the students to make them understand the concept of face, edge and corner.

Fill in the following table with the number of edges and corners of the given object.

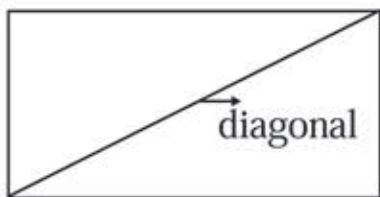
Objects	Number of edges	Number of corners
		
		
		
		
		
		
		
		
		

Activity

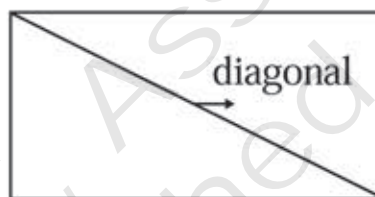
Step 1: Take a rectangular piece of paper.



Step 2: Draw a line on the paper as shown in the picture.



or



The two lines are called diagonals.

Look at the pictures and find the number of edges, corners and diagonals



Side.....

Corner.....

Diagonal.....



Side.....

Corner.....

Diagonal.....



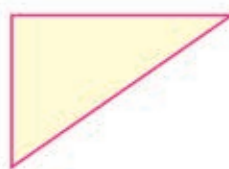
Edge.....

Corner.....

Diagonal.....

Activity:

Divide a rectangle as shown in the picture. You get two triangular shapes. Now draw the triangular shapes separately.



A

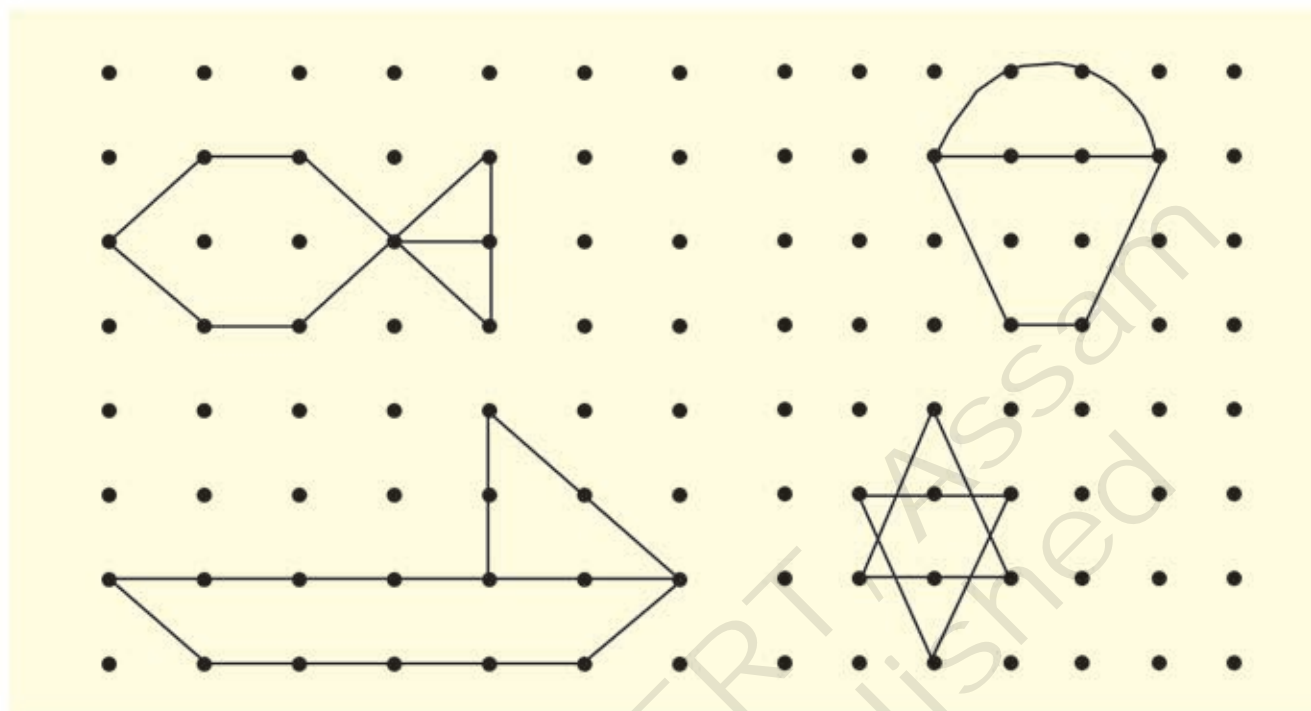


B

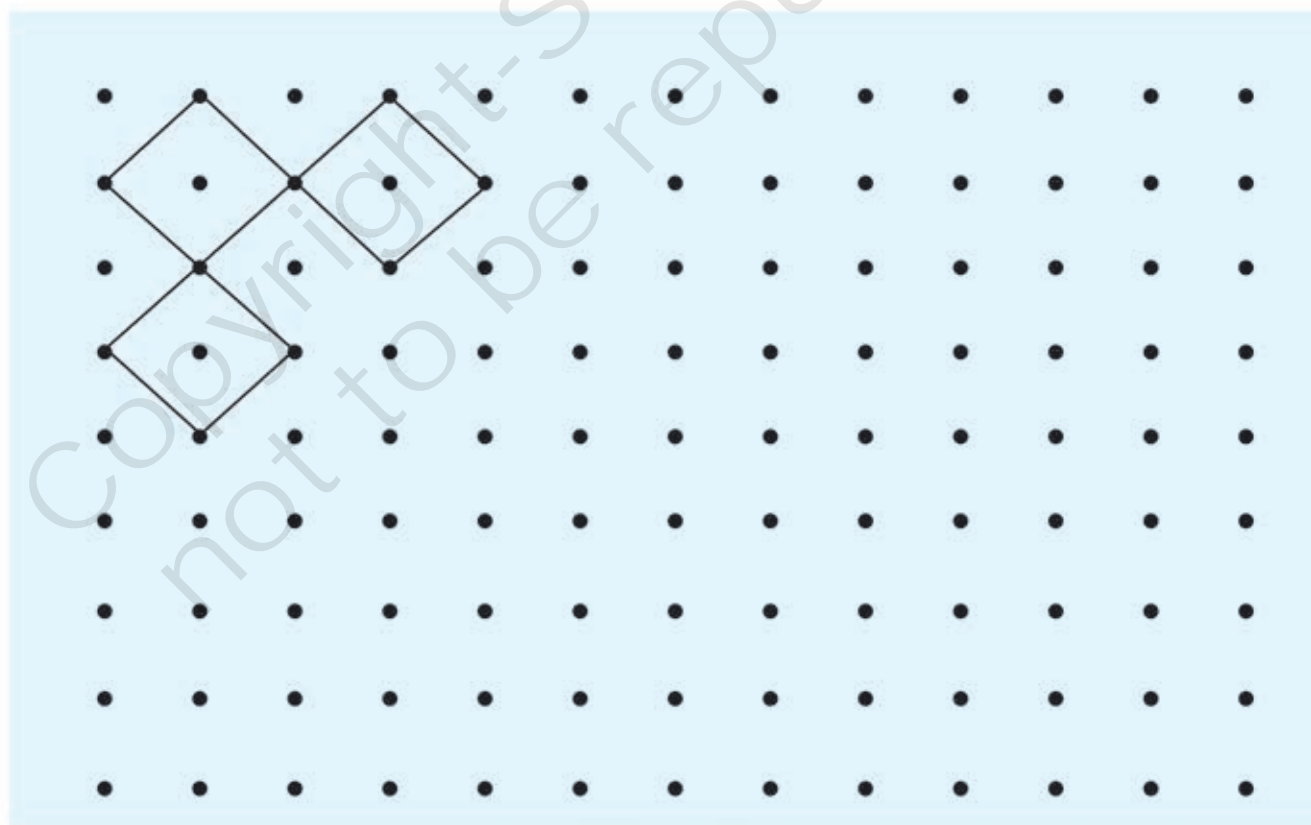
What is the name of the shapes 'A' and 'B'?



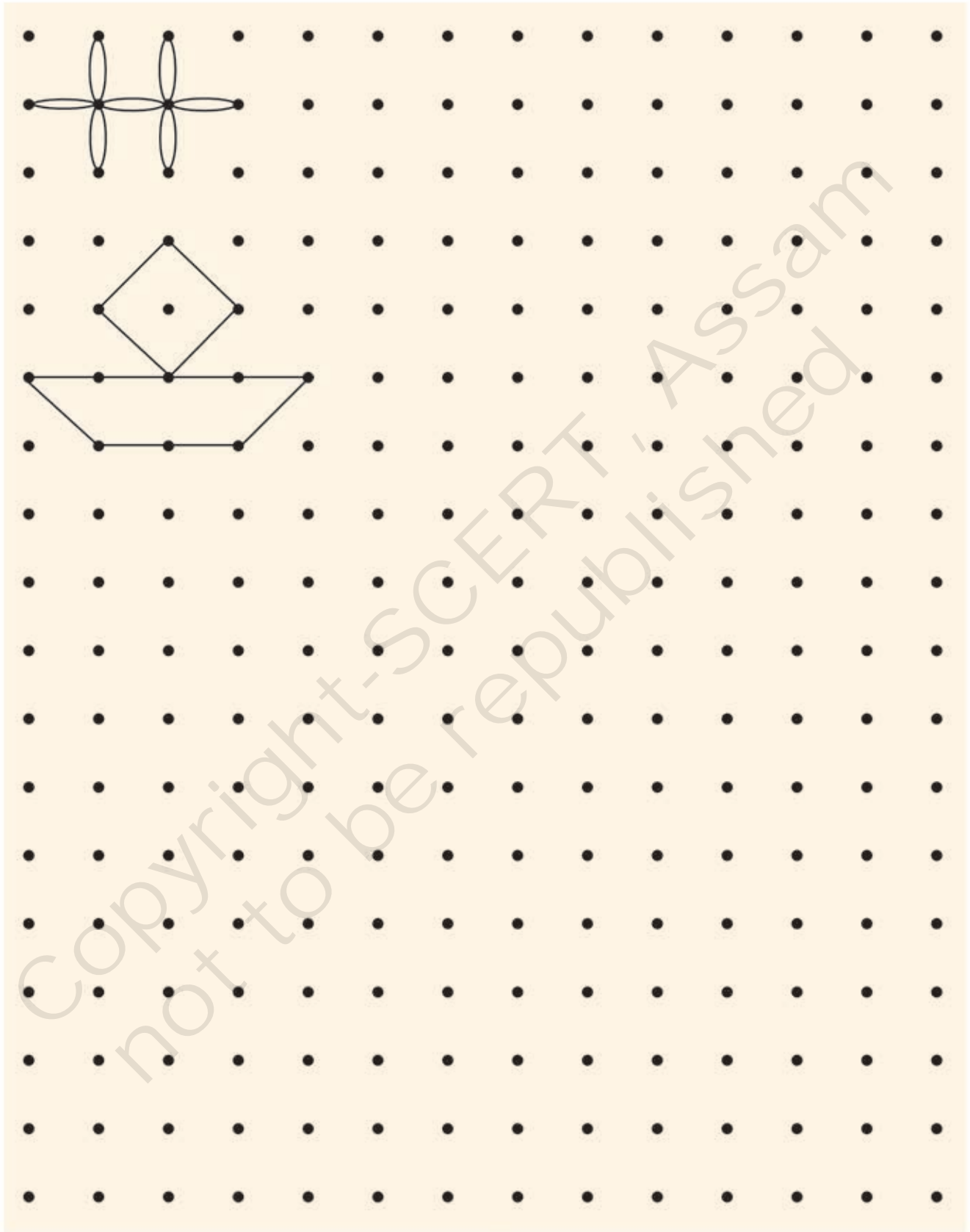
Let us see what shapes we have found by joining the dots



Draw some shapes by joining the dots.



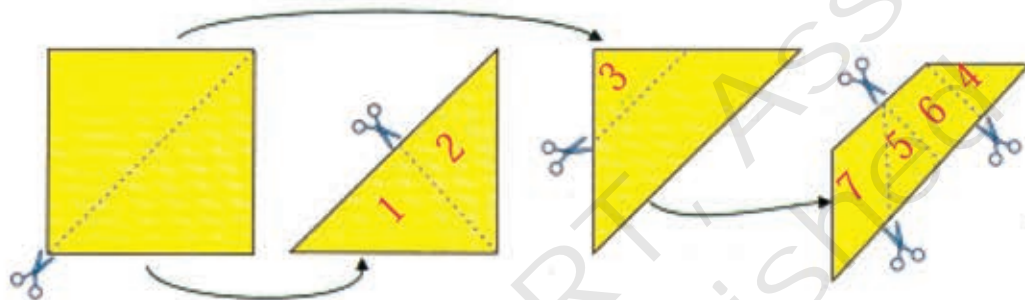
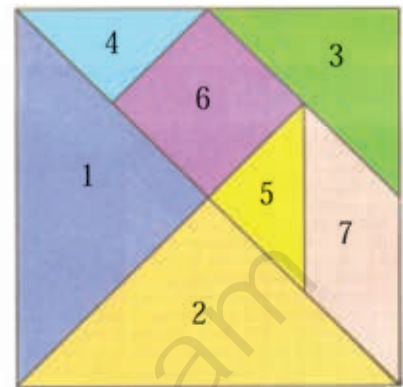
Join the dots by drawing straight lines and curved lines to form different shapes



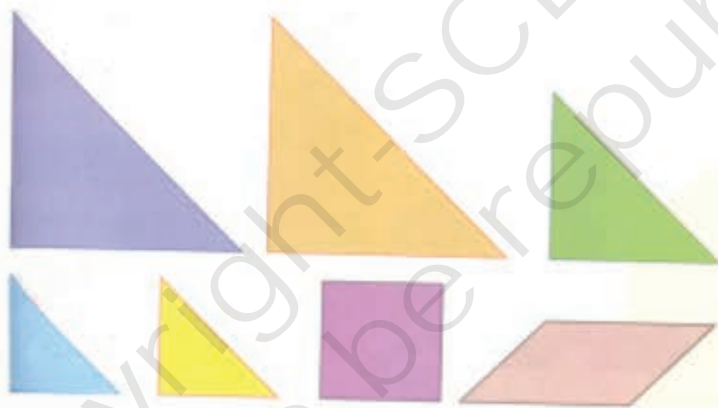
Let us learn what a Tangram is

- Tangram is a Chinese Puzzle which consists of a square cut into seven pieces. A picture of tangram is shown here.
- The pieces of the tangram can be taken out and arranged to make various interesting shapes.

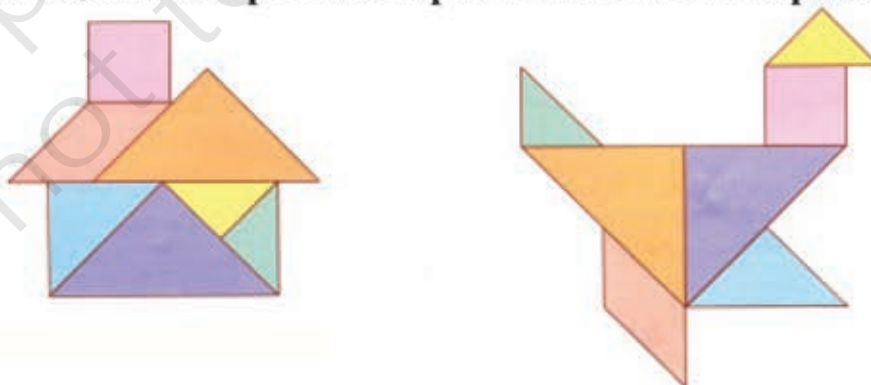
Let us cut the pieces of the tangram.



Let us look at the pieces of the tangram.



Let us look at a few samples of shapes formed with the pieces of the tangram.

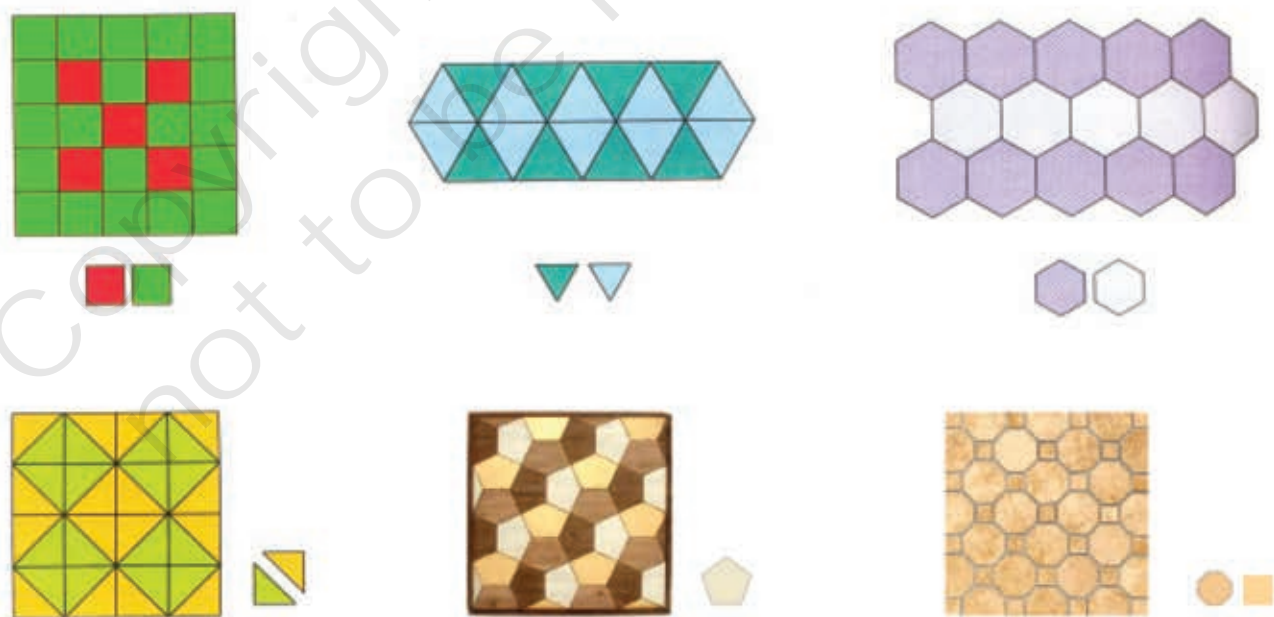


You can also try to make some shapes with the pieces of the tangram.

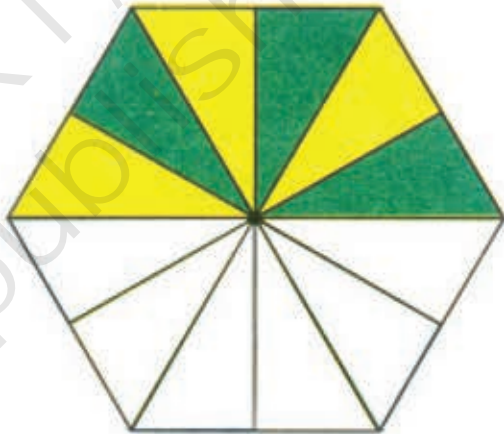
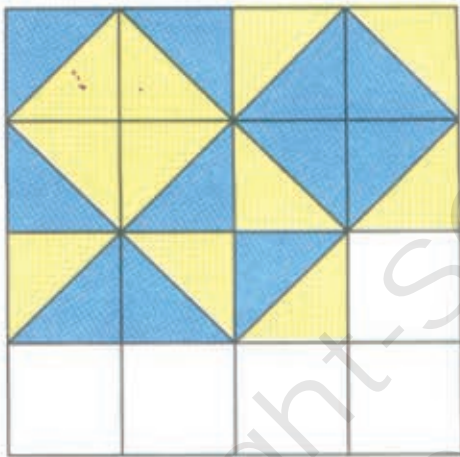
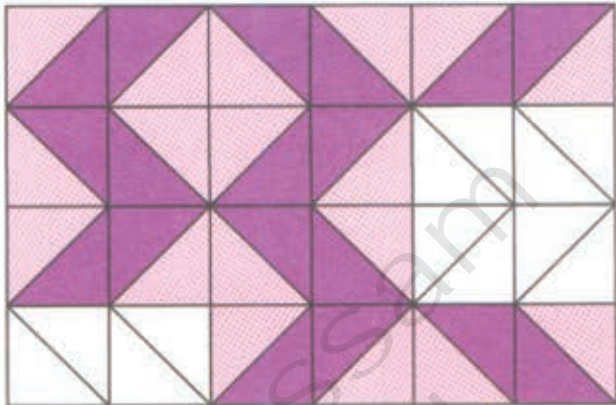
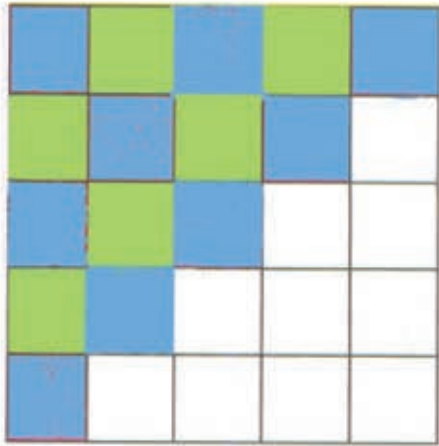
We have seen floor tiles, roof tiles, etc. of different shapes. Let us look at a few samples of tiles-



Let us look at the various shapes used in the tiles.



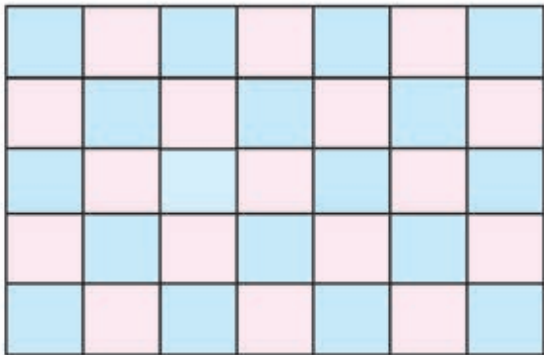
Colour and complete the patterns of the tiles:



Try:



How many \triangle can you count?



How many \square can you count?

Look at the picture given below and answer the questions.



Which is nearer to the boy's home- the post office or the school?

While going to the market, in which side the boy will find the hospital- to his right or to his left?

Count the mangoes in the mango tree which is at the back of the school.

What do you see under the tree near the market?

If you come out of the boy's house to which side will you find the school - to your right or to your left?