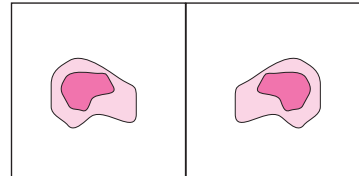
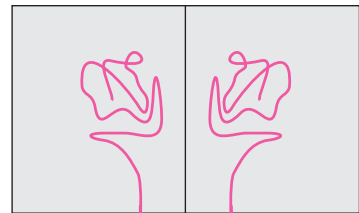


### Try this.

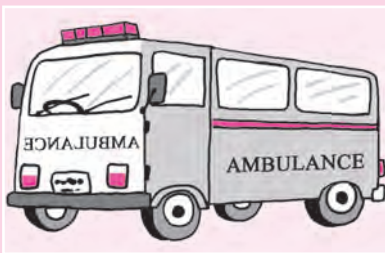
**Activity :** Take a paper and fold it so that it gets divided into two equal parts and unfold it. Make a blob of colour on one of the parts. Fold the paper again and press it a little. Now, unfold it. What do you see? The shape obtained is symmetrical about the line of the fold.



**Activity :** Now take a paper and a length of thread. Dip the thread in colour. Place it on one side of the paper. Fold the paper over it. Keeping the folded paper pressed down, pull out the thread by one of its ends. Unfold the paper. You will see a picture. The shape on the other side of the line will be like the one on the first. The picture that is formed is said to be symmetrical.



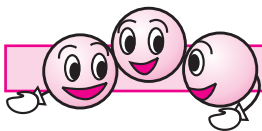
### Think about it.



Do you recognize this picture?

Why do you think the letters written on the front of the vehicle are written the way they are? Copy them on a paper. Hold the paper in front of a mirror and read it.

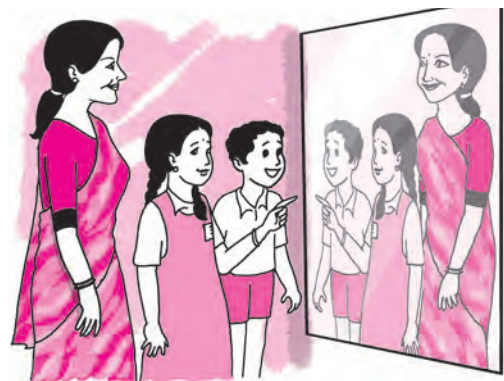
Do you see letters written like this anywhere else?



### Let's discuss.

**Teacher :** Anil, Sudha, we can see ourselves in the mirror. That is our image. What is different about it?

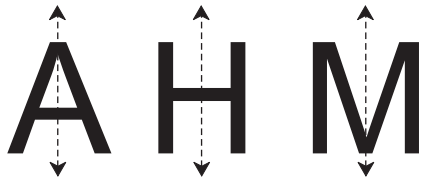
**Sudha :** I have pinned my badge on my left. But, it appears on the right in the image.



**Anil** : My image in the mirror is as far behind in the mirror as I am in front of it.  
**Sudha** : Teacher's *pallu* is on her left shoulder. But in the mirror it appears to be on her right shoulder.  
**Teacher** : We and our images are symmetrical with reference to the mirror.



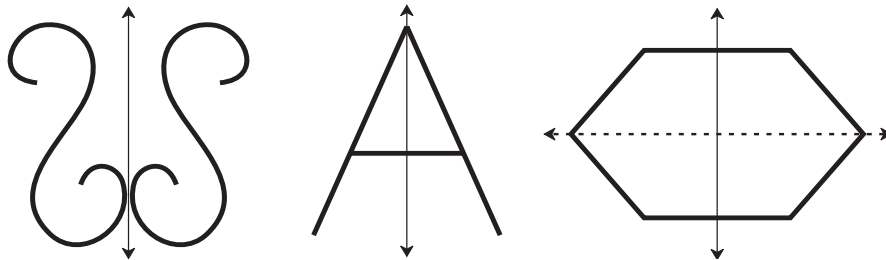
### Reflectional Symmetry



Write the English capital letters A, H, M in a large size on separate sheets of paper. Fold the paper so that their two parts fall exactly on each other. Mark with dots the line which makes two equal parts of the figure. This line is the **axis of symmetry** of the figure.

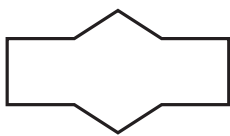
If a symmetrical figure gets divided by an axis in the figure into two parts which fall exactly on each other, its symmetry is called **reflectional symmetry**. Some figures have more than one axis of symmetry.

The figures below are symmetrical.

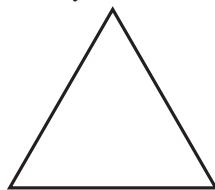


### Practice Set 20

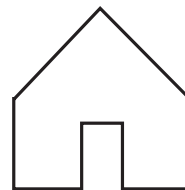
(1) Draw the axes of symmetry of each of the figures below. Which of them has more than one axis of symmetry?



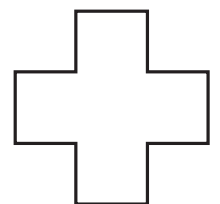
(1)



(2)



(3)



(4)

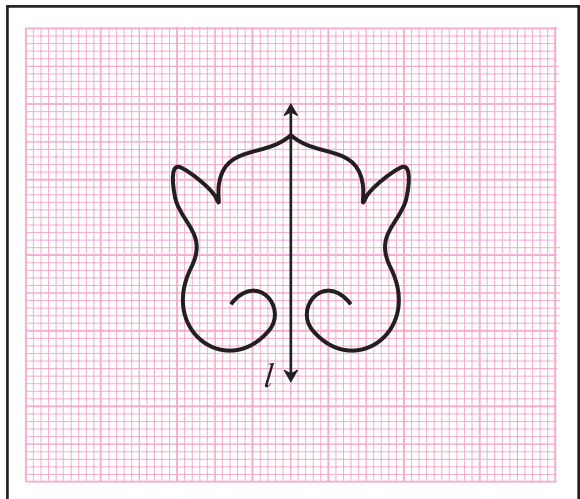
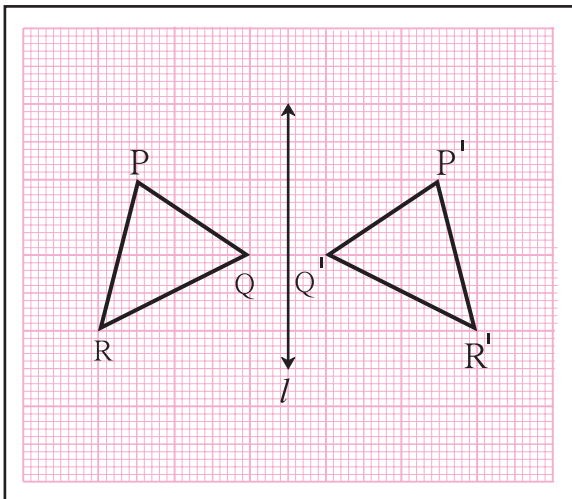
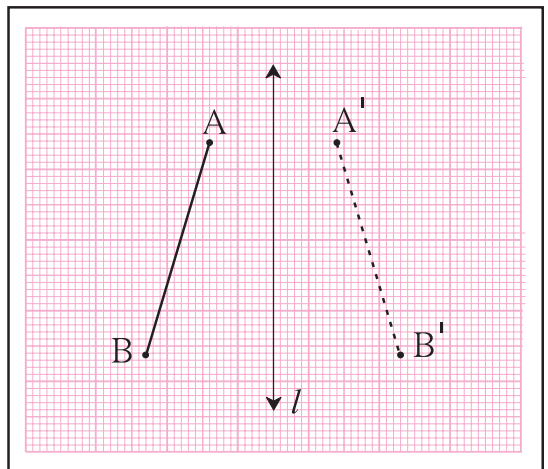
(2) Write the capital letters of the English alphabet in your notebook. Try to draw their axes of symmetry. Which ones have an axis of symmetry? Which ones have more than one axis of symmetry?

(3) Use colour, a thread and a folded paper to draw symmetrical shapes.

(4) Observe various commonly seen objects such as tree leaves, birds in flight, pictures of historical buildings, etc. Find symmetrical shapes among them and make a collection of them.

## Drawing symmetrical figures on graph paper

Observe the figure on the graph paper. The line segment  $AB$  is drawn on the left of the line  $l$ . The points  $A'$  and  $B'$  are as far on the right of  $l$  as  $A$  and  $B$  are on its left. The points  $A'$  and  $B'$  are the images of points  $A$  and  $B$ . The figure, segment  $A'B'$ , is the image of the segment  $AB$ . Verify by measuring the lengths of seg  $AB$  and seg  $A'B'$ .



In the figures above, the line  $l$  divides the figure into two parts. Do these two parts fall exactly on each other? Verify.

### Practice Set 21

- \* Along each figure shown below, a line  $l$  has been drawn. Complete the symmetrical figures by drawing a figure on the other side such that the line  $l$  becomes the line of symmetry.

