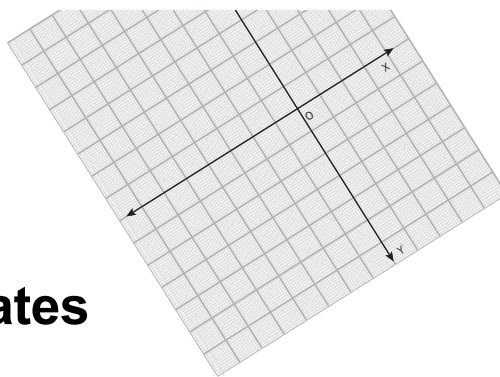


Activity 27



Quadrants and co-ordinates

Objective

To obtain the mirror image of a given geometrical figure with respect to the x-axis and the y-axis.

Pre-requisite knowledge

Plotting of points on the graph paper, idea of mirror image points about a given line.

Material Required

Graph paper, pencil, ruler.

Procedure

1. Write the co-ordinates of the labeled points (A, B, C, D...) in the given Fig 27 (a).
2. Plot the mirror images of the points (A, B, C, D...) with respect to the x-axis and label the co-ordinates obtained.
3. Join the co-ordinates obtained in step 2 in order to get the mirror image of the given figure with respect to the x-axis.
4. Repeat the process to get the mirror image of the given figure with respect to the y-axis.

Observations

The students will observe the following

1. When the mirror image of a figure is obtained with respect to the y-axis, the y-coordinate remains the same.
2. When the mirror image of a figure is obtained with respect to the x-axis, the x-coordinate remains the same.

Learning Outcomes

1. The students will get practice of plotting points with given co-ordinates.
2. The students will develop a geometrical intuition for reflection symmetry.
3. The students will get an idea of developing symmetrical designs.

Remark

1. The teacher may suggest any figure other than Fig 27 (a) for doing this activity in the mathematics laboratory.
2. The teacher may ask the children to find the mirror image of a figure with respect to any other line e.g. $x = y$. (Here we have taken the x and y axis to get the reflections of points).

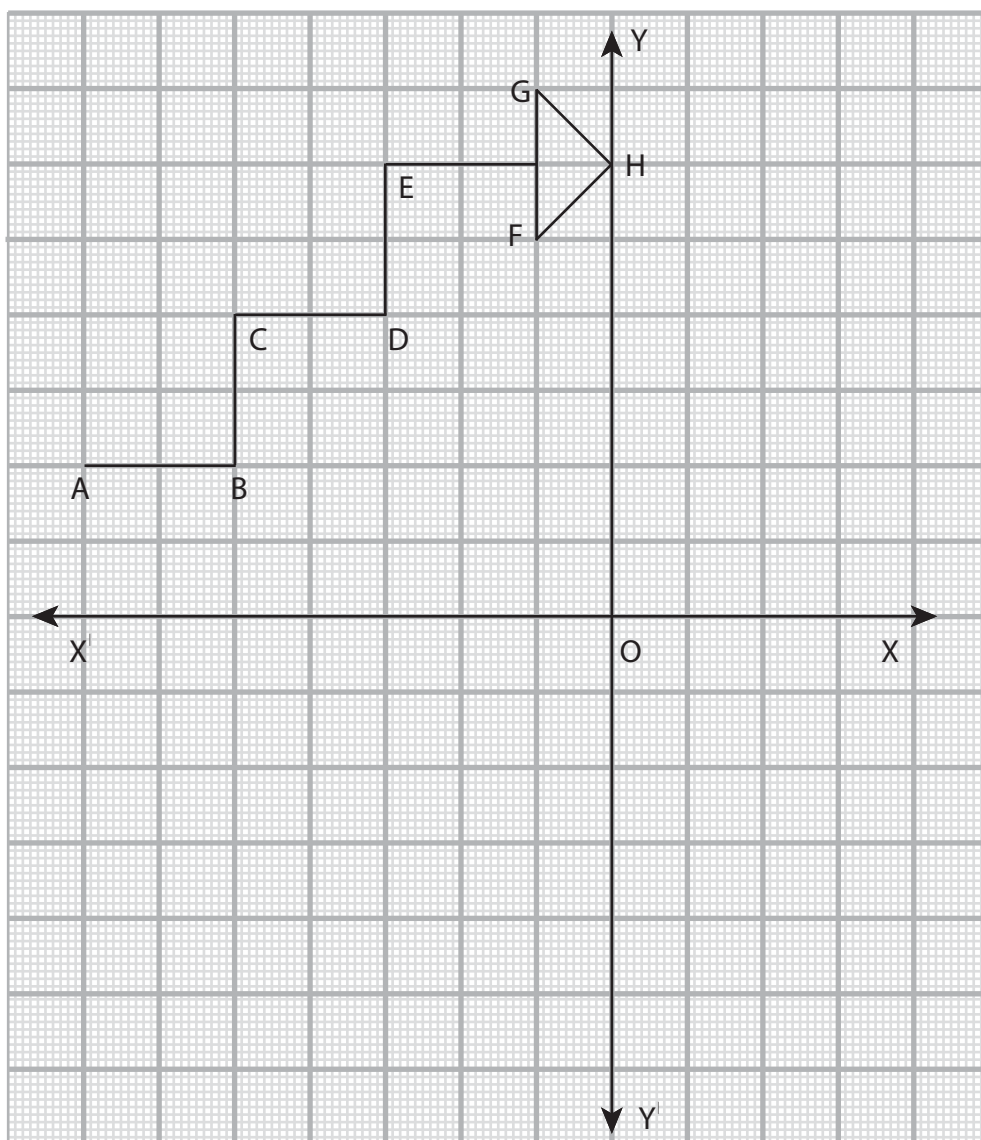


Fig 27 (a)