

CLASS-10
CHAPTER-7
COORDINATE GEOMETRY

EXERCISE - 7.4

1. If $(-4, 3)$ and $(4, 3)$ are two vertices of an equilateral triangle. Find the coordinates of the third vertex, given that the origin lies in the interior of the triangle.
2. $\mathbf{A}(6, 1)$, $\mathbf{B}(8, 2)$ and $\mathbf{C}(9, 4)$ are three vertices of a parallelogram ABCD. If \mathbf{C} is the midpoint of DC find the area of $\triangle ADE$
3. The points $\mathbf{A}(x_1, y_1)$, $\mathbf{B}(x_2, y_2)$ and $\mathbf{C}(x_3, y_3)$ are the vertices of $\triangle ABC$
 - (a) The median from \mathbf{A} meets BC at \mathbf{D} find the coordinates of the point \mathbf{D}
 - (b) Find the coordinates of the point \mathbf{p} on AD such that $AP:PD=2$
 - (c) Find the coordinates of points \mathbf{Q} and \mathbf{R} on medians BE and CF respectively such that $BQ:QE=2:1$ and $CR:RF=2:1$
 - (d) What are the coordinates of the centroid of the triangle ABC
4. If the points $\mathbf{A}(1, -2)$, $\mathbf{B}(2, 3)$, $\mathbf{C}(a, 2)$ and $\mathbf{D}(-4, -3)$ form parallelogram, find the value of a and height of the parallelogram taking AB as base.
5. Students of a school are standing in rows and columns in their playground for a drill practice \mathbf{A} , \mathbf{B} , \mathbf{C} and \mathbf{D} are the positions of four students as shown in figure 7.4. Is it possible to place jaspal in the drill in such a way that he is equidistant from each of the four students \mathbf{A} , \mathbf{B} , \mathbf{C} and \mathbf{D} . If so, what should be his position
6. Ayush starts walking from his house to office. Instead of going to the office directly, he goes to a bank first, from there to his daughter school and then reaches the office. What is the extra distance travelled by Ayush in reaching his office. Assume that all distances covered are in straight lines. If the house is situated at $(2, 4)$, bank at $(5, 8)$, school at $(13, 14)$ and office at $(13, 26)$ and coordinates are in km.

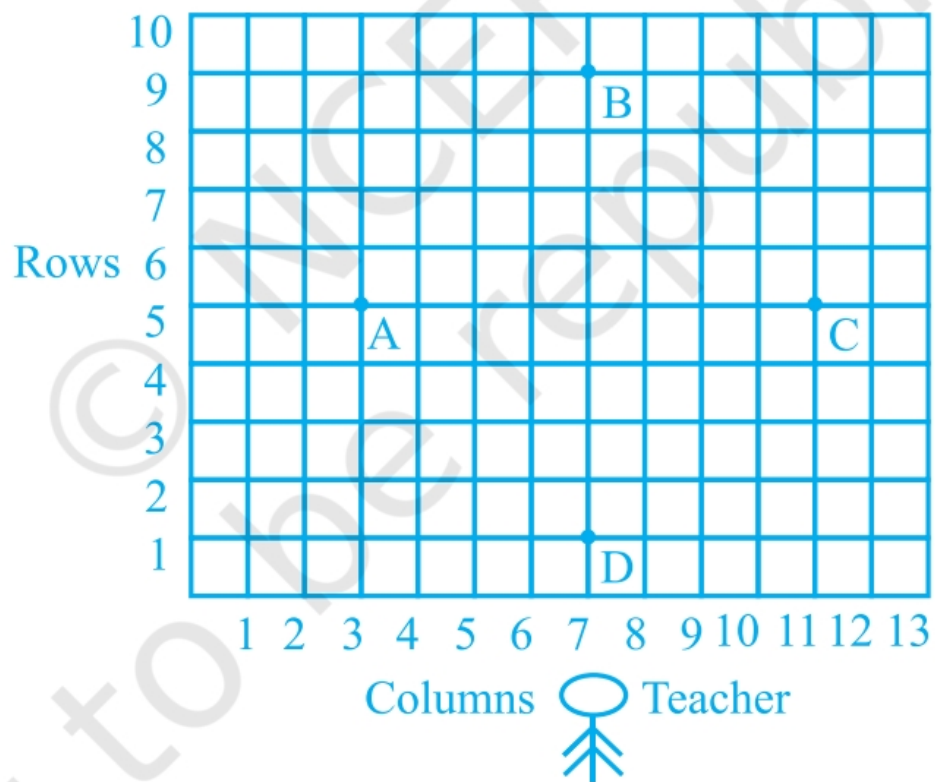


Fig. 7.4

Figure 1