

Latex Assignment1

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Example-1-15 (10.7)

1. Do the points $(3, 2)$, $(-2, -3)$ and $(2, 3)$ form a triangle? If so, name the type of triangle formed.
2. Show that the points $(1, 7)$, $(4, 2)$, $(-1, -1)$ and $(-4, 4)$ are the vertices of a square.
3. Fig. 1 shows the arrangement of desks in a classroom. Ashima, Bharti and Camella are seated at $A(3, 1)$, $B(6, 4)$ and $C(8, 6)$ respectively. Do you think they are seated in a line? Give reasons for your answer.
4. Find a relation between x and y such that the point (x, y) is equidistant from the points $(7, 1)$ and $(3, 5)$.
5. Find a point on the Y-axis which is equidistant from the points $A(6, 5)$ and $B(-4, 3)$.
6. Find the coordinates of the point which divides the line segment joining the points $(4, -3)$ and $(8, 5)$ in the ratio $3 : 1$ internally.
7. In what ratio does the point $(-4, 6)$ divide the line segment joining the points $A(-6, 0)$ and $B(3, -8)$?
8. Find the coordinates of the points of trisection (i.e. points dividing to three equal parts) of the line segment joining the points $A(2, -2)$ and $B(-7, 4)$.
9. Find the ratio in which the Y-axis divides the line segment joining the points $(5, -6)$ and $(-1, -4)$. Also find the point of intersection.
10. If the points $A(6, 1)$, $B(8, 2)$, $C(9, 4)$ and $D(p, 3)$ are the vertices of a parallelogram, taken in order, find the value of p .
11. Find the area of the triangle whose vertices are $(1, -1)$, $(-4, 6)$ and $(-3, 5)$.
12. Find the area of a triangle formed by the points $A(5, 2)$, $B(4, 7)$ and $(7, -4)$.
13. Find the area of the triangle formed by the points $P(-1.5, 3)$, $Q(6, -2)$ and $R(-3, 4)$.
14. Find the values of k if the points $A(2, 3)$, $B(4, k)$ and $C(6, -3)$ are collinear.

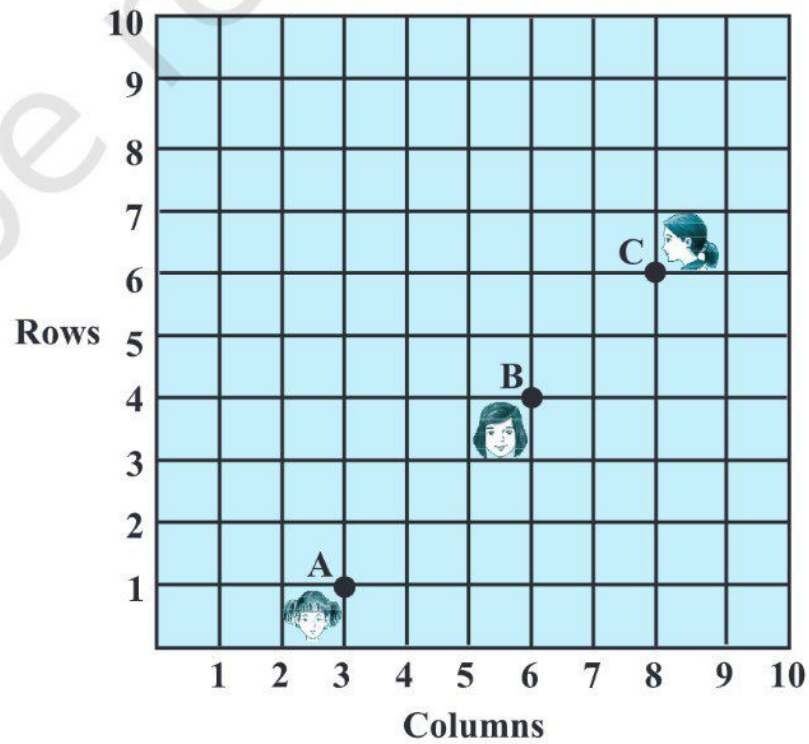


Figure 1: 7.6

15. If $A(-5, 7)$, $B(-4, -5)$, $C(-1, -6)$ and $D(4, 5)$ are the vertices of a quadrilateral, find the area of quadrilateral ABCD.