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EXERCISE 7.2

- Find the coordinates of the point which divides the join of $(-1, 7)$ and $(4, -3)$ in the ratio $2 : 3$.
- Find the coordinates of the points of trisection of the line segment joining $(4, -1)$ and $(-2, -3)$.

To conduct Sports Day activities, in your rectangular shaped school ground ABCD, lines have been drawn with chalk powder at a distance of 1 m each. 100 flower pots have been placed at a distance of 1 m from each other along AD, as shown in Fig. 7.12. Niharika

- runs $\frac{1}{4}$ the distance AD on the 2nd line and posts a green flag. Preet runs $\frac{1}{5}$ the distance AD on the eighth line and posts a red flag. What is the distance between both the flags? If Rashmi has to post a blue flag exactly halfway between the line segment joining the two flags, where should she post her flag?



Fig. 7.12

- Find the ratio in which the line segment joining the points $(-3, 10)$ and $(6, -8)$ is divided by $(-1, 6)$.
- If $(1, 2)$, $(4, y)$, $(x, 6)$ and $(3, 5)$ are the vertices of a parallelogram taken in order, find x and y .
- Find the coordinates of a point A , where AB is the diameter of a circle whose centre is $(2, -3)$ and B is $(1, 4)$.
- If A and B are $(-2, -2)$ and $(2, -4)$, respectively, find the coordinates of P such that $AP = \frac{3}{7}AB$ and P lies on the line segment AB .
- Find the coordinates of the points which divide the line segment joining $A(-2, 2)$ and $B(2, 8)$ into four equal parts.
- Find the area of a rhombus if its vertices are $(3, 0)$, $(4, 5)$, $(-1, 4)$ and $(-2, -1)$ taken in order. [Hint: Area of a rhombus is $\frac{1}{2}$ (product of its diagonals)]