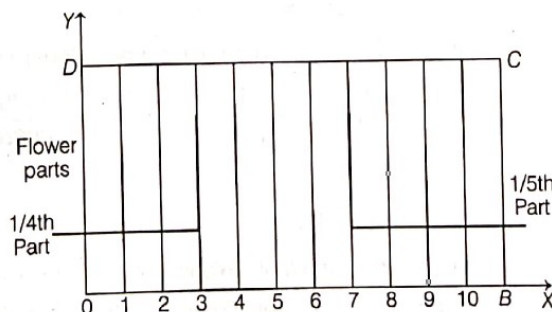


7. COORDINATE GEOMETRY

3 MARK QUESTIONS

1. Find the length of the median drawn through A on BC of a ΔABC , whose vertices are $A(7, -3)$, $B(5, 3)$ and $C(3, -1)$ and also find the distance of the point A $(7, -3)$ from the origin.
2. Find the centre of a circle passing through the points $(6, -6)$, $(3, -7)$ and $(3, 3)$.
3. Find the value of p for which the points $A(-1, 3)$, $B(2, p)$ and $C(5, -1)$ are collinear. Also, find the ratio in which B divides AC.
4. The two opposite vertices of a square are $(-1, 2)$ and $(3, 2)$. Find the coordinates of the other two vertices.
5. Find the value of p for which the points $A(-1, 3)$, $B(2, p)$ and $C(5, -1)$ are collinear. Also, find the ratio in which B divides AC.
6. The two opposite vertices of a square are $(-1, 2)$ and $(3, 2)$. Find the coordinates of the other two vertices.
7. In sports day activities of Delhi Public School, the lines were drawn with chalk powder in rectangular shape OBCD. Each line is $\frac{1}{2}$ m distance from each other. 60 flower pots have been placed at a distance of $\frac{1}{2}$ m from each other along OD. Yamini runs $\frac{1}{4}$ th of the distance OD on the 3rd line and makes a red flower. Kamla runs $\frac{1}{5}$ th of the distance OD on the 7th line and makes a yellow flowers.



- (i) Find the position of red and yellow flowers.
- (ii) Find the distance between these flowers.
8. Show that the points $(12, 8)$, $(-2, 6)$ and $(6, 0)$ are the vertices of a isosceles right angled triangle.
9. If the point $R(x, y)$ is equidistant from the points $P(a + b, a - b)$ and $Q(b - a, a + b)$, then find distance of P from origin, mid-point of PQ and also prove that $xa = yb$.
10. Find the points on the X-axis, which are at a distance of $2\sqrt{5}$ from the point $(7, -4)$. How many such points are there?
11. If $a \neq b \neq c$, then prove that the points (a, a^2) , (b, b^2) and (c, c^2) can never be collinear.
12. Name the type of quadrilateral formed by the points $(-1, -2)$, $(1, 0)$, $(-1, 2)$, $(-3, 0)$

13. Find the area of the rhombus ABCD, if its vertices taken in order are
 $A(2, -1), B(3,4), C(-2,3)$ and $D(-3, -2)$
14. Prove that the points $(-4,-1), (-2,-4), (4,0)$ and $(2,3)$ are the vertices of a rectangle. Also, find the area of the rectangle.
15. Find the equation of the perpendicular bisector of AB, where A and B the points $(3,6)$ and $(-3, 4)$, respectively. Also, find its point of intersection with X-axis.
16. Find a relation between x and y, such that the point (x, y) is equidistant from the points $(3,6)$ and $(-3, 4)$
17. Four points $A(6,3), B(-3,5), C(4,-2)$ and $D(x, 3x)$ are given such that $\frac{\Delta DBC}{\Delta ABC} = \frac{1}{2}$. Find x.
18. Suppose $(3,4), (-2,3)$ and (x, y) are vertices of an equilateral triangle. Find the value of x and y.

ANSWERS

1. 5 units 2. $(3, -2)$ 3. 1, 1:1 4. 5. 1: 1
6. $(1,0)(1,4)$ 7. (i) red flower $(15,15)$ and yellow flower $(3.5, 12)$ (ii) $\sqrt{13}$ 8.- 9.-
10. Two points $(5,0)$ and $(9,0)$ 11. 12. square 13. 24 sq units
14. 26 sq units 15. $(5/3, 0)$
16. $3x + y - 5 = 0$ 17. $11/8, -3/8$ 18. $(\frac{1+\sqrt{3}}{2}, \frac{7-5\sqrt{3}}{2}), (\frac{1-\sqrt{3}}{2}, \frac{7+5\sqrt{3}}{2})$

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