

Class: X

Co-ordinate Geometry

Extra Sum

- 1) The mid-point P of the line segment joining the points A(-10, 4) and B(-2, 0) lies on the line segment joining the points C(-9, -4) and D(-4, y). Find the ratio in which P divided CD. Also, find the value of y.
- 2) If three consecutive vertices of a parallelogram are (a+b, a-b); (2a+b, 2a-b); (a-b, a+b), then find its fourth vertex.
- 3) The x-coordinate of a point P is twice its y-coordinate. If P is equidistant from Q(2, -5) and R(-3, 6), find the co-ordinates of P.
- 4) The base BC of an equilateral triangle ABC lies on y-axis. The co-ordinates of point C are (0, -3). The origin is the mid-point of the base. Find the co-ordinates of the points A and B. Also, find co-ordinates of another point D such that BACD is a rhombus.
- 5) Three players are standing on the circle at points A(-5, 0), B(1, 0) and C(3, 4). A ball is placed at a point that is equidistant from all 3 players.
 - i) What are the co-ordinates of the ball?
 - ii) The fourth player is standing at the point D(-5, 4). Is he standing on the circle? Show your steps and give valid reasons. [CFPQ, CBSE]
- 6) Point A is on X-axis, point B is on Y-axis and point P lies on line segment AB, such that $P(\sqrt{((2n+1)^2 - (2n-1)^2)}, \sqrt[3]{(50n + 5^n)})$ where $n=2$ and $AP : PB = 5 : 3$. Find co-ordinates of A and B.
- 7) A(0, 3), B(-1, -2) and C(4, 2) are the vertices of $\triangle ABC$. D is a point on the side BC such that $BD/DC = 1/2$. P is a point on AD such that $AP = (2\sqrt{5})/3$ units. Find co-ordinates of P.