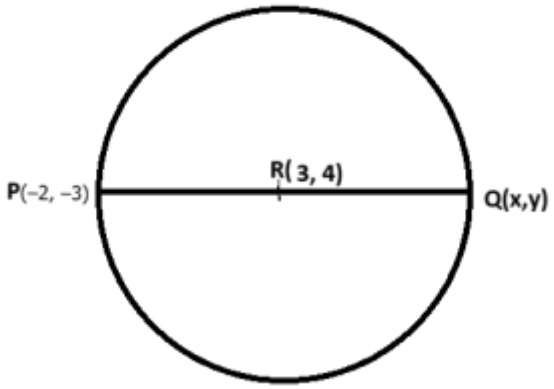
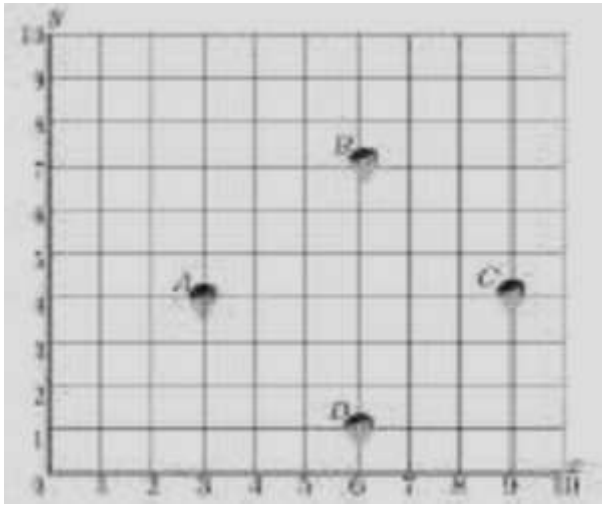
INDIAN SCHOOL AL WADI AL KABIR

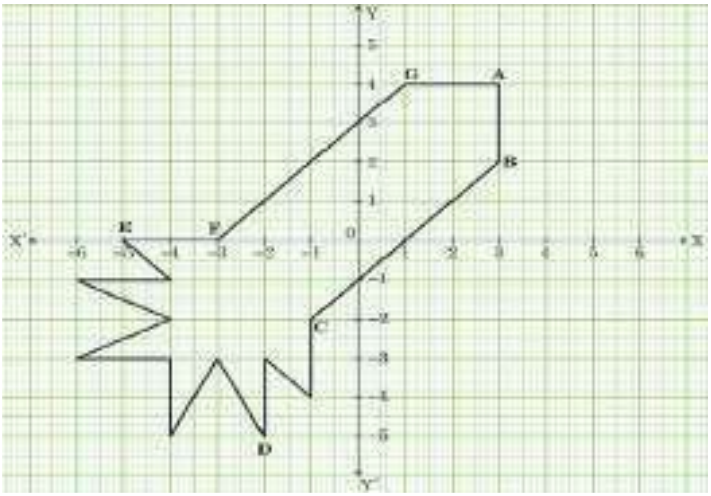
Class IX, Mathematics

Worksheet- COORDINATE GEOMETRY-DTQ

26-04-2026

	SHORT ANSWER TYPE(2 Marks)
Q.1	Find the distance between the point P ($\sqrt{3}$, 1) from the origin.
Q.2	If C is the mid-point of PQ, if P (4, x), $C(y, -1)$, $Q(-2, 4)$ then find the values x and y .
Q.3	A farm uses grid coordinates: Well at $(0,0)$, Barn at $(6,5)$, Tractor shed at $(-5,\ 4)$, Cow shed at $(-4, -3)$, Store at $(7, -2)$. Find the quadrant of each.
Q.4	A straight road connects two villages at P (2, −4) and Q (10, 6). A rest area is to be built such that it divides the road into two equal parts. Find the coordinates of the rest area.
Q.5	If the centre of a circle is R(3, 4) and end points of a diameter are $P(-2,-3)\ and$ Q(x, y) Find the value of (x+y) and identify the point Q is in which quadrant. 
	SECTION C (3 MARKS)
Q.6	Do the points (3, 2), (–2, –3) and (2, 3) form a triangle? If so, name the type of triangle formed
Q.7	Find the value of x and y if: i) (a + 2, 7) = (6, b – 2) ii) (a − 5, -9) = (3, a + b) iii) (8a + 1, 10) = (17, $\frac{b}{2}$)
Q.8	Plot the following points (1,4), $(-2,-2)$, $(-3,-4)$ and check whether they are collinear or not.
Q9.	Plot the points on a graph sheet A $(-2,3)$, B $(3, 3)$, C $(3,-2)$, D $(-2, -2)$ and join them in order. What figure do you get?

Q10.	ABCD is a rectangle, whose three vertices are B (4, 0), C (4, 3) and D (0, 3). Find the length of one of its diagonals.
Q11.	Plot the points A (1, 4), B (−2, 1) and C (4, 1). Name the figure so obtained on joining them in order and also, find its area.
SECTION D (4marks)	
Q13.	Prove that the points (3, 0), (6, 4) and (-1, 3) are vertices of a right-angled isosceles triangle.
Q14.	Show that four points (–1, –1), (–1, –1), (–1, –1) and (8, 3) are the vertices of a rectangle.
Q15.	Show that the points (1, 7), (4, 2), (−1, −1) and (– 4, 4) are the vertices of a square.
Q16.	<u>Case study:</u> Morning assembly is an important part of school life. It includes prayers, news, speeches, and the national anthem, helping in a child's overall development. It teaches discipline and has lasting positive effects. Students stand in rows and columns during assembly, forming a coordinate-like system Have you noticed that in school assembly you always stand in row and column and this make a coordinate system. Suppose a school have 100 students and they all assemble in prayer in 10 rows as given below   Here *A*, *B*, *C* and *D* are four friend Amar, Bharat, Colin and Dravid. (i) What is the distance between *A* and *B*? (ii) What is the distance between *C* and *D*? (iii)What is the distance between *A* and *C*? (iv)What is the midpoint of AC?

Q17.	<u>Case Study:</u> Ryan, from a very young age, was fascinated by the twinkling of stars and the vastness of space. He always dreamt of becoming an astronaut one day. So he started to sketch his own rocket designs on the graph sheet. One such design is given below:  Based on the above, answer the following questions: (i) Find the mid-point of the segment joining F and G. (ii) What are the coordinates of the point D? (iii) What is the distance between the points A and C? (iv) Check the length of FG and BC are equal or not?

Answers

1	2	2	$x=-6, y=1$	3.	Well at origin, Barn- I, Tractor -II, Cow shed- III, Store-IV	4	(6, 1)
5	(8,11), $x+y=19$, I-quadrant	6	right triangle	7	i)a=4, b=9 ii)a=8, b=− 17 iii)a=2, b=20	10	5
16	i)5 ii)5 iii)7 iv)Midpoint of AC = (6.5, 4)	17	i) (-1, 2) ii)$(-2,-5)$ iii)$\sqrt{52}$ iv) $\sqrt{32}$				

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