



MATHS

BOOKS - CBSE COMPLEMENTARY MATERIAL MATHS (HINGLISH)

Co-ordinate Geometry

Very Short Answer Type Questions Fill In The Blanks

1. The distance of a point from the y-axis is called its x-coordinate or _____



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2. The distance of a point from the x-axis is called its _____ or ordinate .



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3. The point $(5, 0)$ lies on _____ axis .



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4. A point which lies on y-axis are of the form _____.



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5. A linear equation of the form $ax+by+c=0$ when represented graphically gives a _____



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6. Find the distance of point $P(x,y)$ from the origin



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Very Short Answer Type Questions Multiple Choice Question

1. P is point on x -axis at a distance of 3 unit from y-axis to its left . The co-ordinates of P are :

A. (3, 0)

B. (0,3)

C. (-3,0)

D. (0, -3)

Answer: C



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2. The distance of P (3, -2) from y-axis is

A. 3 units

B. 2 units

C. - 2 units

D. $\sqrt{13}$ units

Answer: A



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3. The co-ordinates of two points are $(6, 0)$ and $(0, 8)$. The co-ordinates of the mid points are

A. 3, 4

B. 3, -4

C. 0,0

D. -4, 3

Answer: A



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4. If the distance between P (4 , 0) and Q (0, x) is 5 units , the value of x will be

A. 2

B. 3

C. 4

D. 5

Answer: B



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5. The co-ordinates of the point where line

$$\frac{x}{a} + \frac{y}{b} = 7 \text{ intersects } y\text{-axis are}$$

A. $a, 0$

B. $0, b$

C. $0, 7b$

D. $2a, 0$

Answer: B



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6. The area of triangle OAB, the co-ordinates of whose vertices are A (4, 0), B(0, 7) and O origin, is :

A. 11 sq. units

B. 18 sq. units

C. 28 sq. units

D. 14 sq. units

Answer: A::D



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7. The distance between the points $P\left(-\frac{11}{3}, 5\right)$ and $Q\left(-\frac{2}{3}, 5\right)$ is

A. 6 units

B. 4 units

C. 3 units

D. 2 units

Answer: C



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8. The distance between the points $(5\cos 35^\circ, 0)$ and $(0, 5\cos 55^\circ)$ is

A. 10 units

B. 5 units

C. 1 units

D. 2 units

Answer: B



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9. The co-ordinates of vertex A of $\triangle ABC$ are $(-4, 2)$ and a point D which is mid point of BC are $(2, 5)$. The coordinates of centroid of $\triangle ABC$ are

A. $(0, 4)$

B. $\left(-1, \frac{7}{2}\right)$

C. $\left(-2, \frac{7}{3}\right)$

D. $(0, 2)$

Answer: A::D



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10. The distance between the line $2x + 4 = 0$ and $x - 5 = 0$ is

A. 9 units

B. 1 units

C. 5 units

D. 7 units

Answer: D



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11. The perimeter of triangle formed by the points $(0, 0)$, $(2, 0)$ and $(0, 2)$ is

A. 4 units

B. 6 units

C. $6\sqrt{2}$ units

D. $4 + 2\sqrt{2}$ units

Answer: D



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12. If the centroid of the triangle formed by $(9, a)$, $(b, -4)$ and $(7, 8)$ is $(6, 8)$, then the value a and b are :

A. $a = 4, b = 5$

B. $a = 5, b = 4$

C. $a = 20, b = 2$

D. $a = 3, b = 2$

Answer:



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Very Short Answer Type Questions State True Or False

1. The point $P(-4,2)$ lies on the line segment joining the points $A(-4,6)$ and $B(-4,-6)$.



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2. The points $(0,5)$, $(0,-9)$ and $(3,6)$ are collinear.



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3. For what value of P, points (2,1),(P, -1) and (-1,3) are collinear



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4. Find the area of ΔPQR , whose vertices are P (-5, 7) , Q (-4, -5) and R (4, 5) .



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5. Find the points of trisection of the linear segment joining the points (1, -2) and (-3, 4) .



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6. The midpoints of the sides of a triangle are $(3, 4)$, $(4, 1)$ and $(2, 0)$. Find the vertices of the triangle.



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7. If the points $A(4, 3)$ and $B(x, 5)$ lie on a circle with the centre $O(2, 3)$, find the value of x .



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8. Find the ratio in which the line segment joining the points $(6, 4)$ and $(1, -7)$ is divided by X-axis.



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9. Show that the points $(-2,3)$, $(8, 3)$ and $(6, 7)$ are the vertices of a right angle triangle .



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10. Find a point on y-axis which is equidistant from the points $(5, -2)$ and $(-3, 2)$.

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11. Find the ratio in which the y -axis divides the line segment joining the points $(5, -6)$ and $(-1, -4)$. Also, find the coordinates of the point of division.

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12. Find the co-ordinates of a centroid of a triangle whose vertices are $(3, -5)$, $(-7, 4)$ and $(10, -2)$.

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13. Find a relation between x and y such that the point (x, y) is equidistant from the points $(7, 1)$ and $(3, 5)$.



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14. Find the ratio in which the line segment joining the points $(1, -3)$ and $(4, 5)$ is divided by x - axis . Also find the co-ordinates of this point on x -axis.



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15. What is the value of a if the points $(3, 5)$ and $(7, 1)$ are equidistant from the point $(a, 0)$?



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16. Find a relation between x and y if the points $A(x, y)$, $B(-4, 6)$ and $C(-2, 3)$ are collinear.



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17. Find the area of a triangle whose vertices are $(1, -1)$, $(-4, 6)$ and $(-3, 5)$.



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18. Name the type of triangle formed by the points
A (-5,6) , B (-4,-2) and C (7,5).



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19. Find the points on the X-axis which are at
distance of $2\sqrt{5}$ from the point (7,-4) . How many
such points are there ?



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20. What type of quadrilateral do the points A (2,-2), B (7,3) C(11,-1) and D (6,-6) taken in that order from?



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21. Find the coordinates of the point Q on the X-axis which lies on the perpendicular bisector of the line segment joining the points A (-5,-2) and B (4,-2). Name the type of triangle formed by the points Q , A and B.



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22. . Let P and Q be the points of trisection of the line segment joining the points A(2, -2) and B(-7, 4) such that P is nearer to A. Find the coordinates of P and Q.



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Short Answer Type Question Ii

1. The line segment joining the points $P(3, 3)$ and $Q(6, -6)$ is trisected at the points A and B such that A is nearer to P. If A also lies on

the line given by $2x + y + k = 0$, find the value of k .



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2. Find the ratio in which the line $x - 3y = 0$ divides the line formed by joining $(-2, -5)$ and $(6, 3)$. Find the coordinates of the point of intersection



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3. Point A lies on the line segment PQ joining P(6, -6) and Q(-4, -1) in such a way that $\frac{PA}{PQ} = \frac{2}{5}$. If the point A also lies on the line $3x+k(y+1) = 0$, find the value of k.



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4. Find the area of the triangle formed by joining the mid-points of the sides of the triangle whose vertices are (0, -1), (2, 1) and (0, 3). Find the ratio of this area to the area of the given triangle.



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5. Find the value of k so that the area of the triangle with vertices $A(k+1, 1)$, $B(4, -3)$ and $C(7, -k)$ is 6 square units.



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6. Point P divides the line segment joining the points $A(2, 1)$ and $B(5, -8)$ such that $\frac{AP}{AB} = \frac{1}{3}$. If P lies on the line $2x - y + k = 0$, find the value of k .



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7. A point P on the x-axis divides the line segment joining the points (4, 5) and (1, -3) in certain ratio . Find the co-ordinates of point P.



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8. In right angled ΔABC , $\angle B = 90^\circ$ and $AB = \sqrt{34}$ units . The co-ordinates of points B, C are (4, 2) and (-1, y) respectively . If ar $\Delta ABC = 17$ sq . Units, then find the value of y .



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9. If $A(-3, 2)$, $B(x, y)$ and $C(1, 4)$ are the vertices of an isosceles triangle with $AB = BC$. Find the value of $(2x + y)$.



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10. If the point $P(3, 4)$ is equidistant from the points $A(a + b, b - a)$ and $B(a - b, a + b)$ then prove that $3b - 4a = 0$.



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Long Answer Type Questions Iii

1. If

$A(-5, 7)$, $B(-4, -5)$, $C(-1, -6)$ and $D(4, 5)$

are the vertices of a quadrilateral, find the area of the quadrilateral ABCD.



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2. If $P(x, y)$ is any point on the line joining the point $A(a, 0)$ and $B(0, b)$, then show that

$$\frac{x}{a} + \frac{y}{b} = 1.$$



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3. If the point (x, y) , $(-5, -2)$ and $(3, -5)$ are collinear, prove that $3x + 8y + 31 = 0$.



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4. Find the relation between x and y if $A(x, y)$, $B(-2, 3)$ and $C(2, 1)$ form an isosceles triangle with $AB=AC$.



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5. Prove that the point $(x, \sqrt{1 - x^2})$ is at a distance of 1 unit from the origin .



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6. If $R(x, y)$ is a point on the line segment joining the points $P(a, b)$ and $Q(b, a)$, then prove that $x + y = a + b$



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7. Prove that the points (a, b) , (c, d) and $(a-c, b-d)$ are collinear, if $ad = bc$.



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8. Find the co-ordinates of the circumcenter of the triangle whose vertices are $(3, 7)$, $(0, 6)$ and $(-1, 5)$. Find the circumradius.



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9. In a triangle PQR, the co-ordinates of points P, Q and R are (3, 2) , (6, 4) and (9, 3) respectively . Find the co-ordinates of centroid G. Also find areas of ΔPQG and ΔPRG .



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10. If the points (5, 4) and (x, y) are equidistant from the point (4, 5) , prove that $x^2 + y^2 - 8x - 10y + 39 = 0$



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Practice Test Coordinate Geometry Section A

1. Find the value of m in which the points $(3, 5)$, $(m, 6)$ and $\left(\frac{1}{2}, \frac{15}{2}\right)$ are collinear.



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2. What is the distance between the points $A(c, 0)$ and $B(0, -c)$?



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3. The distance of the point $P(-6, 8)$ from the origin is



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4. Find the value of a so that the point $(3, a)$ lies on the line represented by $2x - 3y = 5$



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Practice Test Coordinate Geometry Section B

1. For what value of p , points $(-3, 9)$, $(2, p)$ and $(4, -5)$ are collinear .



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2. If the points $A(8, 6)$ and $B(x, 10)$ lie on the circle whose centre is $(4, 6)$ then find the value of x .



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3. The perimeter of the triangle with vertices $(0, 4)$, $(0, 0)$ and $(3, 0)$ is



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Practice Test Coordinate Geometry Section C

1. Show that the points $A(-3, 2)$, $B(-5, -5)$, $C(2, -3)$ and $D(4, 4)$ are the vertices of a rhombus. Find the area of this rhombus.



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2. Find the ratio in which the point $(2, y)$ divides the line segment joining the points $A(-2, 2)$ and B

(3, 7). Also find the value of y



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Practice Test Coordinate Geometry Section D

1. If the point P divides the line segment joining the points A(-2, -2) and B(2, -4) such that

$$\frac{AP}{AB} = \frac{3}{7}, \text{ then find the coordinate of P.}$$



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