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BSC. MATH (HONS.), MCA

GRADE 10TH MATHS
CHAPTER 7

Co-ordinate Geometry

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OBJECTIVE Type Questions

[1 mark]

Multiple Choice Questions

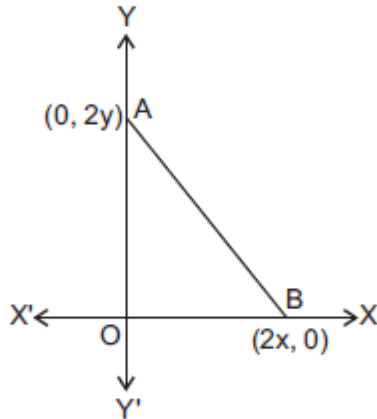
- The point on the x-axis which is equidistant from $(-4, 0)$ and $(10, 0)$ is:
 - $(7, 0)$
 - $(5, 0)$
 - $(0, 0)$
 - $(3, 0)$
- The centre of a circle whose end points of a diameter are $(-6, 3)$ and $(6, 4)$ are:
 - $(8, -1)$
 - $(4, 7)$
 - $\left(0, \frac{7}{2}\right)$
 - $\left(4, \frac{7}{2}\right)$ [CBSE 2011]
- The distance between the points $(m, -n)$ and $(-m, n)$ is:
 - $\sqrt{m^2+n^2}$
 - $m+n$
 - $2\sqrt{m^2+n^2}$
 - $\sqrt{2m^2+2n^2}$
- The point which divides the line segment joining the points $(7, -6)$ and $(3, 4)$ in the ratio 1:2 internally, lies in the:
 - I quadrant
 - II quadrant
 - III quadrant
 - IV quadrant
- The distance between the points $(a \cos \theta + b \sin \theta, 0)$ and $(0, a \sin \theta - b \cos \theta)$, is
 - $a^2 + b^2$
 - $a^2 - b^2$
 - $\sqrt{a^2 + b^2}$
 - $\sqrt{a^2 - b^2}$
- The point which lies on the perpendicular bisector of the line segment joining point A $(-2, -5)$ and B $(2, 5)$ is:
 - $(0, 0)$
 - $(0, -1)$
 - $(-1, 0)$
 - $(1, 0)$ [NCERT]
- The fourth vertex D of a parallelogram ABCD whose three vertices are A $(-2, 3)$, B $(6, 7)$ and C $(8, 3)$ is:
 - $(0, 1)$
 - $(0, -1)$
 - $(-1, 0)$
 - $(1, 0)$

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8. If the point $P(k, 0)$ divides the line segment joining the points $A(2, -2)$ and $B(-7, 4)$ in the ratio $1 : 2$, then the value of k is
 (a) 1 (b) 2
 (c) -2 (d) -1 [CBSE 2011]
9. The distance of the point $P(-3, -4)$ from the x -axis (in units) is:
 (a) 3 (b) -3
 (c) 4 (d) 5
10. If the point $P(2, 1)$ lies on the line segment joining points $A(4, 2)$ and $B(8, 4)$, then:
 (a) $AP = \frac{1}{3}AB$ (b) $AP = PB$
 (c) $PB = \frac{1}{3}AB$ (d) $AP = \frac{1}{2}AB$ [NCERT]
11. If $A\left(\frac{m}{3}, 5\right)$ is the mid-point of the line segment joining the points $Q(-6, 7)$ and $R(-2, 3)$, then the value of m is:
 (a) -12 (b) -4
 (c) 12 (d) -6 [CBSE 2019]
12. The perimeter of a triangle ABC with vertices $A(0, 4)$, $B(0, 0)$ and $C(3, 0)$ is:
 (a) 5 units (b) 11 units
 (c) 12 units (d) $(7 + \sqrt{5})$ units
13. If $P\left(\frac{a}{3}, 4\right)$ is the midpoint of the line segment joining the points $Q(-6, 5)$ and $R(-2, 3)$, then the value of a is:
 (a) -4 (b) -12
 (c) 12 (d) -6 [CBSE 2010]
14. The perpendicular bisector of the line segment joining the points $A(1, 5)$ and $B(4, 6)$ cuts the y -axis at:
 (a) $(0, 13)$ (b) $(0, -13)$
 (c) $(0, 12)$ (d) $(13, 0)$ [NCERT]

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15. The coordinates of the point which is equidistant from the three vertices of the $\triangle AOB$ as shown in the figure is:



- (a) (x, y) (b) (y, x)
(c) $\left(\frac{x}{2}, \frac{y}{2}\right)$ (d) $\left(\frac{y}{2}, \frac{x}{2}\right)$
16. A circle drawn with origin as the centre passes through $\left(\frac{13}{2}, 0\right)$. The point which does not lie in the interior of the circle is:

- (a) $\left(\frac{-3}{4}, 1\right)$ (b) $\left(2, \frac{7}{3}\right)$
(c) $\left(5, \frac{-1}{2}\right)$ (d) $\left(-6, \frac{5}{2}\right)$

Fill in the Blanks

Fill in the blanks/tables with suitable information:

17. AOBC is a rectangle whose three vertices are $A(0, -3)$, $O(0, 0)$ and $B(4, 0)$. The length of its diagonal is [CBSE 2011]
18. The centroid of the triangle whose vertices are $(4, -8)$, $(-9, 7)$ and $(8, 13)$ is
19. The ratio in which x-axis divides the line segment joining the point $(2, 3)$ and $(4, -8)$ is

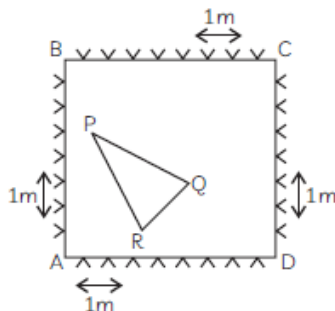
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- 20.** The mid-point of the line segment AB is (4, 0). If the co-ordinates of point A is (3, -2), then co-ordinates of point B is
- 21.** Distance of a point (-24, 7) from the origin (in units) is
- 22.** If P(-1, 1) is the mid-point of the line segment joining the points A(-3, b) and B(1, b + 4) then b =

Write True or False

- 23.** $\triangle ABC$ with vertices A(-2, 0), B(2, 0) and C(0, 2) is similar to $\triangle DEF$ with vertices D(-4, 0), E(4, 0) and F(0, 4). [NCERT]
- 24.** Point P (-4, 2) lies on the line segment joining the points A (-4, 6) and B (-4, -6). [NCERT]
- 25.** Points A(4, 3), B(6, 4), C(5, -6) and D(-3, 5) are the vertices of a parallelogram. [CBSE 2012]
- 26.** Point P(5, -3) is one of the two points of trisection of the line segment joining points A(7, -2) and B(1, -5). [CBSE 2012]
- 27.** Point P(-2, 4) lies on a circle of radius 6 and centre C(3, 5). [CBSE 2014, 13]

The class X students of a secondary school have been allotted a rectangular plot of land for their gardening activity. Saplings of Gulmohar are planted on the boundary at a distance of 1 metre from each other. There is a triangular grassy lawn in the plot as shown in the figure.



- (A) Taking A as the origin, find the coordinates of the vertices P, Q and R of the triangle PQR.
- (B) Find coordinates of P, Q, R with C as origin, CB as x-axis and CD as y-axis.