MATHS

BOOKS - MCGROW HILL EDUCATION MATHS (HINGLISH)

CO-ORDINATE GEOMETRY

Multiple Choice Questions

1. The point on the x-axis which is equidistant from the points (5, 4) and (-2, 3) is

A. $(-2, 0)$

B. $(2, 0)$

C. $(0, 2)$

D. $(2, 2)$

Answer: B

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2. If the distances of p (x, y) from A (-1, 5) and B (5, 1) are equal, then

A. $2x = y$

B. $3x = 2y$

C. $3x = y$

D. $2x = 3y$

Answer: B

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3. $(1, -1), \left(-\frac{1}{2}, \frac{1}{2}\right)$ and $(1, 2)$ are the vertices of a/an _____ triangle.

A. equilateral

B. isosceles

C. right angled

D. scalene

Answer: B

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4. If the point (x, y) is equidistant from the point $(a+b, b-a)$ and $(a-b, a+b)$, then which of the following is correct ?

A. $ax = by$

B. $ax^2 = by$

C. $ay = bx$

D. $ay^2 = bx$

Answer: C

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5. Which of the following points is equidistant from $(2, -3)$?

A. $(-1, 0)$

B. $(1, 0)$

C. $(-2, 0)$

D. $(2, 0)$

Answer: C

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6. Which of the following point is equidistant from (3, 2) and $(-5, -2)$?

A. $(0, 2)$

B. $(0, -2)$

C. $(2, 0)$

D. $(2, -2)$

Answer: B

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7. Which of the following points are the vertices of an equilateral triangle ?

A. $(a, a), (-a, -a), (2a, a)$

B. $(a, a), (-a, -a), (-a\sqrt{3}, a\sqrt{3})$

C. $(\sqrt{2}a, -a), (a, \sqrt{2}a), (a - a)$

D. $(0, 0), (a, -a), (a, \sqrt{2}a)$

Answer: B

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8. If the points $(-1, 3), (2, p)$ and $(5, -1)$ are col-linear, the value of p is

A. 1

B. -1

C. 0

D. $\sqrt{2}$

Answer: A

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9. The co-ordinates of the point which divides the line joining (1, -2) and (4, 7) internally in the ratio 1 : 2 are

A. $(1, 2)$

B. $(-1, -1)$

C. $(-1, 2)$

D. $(2, 1)$

Answer: D

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10. In what ratio is the line joining the points A (4, 4) and B (7, 7) divided by p $(-1, -1)$?

A. $8:5$

B. $5:8$

C. $5:7$

D. $7:4$

Answer: B

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11. What is the ratio in which the point $P(\gamma, 6)$ divides the join of $A(-4, 3)$ and $B(2, 8)$? Also, find the value of γ.

A. $1:3$

B. $2:3$

C. $3:2$

D. $2:5$

Answer: C

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12. Find the value of N if point P(-3,N) bisects the line joining points A(12,-1) and B(-18,17) equally.

A. -2

B. 3

C. 6

D. 8

Answer: D

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13. The vertices of a triangle are (2, 1), (5, 2) and (3, 4). Then the co-ordinates of the centroid are

A. $10, 3$

B. $\left(\frac{10}{3}, 7\right)$

C. $\left(\frac{10}{3}, \frac{7}{3}\right)$

D. $\left(\frac{7}{3}, \frac{10}{3}\right)$

Answer: C

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14. If the area of the triangle formed by the three points is zero, then the points lie on a

A. stragth line

B. curve pointing convex upwards

C. curve pointing convex downwards

D. all the above are wrong

Answer: A

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15. What is the area of the triangle formed by the points $(a, b+c)$, $(b, c+a)$ and $(c, a+b)$?

A. 1

B. -1

C. 0

D. $\frac{1}{2}(abc)^2$

Answer: C

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16. What is the area of the triangle formed by the points $(a, c+a), (a, c)$ and $(-a, c-a)$?

A. a^2

B. $\frac{1}{a^2}$

C. $a^2 + a$

D. zero

Answer: A

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17. What is the area of the triangle formed by the points $(a, c+a), (a^2, c^2)$ and $(-a, c-a)$?

A. 1

B. a^2

C. $\frac{1}{2}$

D. $-\frac{1}{2}$

Answer: D

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18. What is the value of y if $(y, 3), (-5, 6)$ and $(-8, 8)$ are collinear ?

A. -1

B. 2

C. $\frac{1}{2}$

D. $-\frac{1}{2}$

Answer: D

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19. Which of the following points are collinear

?

A. $(2a, 0), (3a, 0), (a, 2a)$

B. $(3a, 0), (0, 3b), (a, 2b)$

C. $(3a, b), (a, 2b), (-a, b)$

D. $(a, -6), (-a, 3b), (-2a, -2b)$

Answer: B

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20. The mid-point of a line is $(-4, -2)$ and one end of the line is $(-6, 4)$. The co-ordinates of the other end are

A. $(2, -8)$

B. $(-2, 8)$

C. $(-2, -8)$

D. $(2, 8)$

Answer: C

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21. The ratio in which the line $3x + y = 9$ divides the line sequent joining the points (1, 3) and (2, 7) is given by

A. $4:3$

B. $3:4$

C. $2:3$

D. $3:2$

Answer: B

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22. The area of a triangle whose vertices are $(-2, -2), (-1, -3)$ and (p, 0) is 3 sq. units. What is the value of p ?

A. -2

B. 2

C. 3

D. -3

Answer: B

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23. Find the co-ordinates of the centre of the circle passing through the points $(0, 0)$, $(-2, 1)$ and $(-3, 2)$. Also find its radius.

A. $\left(\frac{3}{2}, 11\right)$

B. $\left(3, \frac{11}{2}\right)$

C. $\left(\frac{3}{2}, \frac{11}{2}\right)$

D. $(-3, -11)$

Answer: C

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24. In what ratio does the point $P\left(2, \frac{-5}{6}\right)$ divide the line joining the points $A(-3, 5)$

and $B(3, -2)$?

A. $1:5$

B. $5:1$

C. $2:3$

D. $3:5$

Answer: B

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25. If the vertices of a triangle are (2, 4), (5, k) and (3, 10) and its area is 15 sq. units, the value of k is

A. 25

B. 51

C. 52

D. $\frac{23}{2}$

Answer: C

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26. The midpoints of sides of a triangle are (3, 4), (4, 1) and (2, 0). Which of the following does not devote the co-ordinates of its verities ?

A. 1, 3

B. 5, 3

C. 5, 5

D. 3, -3

Answer: B

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27. The point which lies on the perpendicular bisector of the line sequent joining the points $P(-2, 0)$ and $Q(2, 5)$ is

A. $(0, 0)$

B. $(0, 2)$

C. $(2, 0)$

D. $(-2, 0)$

Answer: A

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28. The fourth vertex D of a parallelogram ABCD whose three vertices are A(-2,3), B(6,7) and C(8,3) is

A. $(-1, 0)$

B. $(1, 0)$

C. $(0, -1)$

D. $(0, 1)$

Answer: C

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29. If $Q\left(\frac{a}{3}, 4\right)$ is the mid-point of the line segement joining the points A(-6, 5) and B(-2, 3), then the value of 'a' is

A. 4

B. -6

C. -8

D. -12

Answer: D

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30. If AOBC is a rectangle whose three vertices are A(0,3),O(0,0) and B(5,0), then the length of its diagonal is

A. 3

B. 5

C. $\sqrt{7}$

D. $\sqrt{34}$

Answer: D

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

A. $3 + \sqrt{5}$

B. 11

C. 12

D. $\sqrt{13}$

Answer: C

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32. Which point on x-axis is equidistant from $(7, 6)$ and $(-3, 4)$?

A. $(2, 0)$

B. $(3, 0)$

C. $(-5, 0)$

D. $(1, 0)$

Answer: B

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33. In what ratio is the line segment joining the point $(-2, -3)$ and $(3, 7)$ divided by y-axis ?

A. $(-2, 3)$

B. $(-3, 2)$

C. $(2, 3)$

D. $(6, 0)$

Answer: C

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34. What is the perimeter of the triangle formed by the points (0, 0), (1, 0) and (0, 1) ?

A. $\sqrt{2}$

B. 2

C. $2 - \sqrt{2}$

D. $2 + \sqrt{2}$

Answer: D

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35. If points $(a, 0), (0, b)$ and $(1, 1)$ are collinear, then $\left(\frac{a+b}{ab}\right)$ equals

A. 1

B. -1

C. 2

D. $\sqrt{2}$

Answer: A

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36. If the distance between the points $(4, \gamma)$ and $(1, 0)$ is 5, then γ equals.

A. 4 only

B. -4 only

C. ± 4

D. 0

Answer: C

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37. The distance of the point P(4, 3) from the x-axis is

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38. The distance between the point (0, 5) and (-5, 0) is

A. $2\sqrt{5}$

B. $5\sqrt{2}$

C. 5

D. 0

Answer: B

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39. Which of the following points lies in the fourth quadrant ?

A. $(2, -7)$

B. $(-3, 5)$

C. $(0, 0)$

D. $(-4, -7)$

Answer: D

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40. The points (-4,0),(4,0) and (0,3) are the verticess of a

A. Scalene triangle

B. Equilateral triangle

C. Isosceles triangle

D. Right triangle

Answer: C

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41. The point which divides the line segment joining the points (7,-6) and (3,4) in ratio $1:2$ internally lies in the

A. I

B. II

C. III

D. IV

Answer: D

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42. The co-ordinates of a point (x, y) which divides the straight line joining two points (x_1, y_1) and (x_2, y_2) internally in the ratio m_1 and m_2 are

A. $x = \frac{m_1x_1 + m_2x_2}{m_1 + m_2}, y = \frac{m_1y_1 + m_2y_2}{m_1 + m_2}$

B.

$x = \frac{m_1x_2 + m_2x_1}{m_1 + m_2}, y = \frac{m_1y_{22} + m_2y_1}{m_1 + m_2}$

C. $x = 0, y = 0$

D. $x = \frac{m_1 x_1 - m_2 x_2}{m_1 - m_2}, y = \frac{m_1 y_1 - m_2 y_2}{m_1 - m_2}$

Answer: A

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