

2007 MBA - MATHEMATICS QUESTION PAPER

TIME – 3HOUR

MARK - 100

Co-ordinate geometry test

Question 1 of 25

In the given figure, if PQ is parallel to OR, what is the area of quadrilateral PQRO?

- 9
- 14
- 18
- 36

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Question 2 of 25

If the points $(2a, a)$, $(a, 2a)$ and (a, a) enclose a triangle of area 2 units, then the value of a is:

- 2
- 4
- 2

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Question 3 of 25

In the figure, what is the perimeter of triangle OPQ?

- $4 + 2$
- $8 + 4$
- $6 + 2$
- $6 + 2$

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Question 4 of 25

The three vertices of a parallelogram ABCD are A $(1, -2)$, B $(3, 6)$ and C $(5, 10)$. The fourth vertex D is :

- $(3, 2)$
- $(2, 3)$
- $(-3, 2)$
- $(3, -2)$

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Question 5 of 25

If the points A $(2, 5)$, B $(-7, 2)$ and C $(a, 3)$ are collinear, find the x – co-ordinate of C.

- $a = 4$
- $a = 3$

$a = -4$
 $a = -1$

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Question 6 of 25

The co-ordinates of four points PQRS are P(0, -3), Q (6, 1), R (-4, -4) and S(5, 2). Find which line segments are parallel to each other.

PQ \parallel RS
PR \parallel QR
(1) and (2) both
None of these

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Question 7 of 25

A line segment containing the point (0, 0) and (12, 8) will also contain the point

(2, 3)
(2, 4)
(3, 2)
(3, 4)

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Question 8 of 25

In the figure, RS = ST, and the coordinates of S are (k, 3).

What is the value of k?

-3
-
0

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Question 9 of 25

The equation of the line which passes through the point (1, -2) and cuts off equal intercepts from the axes is:

$x + y = 1$
 $x - y = 1$
 $x + y + 1 = 0$
 $x - y - 2 = 0$

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Question 10 of 25

The triangle PQR having the three coordinates P(-2, 2), Q(4, 5) and R(3, 2 + 2) is:

an equilateral triangle
an isosceles triangle
a right angle triangle
None of these

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Question 11 of 25

Equation of the lines which passes through the points of intersection of the lines $4x - 3y - 1 = 0$ and $2x - 5y + 3 = 0$ and are equally inclined to the axes are:

- $y \pm x = 0$
- $y - 1 = \pm 1(x - 1)$
- $x - 1 = \pm 2(y - 1)$
- None of these

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Question 12 of 25

Find the equation of a straight line which contains points $(\sqrt{3}, 1)$ with inclination 150° .

- $X + \sqrt{3}Y + 1 - \sqrt{3} = 0$
- $Y + \sqrt{3}X + 1 - \sqrt{3} = 0$
- $2X + \sqrt{3}Y + 1 - \sqrt{3} = 0$
- None of these

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Question 13 of 25

What kind of a quadrilateral is formed by the vertices $(0, 0)$, $(4, 3)$, $(3, 5)$ and $(-1, 2)$.

- square
- rectangle
- parallelogram
- Rhombus

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Question 14 of 25

ABC is an isosceles triangle. If the coordinates of the base are B $(1, 3)$ and C $(-2, 7)$, the coordinates of vertex A can be:

- $(1, 6)$
- $(-1, 6)$
- $(, 6)$
- None of these

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Question 15 of 25

The straight line L passes through the point $(2, 3)$ and parallel to the line $4X + 3Y - 6 = 0$. If $(4, p)$ is on the line L, find the value of p.

-

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Question 16 of 25

The straight line passing through the point of intersection of the straight lines $x - 3y + 1 = 0$ and $2x + 5y - 9 = 0$ and having infinite slope and at a distance of 2 units from the origin, has the equation:

- $x = 2$
- $3x + y - 1 = 0$
- $y = 1$
- None of these

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Question 17 of 25

A triangle has 12 units base on the line $3x + 7y = 12$. If the third vertex is at $(3, -5)$, find the area of the triangle.

- sq. units.
- 226 sq. units.
- sq. units
- None of these

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Question 18 of 25

The equation of line passing through the point of intersection of the lines $4x - 3y - 1 = 0$ and $5x - 2y - 3 = 0$ and parallel to the line $2y - 3x + 2 = 0$, is:

- $x - 3y = 1$
- $3x - 2y = 1$
- $2x - 3y = 1$
- $2x - y = 1$

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Question 19 of 25

Find the equation of the line passing through the point of intersection of the lines $3X + Y - 1 = 0$ and $5X - 3Y + 1 = 0$ and making 45° with the X-axis.

- $7X + 7Y - 3 = 0$
- $7X - 7Y - 3 = 0$
- $-7X + 7Y - 3 = 0$
- $X - Y = 32$

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Question 20 of 25

The lines $a_1x + b_1y + c_1 = 0$ and $a_2x + b_2y + c_2 = 0$ are perpendicular to each other if

- $a_1b_2 - b_1a_2 = 0$
- $a_1a_2 + b_1b_2 = 0$
- $a_1^2b_2 + b_1^2a_2 = 0$
- $a_1b_1 + a_2b_2 = 0$

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Question 21 of 25

Find the equation of the line which passes through the point the intersection of the lines $7X - 9Y + 31 = 0$ and $11X + 3Y - 37 = 0$ and is perpendicular to the line $3X + Y - 2 = 0$

$$X - 3Y + 13 = 0$$

$$X + 3Y + 7 = 0$$

$$3X + Y - 6 = 0.$$

$$X - Y + 8 = 0$$

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Question 22 of 25

The co-ordinates of the vertices A and B are (6, 0) and (0, -8) respectively. What is the area of the square ABCD?

36 sq. units

64 sq. units

28 sq. units

100 sq. units

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Question 23 of 25

Find the distance of the points of intersection of the lines $2X - 3Y + 13 = 0$ and $3X + 7Y - 15 = 0$ from the point (4, -5)

10

15

18

20

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Question 24 of 25

Find the equation of line passing through (2, 4) and through the intersection of line $4x - 3y - 21 = 0$ and $3x - y - 12 = 0$?

$$7x - y - 18 = 0$$

$$7x - 2y - 18 = 0$$

$$6x + y - 18 = 0$$

$$7x + y - 18 = 0$$

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Question 25 of 25

The line $(1 + K)X + (3 - K)Y = 2(1 + 3K)$ passes through a fixed point P for any value of K. Find the coordinates of P.

(2, -3)

(5, -1)

(0, -5)

(-2, 3)