MATHS

BOOKS - HT Olympiad Previous Year Paper

COORDINATE GEOMETRY

Mathematical Reasoning

1. The linear equation $x = 3y + 5$ cuts the x-axis at _____.

A. (0, 5)

B. (5, 0)

C. $\left(0, \frac{3}{5}\right)$

D. $\left(\frac{3}{5}, 0\right)$

Answer: B

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2. (2, 1) is a point, which belongs to the line _____.

A. $x = y$

B. $y = x + 1$

C. $2y = x$

D. $xy = 1$

Answer: C

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3. One set of ordered pair which belongs to a straight line represented by an equation $y = 2x - 1$ is _____

A. (1, 1)

B. (2, 1)

C. (1, 2)

D. (3, 1)

Answer: A

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4. If $(x + 7, 3) = (5, 6 + y)$, then the values of x and y respectively are

A. 2, 3

B. $-3, \ -3$

C. $-2, \ -3$

D. 0, 3

Answer: C

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5. The value of 'x' in the ordered pair $(x, \ -8)$ if the ordinate of the pair is 4 more than the abscissa is _____.

A. -4

B. -8

C. -12

D. 4

Answer: C

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6. Point $P(-3, -4)$ lies in which quadrant?

A. I^{st} quadrant

B. II^{nd} quadrant

C. III^{rd} quadrant

D. IV^{th} quadrant

Answer: C

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7. The point at which the two coordinate axes meet is called the

A. Abscissa

B. Ordinate

C. Origin

D. Quadrant

Answer: C

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8. If the coordinates of two points are A(3,4) and B(-2,5), then find the value of (abscissa of A) - (abscissa of B).

A. 1

B. -1

C. 5

D. -5

Answer: C

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9. of abscissa and ordinate of a point in the fourth quadrant are respectively.

A. $(+, -)$

B. $(-, +)$

C. $(-, -)$

D. $(+, +)$

Answer: B

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10. Two points having same abscissa but different ordinates lie on $x - a\xi s$ (b) $y - a\xi s$

a line parallel to $y - a\xi s$ (d) a line parallel to $x - a\xi s$

A. x-axis

B. y-axis

C. a line parallel to y-axis

D. a line parallel to x-axis

Answer: C

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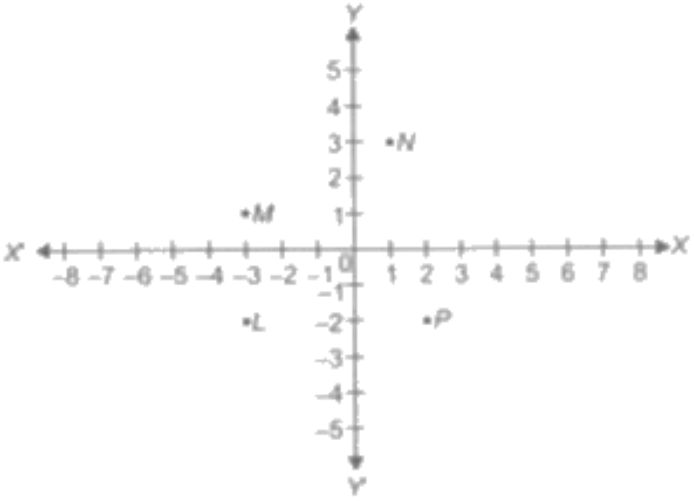

11.

The coordinates of point L are _____.

A. $(-3, 2)$

B. $(3, -2)$

C. (3, 2)

D. $(-3, -2)$

Answer: D

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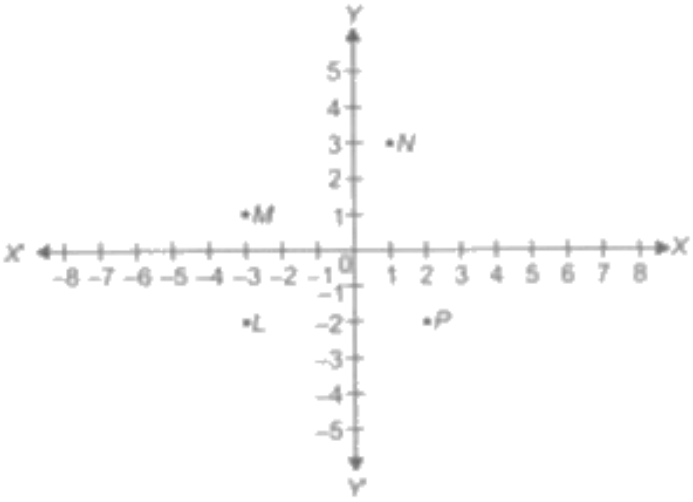

12.

Sum of ordinates of point M and N is _____.

A. 2

B. 4

C. -5

D. -6

Answer: B

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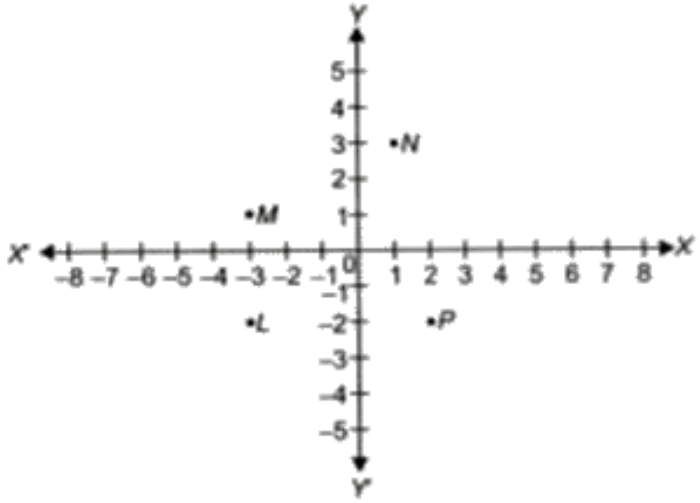

13.

The point whose abscissa is 2 less than the ordinate is _____.

A. M

B. N

C. L

D. P

Answer: B

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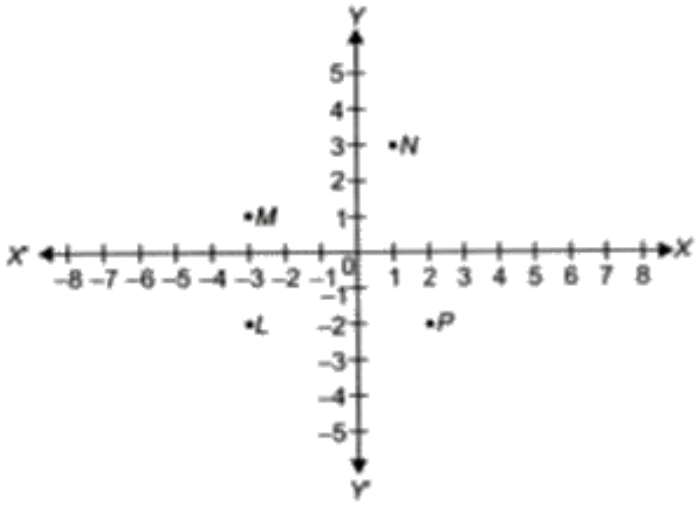

14.

The difference between abscissae of P and N is

_____.

A. 0

B. 5

C. 1

D. 3

Answer: C

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15. The area of the triangle formed by the points P (0, 1), Q (0, 5) and R (3, 4) is _____.

A. 16 sq. units

B. 8 sq. units

C. 4 sq. units

D. 6 sq. units

Answer: D

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16. The perpendicular distance of the point $(-7, 8)$ from the x-axis is _____ units.

A. 7

B. 8

C. -7

D. 1

Answer: B

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17. of abscissa and ordinate of a point in the fourth quadrant are respectively.

A. $+, +$

B. $-, -$

C. $+, -$

D. $-, +$

Answer: C

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Achievers Section Hots True False

1. (i) Origin is the only point which lies on both the axes.

(ii) The point $(2, -2)$ and point $(-2, 2)$ lies in the same quadrant.

(iii) If a point lies on y-axis at a distance 2 units from x-axis, then its coordinates are (2, 0).

(iv) Abscissa of a point is positive in I quadrant and also in II quadrant.

A.

(i)	(ii)	(iii)	(iv)
F	T	F	T

B.

(i)	(ii)	(iii)	(iv)
T	F	F	F

C.

(i)	(ii)	(iii)	(iv)
F	T	T	F

D.

(i)	(ii)	(iii)	(iv)
T	F	T	F

Answer: B

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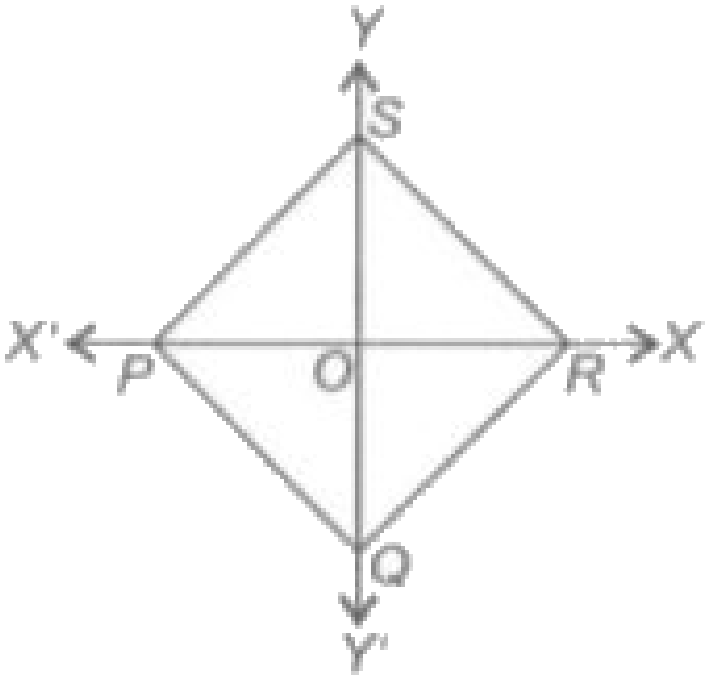
Achievers Section Hots



1.

In the given figure, PQRS is a rhombus whose diagonal PR and QS are along coordinate axes and PR = 12 units and QS = 6 units.

Now, if T is a point which is 5 units right and 2 units above S, then find

(i) sum of abscissae of P and T.

(ii) sum of ordinates of Q, R and T.

A. $\begin{matrix}(\mathrm{i}) & (\mathrm{ii}) \\ -1 & 2\end{matrix}$

B. $\begin{matrix}(\mathrm{i}) & (\mathrm{ii}) \\ 1 & -2\end{matrix}$

C. $\begin{matrix}(\mathrm{i}) & (\mathrm{ii}) \\ 1 & 2\end{matrix}$

D. $\begin{matrix}(\mathrm{i}) & (\mathrm{ii}) \\ -1 & -2\end{matrix}$

Answer: A

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2. Match the following.

	Column-I		Column-II
(P)	The area of ΔOAB with $O(0, 0), A(4, 0)$ and $B(0, 8)$ is	(i)	14 sq. units
(Q)	The area of ΔABC with $A(2, 0), B(6, 0)$ and $C(4, 6)$ is	(ii)	16 sq. units
(R)	The area of ΔOAB with $O(0, 0), A(7, 0)$ and $B(0, 4)$ is	(iii)	12 sq. units

(A) (P) $\rightarrow$ (ii), (Q) $\rightarrow$ (i), (R) $\rightarrow$ (iii)
(B) (P) $\rightarrow$ (iii), (Q) $\rightarrow$ (i), (R) $\rightarrow$ (ii)
(C) (P) $\rightarrow$ (iii), (Q) $\rightarrow$ (ii), (R) $\rightarrow$ (i)
(D) (P) $\rightarrow$ (ii), (Q) $\rightarrow$ (iii), (R) $\rightarrow$ (i)

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