

Topics : Straight Lines, Solutions of Triangles

Type of Questions		M.M., Min.
Single choice Objective (no negative marking) Q.1,2,3	(3 marks, 3 min.)	[9, 9]
Multiple choice objective (no negative marking) Q.4	(5 marks, 4 min.)	[5, 4]
True or False (no negative marking) Q.5	(2 marks, 2 min.)	[2, 2]
Subjective Questions (no negative marking) Q.7	(4 marks, 5 min.)	[4, 5]
Match the Following (no negative marking) Q.6	(8 marks, 8 min.)	[8, 8]

- Equation of line inclined at an angle of 45° with positive x-axis and dividing the line joining the points (3, -1) and (8, 9) in the ratio 2 : 3 internally, is
(A) $x - y - 2 = 0$ (B) $3x - 3y + 1 = 0$
(C) $\sqrt{3}x - \sqrt{3}y + 2 = 0$ (D) None of these
- The straight line $2x + 5y - 1 = 0$ and $4ax - 5y + 2 = 0$ are mutually perpendicular, then the value of 'a' will be
(A) $\frac{25}{8}$ (B) $-\frac{1}{2}$ (C) $-\frac{25}{8}$ (D) $\frac{1}{2}$
- A line passes through (2, 2) and is perpendicular to the line $3x + y = 3$. Its y - intercept is:
(A) $1/3$ (B) $2/3$ (C) 1 (D) $4/3$
- The vertices of a triangle are $A(x_1, x_1 \tan \alpha)$, $B(x_2, x_2 \tan \beta)$ and $C(x_3, x_3 \tan \gamma)$. If the circumcentre of triangle ABC coincides with the origin and H(a, b) be the orthocentre, then $\frac{a}{b} =$
(A) $\frac{x_1 + x_2 + x_3}{x_1 \tan \alpha + x_2 \tan \beta + x_3 \tan \gamma}$ (B) $\frac{x_1 \cos \alpha + x_2 \cos \beta + x_3 \cos \gamma}{x_1 \sin \alpha + x_2 \sin \beta + x_3 \sin \gamma}$
(C) $\frac{\tan \alpha + \tan \beta + \tan \gamma}{\tan \alpha \cdot \tan \beta \cdot \tan \gamma}$ (D) $\frac{\cos \alpha + \cos \beta + \cos \gamma}{\sin \alpha + \sin \beta + \sin \gamma}$
- The circumcentre, orthocentre, incentre and centroid of the triangle formed by the points A(1, 2), B(4, 6), C(-2, -1) are collinear. **[True or False]**
- Find the equations to the straight lines which pass through the point (1, -2) and cut off equal distances from the two axes.
- Match entry of column-I with **one or more than one** entries of column-II.

Column-I

- Four lines $x + 3y - 10 = 0$, $x + 3y - 20 = 0$, $3x - y + 5 = 0$ and $3x - y - 5 = 0$ form a figure which is
- The point A(1, 2), B(2, -3), C(-1, -5) and D(-2, 4) in order are vertices of
- The lines $7x + 3y - 33 = 0$, $3x - 7y + 19 = 0$, $3x - 7y - 10 = 0$ and $7x + 3y - 4 = 0$ form a figure which is
- Four lines $4y - 3x - 7 = 0$, $3y - 4x + 7 = 0$, $4y - 3x - 21 = 0$, $3y - 4x + 14 = 0$ form a figure which is

Column-II

- a quadrilateral which is neither a parallelogram nor a trapezium
- a parallelogram
- a rectangle of area 10 sq.units
- a square

Answers Key

1. (A) 2. (A) 3. (D) 4. (A)(D)
5. False 6. $x + y + 1 = 0$, $x - y - 3 = 0$
7. $(A) \rightarrow (q,r,s)$, $(B) \rightarrow (p)$, $(C) \rightarrow (q,s)$, $(D) \rightarrow (q)$