## ANALYTICAL GEOMETRY

1. The centroid of the triangle whose sides are $x=0, y=0$ and $x+y=6$ is $\qquad$
2. The inclination of the line $x+y+10=0$ is $\qquad$ -
3. If $D, E, F$ are the mid points of the sides $B C, C A, A B$ respectively and area of $\triangle A B C$ is 64 sq.units then area of $\triangle D E F=$ $\qquad$
4. The area of the triangle formed by the line $\frac{x}{a}+\frac{y}{b}=1$ with co-ordinate axis is $\qquad$
5. The equation of a line passing through $(-5,7)$ and having a slope 4 is $\qquad$ .
6. The point of intersection of the lines $y=2 x+1$ and $y=3 x-2$ is $\qquad$
7. If $a x+b y+c=0$ represents a straight line then the condition is $\qquad$
8. Slope of the line perpendicular to $3 x+4 y-10=0$ is $\qquad$ $\mathrm{K}=$ $\qquad$
9. The distance between the points $(0,1)$ and $(8, \mathrm{~K})$ is 10 then $\mathrm{K}=$
10. Equation of the line making equal intercepts on the axis and passing through $(-2,3)$ is $\qquad$
11. If $2 x-3 y+5=0$ and $4 x-k y+3=0$ are parallel then $K=$ $\qquad$
12. Equation of a line with intercepts 3 and 2 untis on $x$-axis and $y$-axis is $\qquad$
13. The center of the circle is $(0,0)$ if one end of a diameter is $(1,2)$ then the other end is $\qquad$
14. If $\sqrt{3}$ is the slope of the line then its incli ${ }_{\text {nation }}$ is $\qquad$ degrees.
15. Equation of $y$-axis is $\qquad$
16. If $(2,-4)$ and $(6,-2)$ are the two vertices of diameter of circle then its centre is $\qquad$
17. The perimeter of the triangle whose vertices are $\mathrm{A}(0,0), \mathrm{B}(1,0)$ and $\mathrm{C}(0,1)$ is $\qquad$
18. The equation of the line having slope 2 and Y - intercept -2 is $\qquad$
19. The equation of the line joining the points
$(1,2)$ and $(3,4)$ is $\qquad$
20. The $X$ and $Y$ intercepts made by the line $4 x+6 y-9=0$ are $\qquad$
21. If the line $\frac{x}{a}+\frac{y}{2 a}=1$ passes through the point $(2,-3)$ then $\mathrm{a}=$ $\qquad$
22. If the angle between two lines is $90^{\circ}$ then the product of their slopes is $\qquad$
23. The Area of the triangle formed by the point $\mathrm{A}(0,0), \mathrm{B}(\mathrm{a}, 0)$ and $\mathrm{C}(0, \mathrm{a})$ is $\qquad$
24. Slope of X -axis is
25. Equation of a line intercept form is $\qquad$
26. The lines $\mathrm{y}=2 \mathrm{x}+5, \mathrm{y}=2 \mathrm{x}-5$ are $\qquad$ to each other.
27. Slope of the line joining the points $(-a, a)$ and $(0, a+a \sqrt{3})$ is $\qquad$
28. Equation of a straight line passing through $(-1,-1)$ with $60^{\circ}$ is
29. The lines $y=3 x+4$ and $x=-3 y$ are $\qquad$ to each other.
30. Slope of $\frac{x}{a}+\frac{y}{b}=1$ is $\qquad$
31. The equation of a straight line parallel to $3 x+4 y=10$ and passing through origin is $\qquad$
32. In $\qquad$ ratio is the segment joining the points $(4,-3)$ and $(5,2)$ divides
by the x -axis
33. The centroid divides the median in the ratio
34. The line $\sqrt{3} x-y+50=0$ makes an angle of $x$-axis is
35. The mid point of $\left(\operatorname{Sin}^{2} \alpha, \operatorname{Sec}^{2} \alpha\right)$ and $\left(\operatorname{Cos}^{2} \alpha,-\operatorname{Tan}^{2} \alpha\right)$ is
36. The angle between $x-2=0$ and $y+3=0$ is $\qquad$
$\qquad$
37. The line $x=3 y+1$ cuts $x$-axis at $\qquad$
38. Distance between the points $(a \cos \theta, 0)$ and $(0, a \sin \theta)$ is $\qquad$
39. The line $y=m x$ passes through $\qquad$
40. If the line joining the points $\left(\mathrm{x}_{1}, \mathrm{y}_{1}\right)$ and $\left(\mathrm{x}_{2}, \mathrm{y}_{2}\right)$ is divded by a point R internally in the ratio m:n then x -coordinate is $\qquad$
41. The line $y=m x+c$ intersects the $x$-axis at the point $\qquad$ (June 2009)
42. The line parallel to x -axis through $(\mathrm{h}, \mathrm{k})$ is $\qquad$ (June 2009)
43. If $(1,3),(2,5)$ and $(3, k)$ are collinear then $K=$ $\qquad$ (June 2009)
44. The slope of a line parallel to the line
$3 x-2 y+1=0$ is $\qquad$ (March 2009)
45. $(4,7),(1,4),(3,2),(6,5)$ are the vertices of a parallelogram, then the intersect point of its diagonal is $\qquad$ (March 2009)
46. The slope of $x=2 y$ is $\qquad$ (March 2009)
47. Analytical geometry was introduced by $\qquad$ (March 2009)
48. Slope-intercept form of an equation is $\qquad$ (March 2009)
49. Slope of $a x+b y+c=0$ is $\qquad$ (March 2009)
50. If two straight lines are parallel, their slopes are $\qquad$ (March 2008)
51. Sum of the intercepts made by $3 x+4 y=12$ on the axis is $\qquad$ (March 2007)
52. Slope of the line $y=5$ is $\qquad$ (March 2007)
53. The point - slope form of an equation of a straight line is $\qquad$ (June 2007)
54. Y-intercept made by line $3 x+4 y=0$ is $\qquad$ (June 2007)
55. The distance between origin to the given point $(a, b)$ is $\qquad$ (June 2005)
56. If two straight lines are parallel their equations differ only by a $\qquad$
57. $(2,2)$
58. $135^{\circ}$
59. 16 sq.units.
60. $\frac{1}{2}|\mathrm{ab}|$
61. $4 x-y+27=0$
62. $(3,7)$
63. $|a|+|b| \neq 0$
64. $4 / 3$
65. $K=7$ (or) -5
66. $\mathrm{x}+\mathrm{y}-1=0$
67. $\mathrm{k}=6$
68. $2 x+3 y-6=0$
69. $(-1,-2)$
70. $60^{\circ}$
71. $x=K$
72. $(4,-3)$
73. $(2+\sqrt{2}) \mathrm{mt}$
74. $y=2 x-2$
75. $x-y+1=0$

29: $(9924,3 / 2)$
22. -1
23. $\frac{\mathrm{a}^{2}}{2}$ sq.units
24. zero
25. $\frac{x}{a}+\frac{y}{b}=1$
26. Parallel
27. $\sqrt{3}$
28. $\sqrt{3} x-y+(\sqrt{3}-1)=0$
29. Perpendicular
30. $-\mathrm{b} / \mathrm{a}$
31. $3 x+4 y=0$
32. 3:2
33. $2: 1$
34. $60^{\circ}$
35. $(1 / 2,1 / 2)$
36. $90^{\circ}$
37. $(1,0)$

38: @rigin
40. $\frac{\mathrm{mx}_{2}+\mathrm{nx}_{1}}{\mathrm{~m}+\mathrm{n}}$
41. $\left(\frac{-\mathrm{c}}{\mathrm{m}}, 0\right)$
42. $y=k$
43. $k=7$
44. $3 / 2$
45. $(7 / 2,9 / 2)$
46. 1/2
47. Rene descortes
48. $y=m x+c$
49. $-\mathrm{a} / \mathrm{b}$
50. equal
51.7
52. zero
53. $\left(\mathrm{y}-\mathrm{y}_{1}\right)=\mathrm{m}\left(\mathrm{x}-\mathrm{x}_{1}\right)$
54. 0
55. $\sqrt{\mathrm{a}^{2}+\mathrm{b}^{2}}$
56. constant

## 4 Marks

1. Find the equation of the line perpendicular to the line joining $(-1,3),(4,6)$ and passing through the point $(2,-5)$ ?
2. Find the equation of a line whose slope is $4 / 5$ and which bisects the line joining the points $\mathrm{P}(1,2)$ and $\mathrm{Q}(4,-3)$ ?
3. Find the equation of a line passing through the point $(5,-3)$ and whose sum of the intercepts on the coordinate axis is $5 / 6$ ?
4. Find the coordinates of the points of trisection of a segment joining $A(-3,2)$ and $B(9,5)$ ?
5. Show that the points A $(1,2), \mathrm{B}(-3,4)$ and $\mathrm{c}(7,-1)$ are collinear and find the ratio in which A divides BC?

2 Marks

1. If the three points $A(P, 2) B(-3,4), C(7,-1)$ are collinear find the volue of ' $p$ '.
2. In what ratio is the segment Joining the points $(4,6)$ and $(-7,-1)$ divided by the X - axis?
3. Find the third vertice of the triangle, if two of its vertices are $(-1,4)$ and $(5,2)$ and the medians intersect at $(0,-3)$.?
4. Find the equation of the line passing through the point $(3,4)$ and is parallel to $4 x+7 y=8$ ?

5 . Find the area of the triangle formed by the points $(-2,3),(-7,5)$ and $(3,-5)$ ?
6 . One end of the diameter of a circle is $(3,2)$ and the centre is $(0,0)$. Find the co-ordinates of the other end of the diameter?
7. Find the point on X -axis which is equidistant from $(2,3)$ and $(4,-2)$ ?

8 . Find the area of the triangle formed by the line $2 x-4 x-7=0$ with the co-ordinate axis?

## 1 Mark

1. Find the equation of the line passing through $(4-7)$ and $(1,5)$ ?
2. A straight line makes intercepts 4 and -7 on the $X$ and $Y$-axis what is the equation of that line?
3. Find the equation of the line making an angle $150^{\circ}$ with X -axis and having Y-intercept -1 ?
4. Find the co-ordinates of the centroid of the triangle whose vertices are $(-4,4),(-2,2)$ and $(6,12)$ ?
5. Find the intercepts of the equation
$2 x+3 y-5=0$ ?
6. Find the slope of the line perpendicular to the line $3 x-2 y+1=0$ ?
7. Find the area of a triangle with vertices at $(3,0),(0,4)$ and $(0,0)$ ?

8 . Find the slope of the line whose equation is $2 x-7 y=12$ ?
9 . Find the slope of the line joining $(4,6)$ and $(2,-5)$ ?
10 .Find the equation of the line passing through the point $(3,-5)$ and whose slope is $7 / 3$ ?

