
Govt. Ghazali Degree College, Jhang

(Important Short Questions)

Course: Calculus and Analytic Geometry

Chapter # 04

Introduction to Analytic Geometry

Following short questions are selected from previous 5 years papers of different boards. Solve these at your own to perform well in annual exams.

1. Describe the location in the plane of the point $P(x, y)$ for which $x < 0$ and $y \geq 0$.
2. Find h such that the points $A(-1, h)$, $B(3, 2)$ and $C(7, 3)$ are collinear.
3. Find the equation of a line bisecting the first and third quadrants.
4. Find the points trisecting the join of $A(-1, 4)$ and $B(6, 2)$.
5. If xy coordinate axes are rotated about the origin through the angle of 30° and the new axes are OX and OY . Find the XY coordinates of the point $P(5, 3)$.
6. The coordinates of a point P are $(-6, 9)$. The axes are translated through the point $O'(-3, 2)$. Find the coordinates of P referred to the new axes.
7. Show that $A(3, 1)$, $B(-2, -3)$ and $C(2, 2)$ are vertices of an isosceles triangle.
8. Show that the points $A(0, 2)$, $B(\sqrt{3}, -1)$ and $C(0, -2)$ are vertices of a right triangle.
9. Convert $2x - 4y - 11 = 0$ into two intercepts form.
10. Define the centroid of a triangle.
11. Find the measure of angle between the lines represented by $x^2 - xy - 6y^2$.
12. Find the equation of a line passing through $(-8, 5)$ and with undefined slope.
13. Find the angle from the line with slope $-\frac{7}{3}$ to the line with the slope $\frac{5}{2}$.
14. Find the slope and angle of inclination of the line joining the points $(4, 6)$ and $(4, 8)$.
15. Write formula for finding the area of a triangle with vertices (x_1, y_1) , (x_2, y_2) and (x_3, y_3) .
16. Check the position of point $(-2, 3)$ w.r.t. the line $3x - 4y + 7 = 0$.
17. Define y -intercept of a line.
18. Find the interior angles of the triangle whose vertices are $(2, -5)$, $(-4, -3)$ and $(-1, 5)$.
19. Transform the equation $5x - 12y + 39 = 0$ into slope-intercept form.
20. Using slopes, show that the points $(4, 5)$, $(1, 1)$ and $(12, -1)$ are the vertices of a right triangle.
21. Find the distance between the parallel lines $3x - 4y + 3 = 0$ and $3x - 4y + 7 = 0$.

22. Transform the equation $4x + 7y - 2 = 0$ in normal form.
23. Find an equation of the line through $(-4, 7)$ and parallel to the line $2x - 7y + 4 = 0$.
24. Find the area of a triangle whose vertices are $(5, 3)$, $(-2, 2)$ and $(4, 2)$.
25. Find h such that the points $A(h, 1)$, $B(2, 7)$ and $(-6, -7)$ are vertices of a right triangle with right angle at vertex A .
26. Find equation of the line through the point $(2, -9)$ and the intersection of the lines $2x + 5y - 8 = 0$ and $3x - 4y - 6 = 0$.
27. Find the points of intersection of lines $x + 4y - 12 = 0$ and $x - 3y + 3 = 0$.
28. Check whether the lines $4x - 3y - 8 = 0$, $3x - 4y - 6 = 0$ and $x - y - 2 = 0$ are concurrent or not.
29. Find the value of k such that the lines $2x - 3y - 1 = 0$, $3x - y - 5 = 0$ and $3x - ky - 8 = 0$ meet at a point.
30. Define homogeneous equation of degree n .
31. Find the lines represented by the homogeneous equation $10x^2 - xy - 21y^2 = 0$.

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Best of Luck

by

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