

Name:		Roll No.		Subject	Math
Test Type	Only MCQs	Class	12	Date	
Chapter	6 Conic Sections	Unit	06	Time	

Q. No. 1 Tick the best option

- Condition for circle $x^2 + Y^2 = r^2$ to be point circle is
(a) $R=1$ (b) $r = -1$ (c) $r = 0$ (d) $r > 0$
- Circle can contain no term involving
(a) X^2 (b) y^2 (c) xy (d) x
- Condition that line $y = mx + c$ my tangent to circle $x^2 + y^2 = a^2$ is
(a) $C^2 = a^2(1 + m^2)$ (b) $c^2 = a^2(1 - m^2)$ (c) $c^2 = a^2(m^2 - 1)$ (d) $a^2 = c^2(1 - m^2)$
- Length of tangent from the point $p(-5, 10)$ to the circle $5x^2 + 5y^2 + 14x + 12y - 10 = 0$ is
(a) 133 (b) $\sqrt{133}$ (c) $\sqrt{132}$ (d) 132
- Focus of parabola $(x-2)^2 = 3(y-3)$ is at
(a) (2, 5) (b) $(1, \frac{15}{4})$ (c) $(2, \frac{15}{4})$ (d) None
- Ellipse $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$ meets y-axis at
(a) (b, 0) (b) $(-b, 0)$ (c) $(0, \pm b)$ (d) All of these
- For ellipse $4x^2 + 9y^2 = 36$, length of latus rectum is
(a) $\frac{3}{4}$ (b) $\frac{4}{5}$ (c) $\frac{4}{3}$ (d) $\frac{3}{5}$
- Centre of hyperbola lies on its
(a) Transverse axis (b) Conjugate axis (c) Focal axis (d) All of these
- Vertices of hyperbola $\frac{x^2}{4} - \frac{y^2}{12} = 1$ are
(a) $(0, \pm 4)$ (b) $(\pm 4, 0)$ (c) $(\pm 2, 0)$ (d) $(0, \pm 2)$
- Conic $7x^2 - 6\sqrt{3}xy + 13y^2 - 16 = 0$ represents a/an
(a) Ellipse (b) Hyperbola (c) Parabola (d) Circle
- Condition for equation $x^2 + y^2 + 2gx - 2y + 5 = 0$ to be circle is
(a) $g \geq 2$ (b) $|g| \geq 2$ (c) $|g| \leq 2$ (d) $g \neq 0$
- Line $y = mx + c$ is normal to the circle $(x+1)^2 = 10$ under the condition
(a) $x + y = 4$ (b) $y = x - 4$ (c) $x + y = 0$ (d) $y = mx + c$
- Line $3x + 4y = 5$ is tangent to circle
(a) $X^2 + y^2 = 5$ (b) $(x-1)^2 + y^2 = 1$ (c) $x^2 + y^2 = 1$ (d) $x^2 + y^2 = \sqrt{5}$
- Tangent to circle $x^2 + y^2 + 2x + 2y + 1 = 0$ at $(0, -1)$
(a) $x = 0$ (b) $y = 0$ (c) $x + y = 0$ (d) None of these
- Line $x + 2 = 0$ meets the circle $x^2 + y^2 = 4$ at
(a) One point (b) Two point (c) At most two point (d) None of these
- Perpendicular dropped from centre of circle on a chord divides the chord in
(a) 1 : 2 (b) 2 : 1 (c) 1 : 1 (d) None of these
- Parametric equations of parabola $y^2 = 4ax$ are
(a) $X = at, y = at^2$ (b) $x = at, y = 2at$ (c) $x = at^2, y = at$ (d) None of these
- Equation $ax^2 + by^2 + 2gx + 2fy + c = 0$ represents a parabola if
(a) $a = b = 1$ (b) $a = 0$ or $b = 0$ (c) $a \neq b$ (d) $a = b = 0$
- Equation of axis of parabola $x^2 = -16$ is
(a) $X = 0$ (b) $y = 0$ (c) $x = 4$ (d) $y = -4$
- Magnitude of Latus rectum of $x^2 - 4x - 3y + 13 = 0$ is
(a) 13 (b) 9 (c) 3 (d) None of these

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21. Parabola $y^2 = 4ax$ passes through
 - (a) $(2a, a)$
 - (b) $(a, 4a)$
 - (c) $(a, 0)$
 - (d) None of these
22. Point on parabola $y^2 = 4x$ closest to $(1, 0)$ is
 - (a) $(4, 0)$
 - (b) $(-1, 0)$
 - (c) $(0, 0)$
 - (d) None of these
23. For parabola, the reaction $b^2 = a^2(1 - e^2)$ reduces to
 - (a) $b^2 = a^2(e^2 - 1)$
 - (b) $a^2 = b^2(1 - e^2)$
 - (c) $a = b$
 - (d) All of these
24. In conic, if $c: a = 2:4$, then it represents
 - (a) Parabola
 - (b) Ellipse
 - (c) Hyperbola
 - (d) Circle
25. An ellipse in standard form is symmetric about
 - (a) X-axis
 - (b) y-axis
 - (c) Both
 - (d) None of these
26. Centre of ellipse is not mid-point of
 - (a) Latus rectum
 - (b) Co-vertices
 - (c) Minor axis
 - (d) Foci
27. Length of latus rectum of $4x^2 + 9y^2 = 36$ is
 - (a) $\frac{8}{3}$
 - (b) $\frac{4}{3}$
 - (c) 9
 - (d) $\frac{9}{2}$
28. In conic of $a - c < 0$, then
 - (a) $e = 1$
 - (b) $e < 1$
 - (c) $e > 1$
 - (d) $e = 0$
29. Equation of transverse axis of hyperbola $25x^2 - 16y^2 = 400$ is
 - (a) $x = 0$
 - (b) $y = 0$
 - (c) $x = 4$
 - (d) $y = 5$
30. Centre of hyperbola with asymptotes $2x - y = 3$, $2x + y = 1$ is
 - (a) $(1, -1)$
 - (b) $(0, 0)$
 - (c) $(-1, 1)$
 - (d) None of these
31. Central conics are
 - (a) Ellipse and hyperbola
 - (b) Ellipse and parabola
 - (c) Hyperbola and parabola
 - (d) Circle
32. Condition of tangency of line $y = mx + c$ to the hyperbola $\frac{x^2}{a^2} - \frac{y^2}{b^2} = 1$ is
 - (a) $C = \frac{a}{m}$
 - (b) $C = \pm a \sqrt{1 + m^2}$
 - (c) $C = \pm \sqrt{(a^2 m^2 + b^2)}$
 - (d) $C = \pm \sqrt{(a^2 m^2 - b^2)}$
33. $y = mx + \frac{a}{m}$ is the equation of tangent line to the parabola $y^2 = 4ax$ for all
 - (a) Non negative values of m
 - (b) Negative values of m
 - (c) Non zero values of m
 - (d) Values of m
34. $y = mx \pm \sqrt{a^2 m^2 + b^2}$ are the equation of tangent line to the ellipse $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$ for all
 - (a) Negative values of m
 - (b) Positive values of m
 - (c) Non zero values of m
 - (d) Values of m
35. If the axis are translated through $O'(h, k)$ equation of transformation are
 - (a) $x = X - h, y = Y - k$
 - (b) $x = X + h, y = Y + k$
 - (c) $x = h - X, y = k - Y$
 - (d) None
36. If discriminant i.e $h^2 - ab < 0$ then the equation $ax^2 + 2hxy + by^2 + 2gx + 2fy + c = 0$ represents
 - (a) An ellipse or circle
 - (b) Parabola
 - (c) Hyperbola
 - (d) Rectangle
37. The quantity which is the discriminant of $ax^2 + 2hxy + by^2 + 2gx + 2fy + c = 0$ is
 - (a) $h^2 + ab$
 - (b) $ab - h^2$
 - (c) $h^2 \times ab$
 - (d) $ab - h^3$
38. Nature of conic in the equation $ax^2 + 2hxy + by^2 + 2gx + 2fy + c = 0$ depends on
 - (a) $ab + h^2$
 - (b) $ab - h^2$
 - (c) $ab \times h^2$
 - (d) $a + b - h^2$