

XI Maths Worksheet**Time: 60 min****Chapter#11. Conic Sections****Full Marks:**

- Q.1 Find the coordinates of the foci, the vertices, the length of major axis, the minor axis, the eccentricity and the length of the latus rectum of the ellipse $\frac{x^2}{16} + \frac{y^2}{9} = 1$. (3 marks)
- Q.2 If a parabolic reflector is 20 cm in diameter and 5 cm deep, find the focus. (3 marks)
- Q.3 Find the equation of the parabola with vertex (0,0), passing through the point (4,5) and symmetric about the x - axis. (2 marks)
- Q.4 Find the equation of the circle which passes through the points (3,7), (5,5) and has its centre on the line $x - 4y = 1$. (5 marks)
- Q.5 Find the equation of the circle which passes through the points (2, -2), and (3, 4) and whose centre lies on the line $x + y = 2$. (3 marks)
- Q.6 Examine whether the points (2,3) lies inside, outside or on the circle $x^2 + y^2 + 2x + 2y - 7 = 0$. (2 marks)
- Q.7 Find the equation of the hyperbola satisfying the give conditions: Vertices (0, ± 3), foci (0, ± 5). (2 marks)
- Q.8 Find the coordinates of the foci, the vertices, the length of major axis, the minor axis, the eccentricity and the length of the latus rectum of the ellipse $\frac{x^2}{25} + \frac{y^2}{100} = 1$. (3 marks)
- Q.9 Find the centre and radius of the circle : $x^2 + y^2 - 8x + 10y - 12 = 0$
- Q.10 Find the equation of the hyperbola satisfying the give conditions: Foci (± 4 , 0), the latus rectum is of length 12. (3 marks)
- Q.11 Find the equation of the circle with centre ($-a$, $-b$) and radius $\sqrt{a^2 - b^2}$. (2 marks)
- Q.12 Find the equation of a circle with centre (2, 2) and passes through the point (4, 5). (3 marks)
- Q.13 An equilateral triangle is inscribed in the parabola $y^2 = 4ax$, where one vertex is at the vertex of the parabola. Find the length of the side of the triangle. (5 marks)
- Q.14 Find the equation of the parabola that satisfies the following conditions: Vertex (0, 0) passing through (2, 3) and axis is along x-axis. (3 marks)
- Q.15 Find the radius of the circle $x^2 + y^2 - 4x + 2y + 1 = 0$. (1 mark)
- Q.16 Find the equation of the ellipse that satisfies given conditions: Vertices (± 6 , 0), foci (± 4 , 0). (3 marks)
- Q.17 Find the equation of the circle with radius 5 whose centre lies on x-axis and passes through the point (2,3).
- Q.18 Find the equation of the circle with centre at (-3, 2) and radius 4. (1 mark)
- Q.19 Find the equation for the ellipse that satisfies the given conditions: Major axis on the x-axis and passes through the points (4, 3) and (6, 2). (3 marks)
- Q.20 Find the equation of the parabola with focus (5, 0) and directrix $x = -5$. (2 marks)