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Important Questions 2010
Class-XII- Maths
Conic Sections

Q.1. Find the centre and radius of the circle

$2x^2 + 2y^2 - x = 0$.

Q.2. Find the equation of the circle with radius 5 whose centre lies on x-axis and passes through the point (2,3).

Q.3. Find the equation of the circle passing through the points (2,3) and (–1,1) and whose centre is on the line $x - 3y - 11 = 0$.

Q.4. Find the equation of the circle passing through (0,0) and making intercepts a and b on the coordinate axes.

Q.5. Find the equation of the parabola with vertex at (0, 0) and focus at (0, 2).

Q.6 . Find the equation of the parabola with focus (2,0) and directrix $x = -2$.

Q.7. Find the equation of the parabola which is symmetric about y-axis and passes through the point (2, -3).

Q.8. Find the coordinates of the foci, the vertices, the length of major axis, the minor axis, the eccentricity and the latus rectum of the ellipse :

$$\frac{x^2}{25} + \frac{y^2}{9} = 1$$

Q.9. Find the co-ordinates of the foci, the vertices, the lengths of major and minor axes and the eccentricity of the ellipse $9x^2 + 4y^2 = 36$.

Q.10. Find the equation of the ellipse with major axis along the x-axis and passing through the points (4, 3) and (-1, 4).

Q.11. Find the equation of the ellipse, whose length of the major axis is 20 and foci are $(0, \pm 5)$.

Q12. Find the coordinates of the foci and the vertices, the eccentricity,the length of the latus rectum of the hyperbolas:

(i) $\frac{x^2}{9} - \frac{y^2}{16} = 1$

(ii) $y^2 - 16x^2 = 1$

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Q.13. Find the equation of the hyperbola with foci (0, ±3) and vertices (0, $\pm\frac{\sqrt{11}}{2}$).

Q.14. Find the equation of the hyperbola with vertices (±7,0) and e = 4/3.

Q.15. Find the equation of the hyperbola where foci are (0, ±12) and the length of the latus rectum is 36.

Q.16. A beam is supported at its ends by supports which are 12 metres apart. Since the load is concentrated at its centre, there is a deflection of 3 cm at the centre and the deflected is in the shape of a parabola. How far from the centre is the deflection 1 cm.