CHAPTER 11. CONIC SECTIONS

Focus Area Based Practice Questions

1. If an ellipse passing through (3,1) having foci (±4,0) , find
   a) the length of the major axis
   b) the standard equation of the ellipse.
   c) the eccentricity and length of the latus rectum.

2. Focii of the ellipse are $(\pm\sqrt{12}, 0)$ and vertices are (±4,0). Find the equation of the ellipse.

3. The figure shows an ellipse $\frac{x^2}{25} + \frac{y^2}{9} = 1$.
   a) Find the eccentricity and focus of the ellipse.
   b) Find the equation of the line L.
   c) Find the equation of the line parallel to line L and passing through any one of the foci
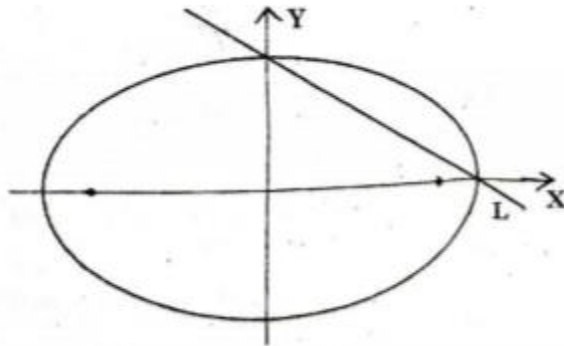
4. The length of latus rectum of the parabola $y^2 = -8x$ is
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5. Find the equation of the parabola with focus (6,0) and equation of the directrix is $x = -6$

6. Find the equation of the ellipse whose vertices are (±13,0) and foci are (± 5, 0).

7. An ellipse whose major axis as x-axis and the centre (0,0) passes through (4,3) and (-1,4)
   a) Find the equation of the ellipse

   b) Find its eccentricity.

8. Find the eccentricity and the length of latus rectum of the ellipse $4x^2 + 9\,y^2 = 36$.

9. Find the eccentricity and the length of latus rectum of the parabola $x^2 + 16\,y = 0$.

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

   b) Find the co-ordinates of the foci and the latus rectum of the ellipse $\dfrac{x^2}{25} + \dfrac{y^2}{9} = 1$.

CONIC SECTION FOCUS AREA VIDEO LINK:

https://youtu.be/-b25klcNzJo