



**ST. LAWRENCE HIGH SCHOOL**  
A JESUIT CHRISTIAN MINORITY INSTITUTION



**WORKSHEET-25**  
**SUBJECT – MATHEMATICS**  
**2<sup>nd</sup> - Term**

**Chapter: Co-ordinate Geometry**

**Class: XI**

**Topic: Conic sections 1**

**Date: 28.11.2020**

**Choose the correct option** **(1 x 15=15)**

- 1 The vertex of the parabola  $x^2 + 8x + 12y + 4 = 0$  is  
(a)  $(-4, 1)$  (b)  $(4, -1)$  (c)  $(-4, -1)$  (d)  $(4, 1)$
- 2 The vertex of the parabola  $(y - 2)^2 = 16(x - 1)$  is  
(a)  $(1, 2)$  (b)  $(-1, 2)$  (c)  $(1, -2)$  (d)  $(2, 1)$
- 3 The length of the latus-rectum of the parabola  $4y^2 + 2x - 20y + 17 = 0$  is  
(a) 3 (b) 6 (c)  $1/2$  (d) 9
- 4 The length of the latus-rectum of the parabola  $x^2 - 4x - 8y + 12 = 0$  is  
(a) 4 (b) 6 (c) 8 (d) 10
- 5 The focus of the parabola  $y = 2x^2 + x$  is  
(a)  $(0, 0)$  (b)  $(1/2, 1/4)$  (c)  $(-1/4, 0)$  (d)  $(-1/4, 1/8)$
- 6 Which of the following points lie on the parabola  $x^2 = 4ay$ ?  
(a)  $x = at^2, y = 2at$  (b)  $x = 2at, y = at^2$  (c)  $x = 2at^2, y = at$  (d)  $x = 2at, y = at^2$
- 7 The equation of the parabola whose focus is  $(1, -1)$  and the directrix is  $x + y + 7 = 0$  is  
(a)  $x^2 + y^2 - 2xy - 18x - 10y = 0$  (b)  $x^2 - 18x - 10y - 45 = 0$   
(c)  $x^2 + y^2 - 18x - 10y - 45 = 0$  (d)  $x^2 + y^2 - 2xy - 18x - 10y - 45 = 0$
- 8 The parametric equations of a parabola is  $x = t^2 + 1, y = 2t + 1$ , the Cartesian equation of its directrix is –  
(a)  $x = 0$  (b)  $x = -1$   
(c)  $y = 0$  (d) none of these.
- 9 If V and S are respectively the vertex and focus of the parabola  $y^2 + 6y + 2x + 5 = 0$ , then  $SV = ?$   
(a) 2 (b)  $1/2$   
(c) 1 (d) none of these

10. The directrix of the parabola  $x^2 - 4x - 8y + 12 = 0$  is  
 (a)  $y = 0$  (b)  $x = 1$  (c)  $y = -1$  (d)  $x = -1$
11. The equation of the parabola with focus  $(0, 0)$  and directrix  $x + y = 4$  is  
 (a)  $x^2 + y^2 - 2xy + 8x + 8y - 16 = 0$  (b)  $x^2 + y^2 - 2xy + 8x + 8y = 0$   
 (c)  $x^2 + y^2 + 8x + 8y - 16 = 0$  (d)  $x^2 - y^2 + 8x + 8y - 16 = 0$
12. The line  $2x - y + 4 = 0$  cuts the parabola  $y^2 = 8x$  in  $P$  and  $Q$ . The mid-point of  $PQ$  is  
 (a)  $(1, 2)$  (b)  $(1, -2)$  (c)  $(-1, 2)$  (d)  $(-1, -2)$
13. In the parabola  $y^2 = 4ax$ , the length of the chord passing through the vertex and inclined to the axis at  $\pi/4$  is  
 (a)  $4\sqrt{2}a$  (b)  $2\sqrt{2}a$  (c)  $\sqrt{2}a$  (d) none of these
14. The equation  $16x^2 + y^2 + 8xy - 74x - 78y + 212 = 0$  represents  
 (a) a circle (b) a parabola (c) an ellipse (d) a hyperbola
15. The length of the latus-rectum of the parabola  $y^2 + 8x - 2y + 17 = 0$  is  
 (a) 2 (b) 4 (c) 8 (d) 16

**Prepared by :-**

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