



MATHS

BOOKS - JEE MAINS PREVIOUS YEAR

ENGLISH

PARABOLA

Others

1. The equation of a tangent to the parabola

$y^2 = 8x$ is $y = x + 2$. The point on this line

from which the other tangent to the parabola is perpendicular to the given tangent is



Watch Video Solution

2. If a parabola has the origin as its focus and the line $x = 2$ as the directrix, then the coordinates of the vertex of the parabola are



Watch Video Solution

3. If two tangents drawn from a point P to the parabola $y^2 = 4x$ are at right angles, then the locus of P is (a) $2x+1=0$ (b) $x=-1$ (c) $2x-1=0$ (d) $x=1$



Watch Video Solution

4. Statement 1: An equation of a common tangent to the parabola $y^2 = 16\sqrt{3}x$ and the ellipse $2x^2 + y^2 = 4$ is $y = 2x + 2\sqrt{3}$.

Statement 2: If the line

$y = mx + \frac{4\sqrt{3}}{m}$, ($m \neq 0$) is a common

tangent to the parabola $y^2 = 16\sqrt{3}x$ and the ellipse $2x^2 + y^2 = 4$, then m satisfies $m^4 + 2m^2 = 24$. (1) Statement 1 is false, statement 2 is true (2) Statement 1 is true, statement 2 is true; statement 2 is a correct explanation for statement 1 (3) Statement 1 is true, statement 2 is true; statement 2 is not a correct explanation for statement 1 (4) Statement 1 is true, statement 2 is false



[Watch Video Solution](#)

5. The equation to the line touching both the parabolas $y^2 = 4x$ and $x^2 = -32y$ is

 [View Text Solution](#)

6. Let O be the vertex and Q be any point on the parabola, $x^2 = 8y$. If the point P divides the line segment OQ internally in the ratio 1 : 3, then the locus of P is : (1) $x^2 = y$ (2) $y^2 = x$
(3) $y^2 = 2x$ (4) $x^2 = 2y$

 [View Text Solution](#)

7. The centres of those circles which touch the circle, $x^2 + y^2 - 8x - 8y - 4 = 0$, externally and also touch the x-axis, lie on : (1) a circle. (2) an ellipse which is not a circle. (3) a hyperbola. (4) a parabola.



[View Text Solution](#)