

HKDSE Problems

1. If P is a moving point in the rectangular coordinate plane such that the distance between P and the point $(20, 12)$ is equal to 5, then the locus of P is a

A. circle.
 B. square.
 C. parabola.
 D. triangle.

[2012-DSE-MATHS 2-24]

2. The coordinates of the points A and B are $(2, 5)$ and $(4, -1)$ respectively. Let P be a moving point in the rectangular coordinate plane such that $AP = BP$. Find the equation of the locus of P .

A. $x - 3y + 3 = 0$
 B. $x - 3y - 7 = 0$
 C. $x - 3y + 13 = 0$
 D. $3x + y - 11 = 0$

[2013-DSE-MATHS 2-24]

3. The equations of the straight lines L_1 and L_2 are $2x + 3y = 5$ and $4x + 6y = 7$ respectively. If P is a moving point in the rectangular coordinate plane such that the perpendicular distance from P to L_1 is equal to the perpendicular distance from P to L_2 , then the locus of P is a

A. circle.
 B. square.
 C. parabola.
 D. straight line.

[2014-DSE-MATHS 2-24]

4. The coordinates of the points A and B are $(2, 0)$ and $(1, 5)$ respectively. If P is a moving point in the rectangular coordinate plane such that P is equidistant from A and B , then the locus of P is

A. the perpendicular bisector of AB .
 B. the circle with AB as a diameter.
 C. the straight line which passes through A and B .
 D. the angle bisector of $\angle AOB$, where O is the origin.

[2015-DSE-MATHS 2-24]

5. It is given that A and B are two distinct points lying on the circle $x^2 + y^2 - 6x - 4y - 87 = 0$. Let P be a moving point in the rectangular coordinate plane such that $AP = BP$. The equation of the locus of P is $x + 2y + k = 0$, where k is a constant. Find k .

A. -8
 B. -7
 C. 7
 D. 8

[2017-DSE-MATHS 2-27]

6. The equations of the straight lines L_1 and L_2 are $3x - y + 7 = 0$ and $12x - 4y - 11 = 0$ respectively. Let P be a moving point in the rectangular coordinate plane such that the perpendicular distance from P to L_1 is equal to the perpendicular distance from P to L_2 . Find the equation of the locus of P .

A. $8x - 24y - 17 = 0$
 B. $8x - 24y + 17 = 0$
 C. $24x - 8y - 17 = 0$
 D. $24x - 8y + 17 = 0$

[2018-DSE-MATHS 2-25]

7. The equation of the straight line L is $5x - 7y - 14 = 0$. If P is a moving point in the rectangular coordinate plane such that the perpendicular distance from P to L is equal to 3, then the locus of P is

A. a sector
 B. a square
 C. a parabola
 D. a pair of straight lines

[2019-DSE-MATHS 2-26]

8. Let A be the point of intersection of straight lines $9x + 4y - 7 = 0$ and $9x - 4y + 7 = 0$. If P is a moving point in the rectangular coordinate plane such that the distance between P and A is 8, then the locus of P is

A. circle
 B. triangle
 C. quadrilateral
 D. regular hexagon

[2020-DSE-MATHS 2-25]