MATHS

BOOKS - JEE MAINS PREVIOUS YEAR

CIRCLES

Others

1. Consider a family of circles which are passing through the point $(-1, 1)$ and are tangent to x-axis. If (h, k) are the co-ordinates

of the centre of the circles, then the set of values of k is given by the interval (1) $0 < k <$ (2) $k \geq$ (3) $\prec = k \leq$ (4) $k \leq$

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2. The point diametrically opposite to the point $P(1, 0)$ on the circle $x^2 + y^2 + 2x + 4y - 3 = 0$ is

A. $(3, -4)$

B. $(-3, 4)$

C. $(-3, -4)$

D. $(3, 4)$

Answer: C

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3. The circle $x^2 + y^2 = 4x + 8y + 5$ intersects the line $3x4y = m$ at two distinct points if (1) $35 < m < 15$ (2) $15 < m < 65$ (3) $35 < m < 85$ (4) $85 < m < 35$

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4. The length of the diameter of the circle which touches the x-axis at the point (1, 0) and passes through the point (2, 3) is (1) $\frac{10}{3}$ (2) $\frac{3}{5}$ (3) $\frac{6}{5}$ (4) $\frac{5}{3}$

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5. The circle passing through (1, -2) and touching the axis of x at (3, 0) also passes through the point (1) (2, -5)

(2) (5, -2) (3) (-2, 5)

(4) (-5, 2)

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6. Let C be the circle with centre at (1, 1) and radius = 1. If T is the circle centred at (0, y), passing through origin and touching the circle C externally, then the radius of T is equal to (1) $\frac{\sqrt{3}}{\sqrt{2}}$ (2) $\frac{\sqrt{3}}{2}$ (3) $\frac{1}{2}$ (3) $\frac{1}{4}$

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7. The number of common tangents to the circles $x^2+y^2-4x-6y-12=0$ and $x^2 + y^2 + 6x + 18y + 26 = 0$, is : (1) 1 (2) 2 (3) 3 (4) 4

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8. If one of the diameters of the circle, given by the equation, $x^2 + y^2 - 4x + 6y - 12 = 0$, is a chord of a circle S, whose centre is at $(- 3, 2)$, then the radius of S is :

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