MATHS

BOOKS - MTG WBJEE MATHS (HINGLISH)

CIRCLES

Wb Jee Workout Category 1 Single Option Correct Type

1. The common chord of $x^2 + y^2 - 4x - 4y = 0$ and $x^2 + y^2 = 4^2$ subtends and angle α at the origin, then α equals

A. 30°

B. 45°

C. 60°

D. 90°

Answer: D

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2. The condition so that the line $(x+g)\cos\theta+(y+f)\sin\theta=k$ is a tangent to $x^2+y^2+2gx+2fy+c=0$ is

A. $g^2+f^2=c+k^2$

B. $g^2+f^2=c^2+k^2$

C. $g^2+f^2=c^2-k^2$

D. $g^2+f^2=c-k^2$

Answer: A

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3. The circumcentre of the triangle, whose vertices are (0,0),(4a,0),(0,6a) is

A. (2a,0)

B. (0,3a)

C. (3a,0)

D. (2a,3a)

Answer: D

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4. Find the perimeter of the circle $x^2 + y^2 = a^2$

A. $x^2 + y^2 = ax - by$

B. $x^2 + y^2 = ax + by$

C. $x^2 - y^2 = ax - by$

D. none

Answer: B

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5. The radical centre of $x^2 + y^2 - 2x - 2y + 1 = 0, x^2 + y^2 - 4x + 6y - 2 = 0$ and $x^2 + y^2 + 3x$ is

A. $\left(\frac{3}{5}, \frac{9}{40}\right)$

B. $\left(-\frac{3}{5}, -\frac{9}{40}\right)$

C. $\left(-\frac{3}{5}, \frac{9}{40}\right)$

D. $\left(\frac{3}{5}, -\frac{9}{4}\right)$

Answer: C

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6. If $\left(m_i, \frac{1}{m_i}\right), i = 1, 2, 3, 4$ are four distinct points on a circle, show that $m_1 m_2 m_3 m_4 = 1$

A. 0

B. -1

C. 1

D. $-a^2$

Answer: A

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7. Locus of the centre of the circle which touches the x-axis and also the circle $(x-2)^2+(y-2)^2=4$ externally is

A. $(x-2)^2+(y-2)^2=16$

B. $(x-2)^2-8y=0$

C. $(x-2)^2+\left(y-\frac{5}{2}\right)^2=10$

D. $x^2-4x+4=0$

Answer: B

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8. Tangents are drawn from (4, 4) to the circle $x^2 + y^2 - 2x - 2y - 7 = 0$ to meet the circle at A and B. The length of the chord AB is

A. $4\sqrt{3}$ units

B. $2\sqrt{3}$ units

C. $2\sqrt{6}$ units

D. $3\sqrt{2}$ units

Answer: D

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9. Length of intercept made by the circle $x^2 + y^2 - 16x + 4y - 36 = 0$ on x-axis is

A. 20

B. 10

C. 5

D. none

Answer: A

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10. The radius of the circle $3x^2 + 3y^2 + 9x + 8y - 4 = 0$ is

A. $\frac{\sqrt{193}}{3}$ units

B. $\frac{\sqrt{193}}{6}$ units

C. $\frac{\sqrt{129}}{3}$ units

D. none

Answer: B

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11. The length of the transversal common tangent to the circle $x^2 + y^2 = 1$ and $(x - t)^2 + y^2 = 1$ is $\sqrt{21}$, then t=

A. ± 2

B. ± 4

C. ± 3

D. ± 5

Answer: D

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12. Locus of centre of a circle of radius 2, which rolls on the outside of circle $x^2 + y^2 + 3x - 6y - 9 = 0$ is

A. $x^2 + y^2 + 3x - 6y + 5 = 0$

B. $x^2 + y^2 + 3x - 6y - 31 = 0$

C. $x^2 + y^2 + 3x - 6y + 29/4 = 0$

D. none

Answer: D

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13. One of the diameters of the circle $x^2 + y^2 - 12x + 4y + 6 = 0$ is given by

A. $x + y = 0$

B. $x + 3y = 0$

C. $x = y$

D. $3x + 2y = 0$

Answer: B

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14. Area of the circle in which a chord of length $\sqrt{2}$ makes an angle $\frac{\pi}{2}$ at the centre,

A. $\pi/2$ units

B. 2π units

C. π units

D. $\pi/4$ units

Answer: C

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15. If a circle passes through the point (a,b) and cuts the circle $x^2 + y^2 = 4$ orthogonally, then the locus of its centre is

A. $2x + 4y - 9 = 0$

B. $2x + 4y + 9 = 0$

C. $2x - 4y + 9 = 0$

D. none

Answer: A

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16. The circles $x^2 + y^2 + 6x + 6y = 0$ and $x^2 + y^2 - 12x - 12y = 0$

A. $\pi / 6$

B. $\pi / 4$

C. $\pi / 3$

D. $\pi / 2$

Answer: D

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17. The circles $x^2 + y^2 + 6x + 6y = 0$ and $x^2 + y^2 - 12x - 12y = 0$

A. cut orthogonally

B. touch each other internally

C. intersect at two points

D. touch each other externally

Answer: D

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18. The locus of the centre of the circles which touches both the axes is given by

A. $x^2 - y^2 = 0$

B. $x^2 + y^2 = 0$

C. $x^2 - y^2 = 1$

D. $x^2 + y^2 = 1$

Answer: A

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19. The circles $x^2 + y^2 - 10x + 16 = 0$ and $x^2 + y^2 = a^2$ intersect at two distinct point if

A. $a < 2$

B. $2 < a < 8$

C. $a > 8$

D. $a = 2$

Answer: B

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20. The straight line $x + y - 1 = 0$ meets the circle . $x^2 + y^2 - 6x - 8y = 0$ at A and B. Then, the equation of : the circle of which AB is a diameter, is

A. $x^2 + y^2 - 2y - 6 = 0$

B. $x^2 + y^2 + 2y - 6 = 0$

C. $2\left(x^2 + y^2\right) + 2y - 6 = 0$

D. $3\left(x^2 + y^2\right) + 2y - 6 = 0$

Answer: A

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21. If the straight line $y = mx$ lies outside the circle $x^2 + y^2 - 20y + 90 = 0$ then the value of m will satisfy (A) $m < 3$ (B) $|m| < 3$ (C) $m > 3$ (D) $|m| > 3$

A. $m < 3$

B. $|m| < 3$

C. $m > 3$

D. $|m| > 3$

Answer: B

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22. The intercept on the line $y = x$ by the circle $x^2 + y^2 - 2x = 0$ is AB.

Equation of the circle with AB as a diameter is (A) $\left(x - \frac{1}{2}\right)^3 + \left(y - \frac{1}{2}\right)^2 = \frac{1}{2}$ (B) $\left(x - \frac{1}{2}\right)^2 + \left(y - \frac{1}{2}\right)^2 = \frac{1}{4}$ (C) $\left(x + \frac{1}{2}\right)^2 + \left(y + \frac{1}{2}\right)^2 = \frac{1}{2}$ (D) $\left(x + \frac{1}{2}\right)^2 + \left(y + \frac{1}{2}\right)^2 = \frac{1}{4}$

A. $x^2 + y^2 = 1$

B. $x(x - 1) + y(y - 1) = 0$

C. $x^2 + y^2 = 2$

D. $(x - 1)(x - 2) + (y - 1)(y - 2) = 0$

Answer: B

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23. If four distinct points $(2k, 3k), (2, 0), (0, 3), (0, 0)$ lie on a circle, then01

A. $k < 0$

B. $0 < k < 1$

C. $k = 1$

D. $k > 1$

Answer: C

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24. The length of the common chord of the circles $x^2 + y^2 - 2x + 4y - 20 = 0, x^2 + y^2 + 6x + 10y - 2 = 0$ is

A. 8 units

B. 10 units

C. $\frac{48}{5}$ units

D. $\frac{24}{5}$ units

Answer: C

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25. If (2, 4) is a point interior to the circle $x^2 + y^2 - 6x - 10y + \lambda = 0$ and the circle does not cut the axes at any point, then

A. $(25, 34)$

B. (9,32)

C. (25,32)

D. (4,25)

Answer: C

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26. The radical centre of circles represented by $S_1 \equiv x^2 + y^2 - 7x - 6y - 4 = 0, S_2 \equiv x^2 + y^2 + 10x + 6y - 4 = 0$

A. $(-1, 1)$

B. (1,-1)

C. (0,0)

D. none

Answer: C

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27. Sum of the square of the length of the chord intersected by the line $x + y = n, n \in N$ on circle $x^2 + y^2 = 4$ is: (A) 11 (B) 22 (C) 33 (D) none of these

A. 210 units

B. 180 units

C. 150 units

D. 120 units

Answer: A

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28. If the coordinates of one end of a diameter of the circles $x^2 + y^2 + 4x - 8y + 5 = 0$ is (2,1)„ the coordinates of the other end is

A. (-6,-7)

B. (6,7)

C. (-6,7)

D. (7,-6)

Answer: C

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29. The area of the circle $x^2 - 2x + y^2 - 10y + k = 0$ is 25π sq. units. The value of k is equal to

A. -1

B. 1

C. 0

D. 2

Answer: B

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30. The number of integral values of r for which the circle $(x-1)^2 + (y-3)^2 = r^2$ and $x^2 + y^2 - 8x + 2y + 8 = 0$ intersect at two distinct points is ____

A. 3

B. 2

C. 5

D. 1

Answer: B

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Wb Jee Workout Category 2 Single Option Correct Type

1. From a point $P(x_1, y_1)$ on the straight line 4x-3y+14=0 two tangents PA and PB are drawn to the circles $x^2 + y^2 = 16$ and $x^2 + y^2 + 8x - 6y + 12 = 0$, then

A. PA=PB

B. PA=3PB

C. 3PA=PB

D. none

Answer: A

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2. If the circles $x^2 + y^2 - 16x - 20y + 164 = r^2$ and $(x-4)^2 + (y-7)^2 = 36$ intersect at two points then (a) $1 < r < 11$ (b) $r = 11$ (c) $r > 11$ (d) $0 < r < 1$

A. $1 < r < 11$

B. $r < 1$

C. $r = 11$

D. $r > 1$

Answer: A

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3. The angle between the pair of tangents drawn from the point (2,4) to the circle $x^2 + y^2 = 4$ is

A. $\tan^{-1}(3/8)$

B. $\tan^{-1}(4/3)$

C. 90°

D. none

Answer: B

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4. The locus of the point whose polars w.r.t. the circle $x^2 + y^2 - 4x - 4y - 8 = 0$ and $x^2 + y^2 - 2x + 6y - 2 = 0$ are mutually perpendicular is

A. $x^2 + y^2 - 3x + y = 4$

B. $x^2 + y^2 + 3x - y = 4$

C. $x^2 + y^2 + 3x + y = 4$

D. $x^2 + y^2 - 3x - y = 4.$

Answer: A

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5. The number of direct common tangents that can be drawn to the circles $x^2 + y^2 + 4x - 6y - 12 = 0$ and $x^2 + y^2 - 8x + 10y + 16 = 0$ is/are

A. 3

B. 1

C. 2

D. 4

Answer: C

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6. The point of contact of the circles $x^2 + y^2 - 4x + 6y - 3 = 0$ and $x^2 + y^2 + 16x + 6y + 37 = 0$ is

A. $(-8, -3)$

B. (2,-3)

C. (-2,-3)

D. none

Answer: C

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7. Vertices of a variable triangle are $(5, 12), (13\cos\theta, 13\sin\theta)$ and $(13\sin\theta - 13\cos\theta)$, Where $\theta \in R$. Locus of it's orthocentre is:

A. $(x + y - 17)^2 + (x - y + 7)^2 = (26)^2$

B. $(x + y + 17)^2 + (x - y - 7)^2 = (26)^2$

C. $(x+y+17)^2+(x+y+7)^2=(26)^2$

D. $(x-y-17)^2+(x+y-7)^2=(26)^2$

Answer: A

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8. If the circle $x^2+y^2+2x+3y+1=0$ cuts $x^2+y^2+4x+3y+2=0$ at $AandB$, then find the equation of the circle on AB as diameter.

A. $x^2+y^2+x+3y+3=0$

B. $2x^2+2y^2+2x+6y+1=0$

C. $x^2+y^2+x+6y+1=0$

D. none

Answer: B

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9. Let C_1 and C_2 denote the centres of the circles $x^2 + y^2 = 4$ and $(x-2)^2 + y^2 = 1$ respectively and let P and Q be their points of intersection. Then the areas of triangles C_1PQ and C_2PQ are in the ratio _

A. $3:1$

B. $5:1$

C. $7:1$

D. $9:1$

Answer: C

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10. If (-2,1) is a limiting point of a coaxial system of circle of which $x^2 + y^2 - 4x - 6y + 7 = 0$ is a member, then the other limiting point is

A. $\left(\frac{4}{5}, \frac{-12}{5}\right)$

B. $\left(\frac{-4}{5}, \frac{12}{5}\right)$

C. $\left(\frac{-4}{5}, \frac{-12}{5}\right)$

D. $\left(\frac{4}{5}, \frac{12}{5}\right)$

Answer: D

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11. Equation of the tangent to the circle at the point (1, -1) whose centre is the point of intersection of the straight lines x-y=1 and 2x+y-3=0, is

A. $x + 4y + 3 = 0$

B. $3x - y - 4 = 0$

C. $x - 3y - 4 = 0$

D. $4x + y - 3 = 0$

Answer: A

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12. A circle passes through the points (2,3) and (4,5) . If its centre lies on the line, $y - 4x + 3 = 0$, then its radius is equal to :

A. 1 units

B. 2 units

C. $\sqrt{5}$ units

D. $\sqrt{2}$ units

Answer: B

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13. If two distinct chords, drawn from the point (p, q) on the circle $x^2 + y^2 = px + qy$ (where $pq \neq q$) are bisected by the x-axis, then $p^2 = q^2$ (b) $p^2 = 8q^2$ $p^2 < 8q^2$ (d) $p^2 > 8q^2$

A. $p^2 = q^2$

B. $p^2 = 8q^2$

C. $p^2 < 8q^2$

D. $p^2 > 8q^2$

Answer: D

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14. If two circles $x^2 + y^2 + c^2 = 2ax$ and $x^2 + y^2 + c^2 - 2by = 0$ touch each other externally , then prove that $\frac{1}{a^2} + \frac{1}{b^2} = \frac{1}{c^2}$

A. $\frac{1}{a^2} + \frac{1}{b^2} = \frac{1}{c^2}$

B. $\frac{1}{b^2} + \frac{1}{c^2} + \frac{1}{a^2}$

C. $\frac{1}{a^2} + \frac{1}{b^2} + \frac{1}{c^2} = 0$

D. $\frac{1}{a^2} = \frac{1}{b^2} - \frac{1}{c^2}$

Answer: A

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15. If the length of the tangent from (f,g) to the circle $x^2 + y^2 = 6$ is twice the length of the tangent from the same point to the circle $x^2 + y^2 + 3x + 3y = 0$, then

A. $f^2 + g^2 + 4f + 4g - 2 = 0$

B. $f^2 + g^2 + 4f + 4g + 2 = 0$

C. $f^2 - g^2 + 4f = 0$

D. $f^2 + g^2 + 4f = 0$

Answer: B

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Wb Jee Workout Category 3 One Or More One Option Correct Type

1. The equation of the circle whose centre lies on $x + 2y = 0$ and touching 3x-4y+8=0 and 3x-4y-28=0 is

A. $(x-2)^2+(y+1)^2=324$

B. $5(x-2)^2+5(y-2)^2=324$

C. $25(x-2)^2+25(y+1)^2=324$

D. none

Answer: C

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2. The co-ordinates of the limiting points of the co-axial system of circles $x^2+y^2+3x+2y-4=0$ and $x^2+y^2-x-2y+4=0$ are

A. $\left(\frac{3-\sqrt{23}}{4}, \frac{5-\sqrt{23}}{4}\right)$

B. $\left(\frac{3+\sqrt{23}}{4}, \frac{5+\sqrt{23}}{4}\right)$

C. $\left(\frac{3+\sqrt{23}}{2}, \frac{5+\sqrt{23}}{2}\right)$

D. none

Answer: A::B

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3. The straight line $4x + 3y = p$ is tangent to the circle $x^2 + y^2 + 4\sqrt{3} - 4x - 6y = 0$, then p equals

A. $10 + 12\sqrt{3}$

B. $10 - 22\sqrt{3}$

C. $10 + 10\sqrt{3}$

D. $22 - 10\sqrt{3}$

Answer: C::D

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4. Four distinct points (2k,3k) , (1,0), (0,1) and (0,0) lies on a circle for-

A. all integral value of k

B. $0 < k < 1$

C. $k = 0$

D. $k = \frac{5}{13}$

Answer: C::D

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5. The equation of the image of the circle $x^2 + y^2 + 16x - 24y + 183 = 0$ by the line mirror $4x + 7y + 13 = 0$ is :

A. $x^2 + y^2 + 32x - 4y + 234 = 0$

B. $x^2 + y^2 + 32x + 4y - 235 = 0$

C. $x^2 + y^2 + 32x - 4y - 235 = 0$

D. $x^2 + y^2 + 32x + 4y + 235 = 0$

Answer: D

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6. The equation of a circle C_1 is $x^2 + y^2 = 4$. The locus of the intersection of orthogonal tangents to the circle is the curve C_2 and the locus of the intersection of perpendicular tangents to the curve C_2 is the curve C_3, Then

A. c_2 and c_3 are circles having same centre

B. the area enclosed by the curve c_3 is 64π sq. units

C. c_3 is a circle

D. none

Answer: A::B::C

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7. circle C_1 of unit radius lies in the first quadrant and touches both the co-ordinate axes. The radius of the circle which touches both the co-ordinate axes and cuts C_1 so that common chord is longest (A) 1 (B) 2 (C) 3 (D) 4

A. 2

B. 3

C. $\frac{1}{2}$

D. $\frac{1}{3}$

Answer: B::D

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8. All those circles which pass through (2, 0) and (-2,0) are orthogonal to the circle(s)

A. $x^2 + y^2 - 5x + 4 = 0$

B. $x^2 + y^2 + 13x + 4 = 0$

C. $x^2 - y^2 - 12x + 4 = 0$

D. $x^2 + y^2 - 10x + 4 = 0$

Answer: A::B::C::D

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9. Tangents drawn from the origin to the circle $x^2 + y^2 - 2ax - 2by + a^2 = 0$ are perpendicular if

A. p=q

B. p^2q^2

C. $q = -p$

D. $p^2 + q^2 = 1$

Answer: A::B::C

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10. The equation of circle passing through (-1,-2) and touching both the axes is

A. $x^2 + y^2 - 2x - 2y - 1 = 0$

B. $x^2 + y^2 + 2x + 2y + 1 = 0$

C. $x^2 + y^2 + 10x + 10y + 25 = 0$

D. $x^2 + y^2 - 2x - 2y + 1 = 0$

Answer: B::C

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Wb Jee Previous Years Questions Category 1 Single Option Correct Type

1. A point P lies on the circle $x^2 + y^2 = 169$. If $Q = (5, 12)$ and $R = (-12, 5)$, then the $\angle QPR$ is

A. $\frac{\pi}{6}$

B. $\frac{\pi}{4}$

C. $\frac{\pi}{3}$

D. $\frac{\pi}{2}$

Answer: B

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2. A point moves so that the sum of squares of its distances from the points (1,2) and (-2,1) is always 6. then its locus is

A. the straight line $y - \frac{3}{2} = -3\left(x + \frac{1}{2}\right)$

B. the circle with centre $\left(-\frac{1}{2}, \frac{3}{2}\right)$ and radius $\frac{1}{\sqrt{2}}$

C. a parabola with focus (1,2) and directrix passing through (-2,1)

D. an ellipspe with foci (1,2) and (-2,1)

Answer: B

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3. A circle passing through (0,0),(2,6),(6,2) cuts the x-axis at the point $P \neq (0, 0)$. Then the length of OP, where O is the origin, is

A. $\frac{5}{2}$

B. $\frac{5}{\sqrt{2}}$

C. 5

D. 10

Answer: C

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4. If one end of a diameter of the circle $3x^2 + 3y^2 - 9x + 6y + 5 = 0$ is (1,2), then the other end is

A. (2,1)

B. (2,4)

C. (2,-4)

D. (-4,2)

Answer: C

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5. The equation of circle passing through the point $(1, 1)$ and point of intersection $x^2 + y^2 = 6$ and $x^2 + y^2 - 6x + 8 = 0$, is

A. $x^2 + y^2 + 3x - 5 = 0$

B. $x^2 + y^2 - 4x + 2 = 0$

C. $x^2 + y^2 + 6x - 4 = 0$

D. $x^2 + y^2 - 4y - 2 = 0$

Answer: A

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6. the equation of the line parallel to the line $3x + 4y = 0$ and touching the circle $x^2 + y^2 = 9$ in the first quadrant is:

A. $3x + 4y = 15$

B. $3x + 4y = 45$

C. $3x + 4y = 9$

D. $3x + 4y = 27$

Answer: A

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7. The common chord of the circles $x^2 + y^2 - 4x - 4y = 0$ and $2x^2 + 2y^2 = 32$ subtends at the origin an angle equal to

A. $\frac{\pi}{2}$

B. $\frac{\pi}{4}$

C. $\frac{\pi}{6}$

D. $\frac{\pi}{3}$

Answer: A

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8. The locue of the mis-points of the chords of the circel $x^2 + y^2 + 2x - 2y - 2 = 0$ which make an angle of 90° at the centre is

A. $x^2 + y^2 - 2x - 2y = 0$

B. $x^2 + y^2 - 2x + 2y = 0$

C. $x^2 + y^2 + 2x - 2y = 0$

D. $x^2 + y^2 + 2x - 2y - 1 = 0$

Answer: C

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9. Without changing the direction of the axes, the origin is transferred to the point (2,3). Then the equation $x^2 + y^2 - 4x - 6y + 9 = 0$ changes to

A. $x^2 + y^2 + 4 = 0$

B. $x^2 + y^2 = 4$

C. $x^2 + y^2 - 8x - 12y + 48 = 0$

D. $x^2 + y^2 = 9$

Answer: B

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10. The angle between the pair of tangents drawn from a point P to the circle $x^2 + y^2 + 4x - 6y + 9\sin^2\alpha + 13\cos^2\alpha = 0$ is 2α . then the equation of the locus of the point P is $x^2 + y^2 + 4x - 6y + 4 = 0$ $x^2 + y^2 + 4x - 6y - 9 = 0$ $x^2 + y^2 + 4x - 6y - 4 = 0$ $x^2 + y^2 + 4x - 6y + 9 = 0$

A. $x^2 + y^2 + 4x + 6y + 9 = 0$

B. $x^2 + y^2 - 4x + 6y + 9 = 0$

C. $x^2 + y^2 - 4x - 6y + 9 = 0$

D. $x^2 + y^2 + 4x - 6y + 9 = 0$

Answer: D

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11. If one of the diameter 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 (2,-3), the radius of S is

A. $\sqrt{41}$ units

B. $3\sqrt{5}$ units

C. $5\sqrt{2}$ units

D. $2\sqrt{5}$ units

Answer: A

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12. From the point A(0,3) on the circle $x^2 + 4x + (y-3)^2 = 0$ a chord AB is drawn to a point such that AM = 2AB. The equation of the locus of M is :-

A. $x^2 + y^2 - 8x - 6y + 9 = 0$

B. $x^2 + y^2 + 8x + 6y + 9 = 0$

C. $x^2 + y^2 + 8x - 6y + 9 = 0$

D. $x^2 + y^2 - 8x + 6y + 9 = 0$

Answer: C

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13. A variable circle passes through the fixed $A(p, q)$ and touches the x-axis. Show that the locus of the other end of the diameter through A is (x-p)^2 = 4qy`.

A. $(x-p)^2 = 4qy$

B. $(x-q)^2=4py$

C. $(y-p)^2=4qx$

D. $(y-q)^2=4qx$

Answer: A

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Wb Jee Previous Years Questions Category 2 Single Option Correct Type

1. if $P=(0,0), Q=(1,0)$ and $R=\left(\frac{1}{2}, \frac{\sqrt{3}}{2}\right)$, then the centre of the circle for which the lines PO, QR and RP are tangents is

A. $\left(\frac{1}{2}, \frac{1}{4}\right)$

B. $\left(\frac{1}{2}, \frac{\sqrt{3}}{4}\right)$

C. $\left(\frac{1}{2}, \frac{\sqrt{1}}{2\sqrt{3}}\right)$

D. $\left(\frac{1}{2}, \frac{-1}{\sqrt{3}}\right)$

Answer: C

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2. The locus of the midpoint of chord of the circle $x^2 + y^2 = 1$ which subtends a right angle at the origin is

A. $x^2 + y^2 = \frac{1}{4}$

B. $x^2 + y^2 = \frac{1}{2}$

C. $xy = 0$

D. $x^2 - y^2 = 0$

Answer: B

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3. If one of the diameters of the curve $^2 + y^2 - 4x - 6y + 9 = 0$ is a chord of a circle with centre $(1, 1)$ then the radius of this circel is

A. 3

B. 2

C. $\sqrt{2}$

D. 1

Answer: A

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4. Let A be the centre of the circle $x^2 + y^2 - 2x - 4y - 20 = 0$. If the tangents at the points B (1, 7) and $D(4, -2)$ on the circle meet at the point C, then the perimeter of the quadrilateral ABCD is

A. 150 sq. units

B. 50 sq. units

C. 75 sq. units

D. 70 sq. units

Answer: C

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Wb Jee Previous Years Questions Category 3 One Or More One Option Correct Type

1. The equation of the circles which touch both the axes and the line 4x+3y=12 and have centres in the first quadrant, are

A. $x^2 + y^2 - x - y + 1 = 0$

B. $x^2 + y^2 - 2x - 2y + 1 = 0$

C. $x^2 + y^2 - 12x - 12y + 36 = 0$

D. $x^2 + y^2 - 6x - 6y + 36 = 0$

Answer: B::C

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2. If the circle $x^2 + y^2 + 2gx + 2fy + c = 0$ bisects the circumference of the circles $x^2 + y^2 = 6, x^2 + y^2 - 6x - 4y + 10 = 0$ and $x^2 + y^2 + 2x + 2y - 2 = 0$, then

A. $c = -5$

B. $fg = \frac{147}{25}$

C. $g + 2f = c + 2$

D. $4f = 3g$

Answer: A::B::D

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