

Class: 11  
Subject: Math's  
Topic: Circles  
No. of Questions: 20

1. If one end of the diameter of a circle  $x^2 + y^2 - 8x - 4y + c = 0$  is  $(-3, 2)$ , then the other end is
  - (A)  $(5, 3)$
  - (B)  $(6, 2)$
  - (C)  $(1, -8)$
  - (D)  $(11, 2)$
2. The number of tangents which can be drawn from the point  $(1, 2)$  to circle  $x^2 + y^2 = 5$  is
  - (A) 1
  - (B) 2
  - (C) 3
  - (D) 0
3. What is the radius of a circle inscribed in the triangle formed by lines  $x = 0$ ,  $y = 0$  and  $4x + 3y - 24 = 0$ ?
  - (A) 12
  - (B) 2
  - (C)  $2\sqrt{2}$
  - (D) 6
4. The equation of the chord of a circle  $x^2 + y^2 - 4x = 0$  whose midpoint is  $(1, 0)$  is
  - (A)  $y = 2$
  - (B)  $y = 1$
  - (C)  $x = 2$
  - (D)  $x = 1$

5. The equation of circle whose radius is 5 and which is touching the circle  $x^2 + y^2 - 2x - 4y - 20 = 0$  at the point (5, 5) is
- (A)  $x^2 + y^2 + 18x + 16y + 120 = 0$   
(B)  $x^2 + y^2 - 18x - 16y + 120 = 0$   
(C)  $x^2 + y^2 - 18x + 16y + 120 = 0$   
(D)  $x^2 + y^2 + 18x - 16y + 120 = 0$
6. The length of tangent from (5, 1) to circle  $x^2 + y^2 + 6x - 4y - 3 = 0$  is
- (A) 81  
(B) 29  
(C) 7  
(D) 21
7. The equation of diameter of circle  $x^2 + y^2 = 2ay$ ; that is perpendicular to straight line  $x + 2y = 4$  is
- (A)  $2x - y + a = 0$   
(B)  $x + 2y - a = 0$   
(C)  $2x - 2y + a = 0$   
(D) none of these
8. If the sum of the distances of a point from two perpendicular lines in a plane is 1, then its locus is
- (A) a square  
(B) a circle  
(C) a straight line  
(D) two intersecting lines

9. If  $y = 2x$  is a chord of the circle  $x^2 + y^2 - 10x = 0$ , find the equation of the circle with this chord as a diameter
10. Find the equation of a circle, the end points of one of whose diameters are A (-3, 2) & B (5, 3).
11. The equation  $x^2 + y^2 - 12x + 8y - 72 = 0$  represent a circle find its centre (A) (-6,-4) (B) (6, - 4) (C) (6, 4) (D) (-6, 4)
12. Find the equation of a circle, the end points of one of whose diameters are A (2, -3) & B (-3,5).
13. Find the equation of a circle with centre (b, a) & touching  $x -$  axis?  
(A)  $x^2 + y^2 - 2bx + 2ay + b^2 = 0$   
(B)  $x^2 + y^2 + 2bx - 2ay + b^2 = 0$   
(C)  $x^2 + y^2 - 2bx - 2ay + b^2 = 0$   
(D) None of these
14. Show that the equation  $6x^2 + 6y^2 + 24x - 36y - 18 = 0$  represents a circle. Also find its centre & radius.
15. Find the equation of a circle with centre (P,Q) & touching the  $y$  axis  
(A)  $x^2 + y^2 + 2QY + Q^2 = 0$   
(B)  $x^2 + y^2 - 2px + 2Qy + Q^2 = 0$   
(C)  $x^2 + y^2 - 2px + 2Qy + Q^2 = 0$   
(D) None of these
16. Show that the equation  $x^2 + y^2 - 6x + 4y - 36 = 0$  represent a circle, also find its centre & radius?

17. Find the equation of a circle drawn on the diagonal of the rectangle as its diameter, whose sides are  $x = -3$ ,  $x = 6$ ,  $y = 3$  &  $y = -1$
18. The equation of the circle having centre  $(1, -2)$  and passing through the point of intersection of the lines  $3x + y - 14 = 0$  and  $2x + 5y = 18$  is  
(A)  $x^2 + y^2 - 2x + 4y - 20 = 0$   
(B)  $x^2 + y^2 - 2x - 4y - 20 = 0$   
(C)  $x^2 + y^2 + 2x - 4y - 20 = 0$   
(D)  $x^2 + y^2 + 2x + 4y - 20 = 0$
19. A circle has radius 3 units and its centre lies on the line  $y = x - 1$ . If it passes through the point  $(7, 3)$ , its equation is \_\_\_\_\_.
20. Circle on which the coordinates of any point are  $(2 + 4 \cos \theta, -1 + 4 \sin \theta)$  where  $\theta$  is parameter is given by  $(x - 2)^2 + (y + 1)^2 = 16$ .