



ST. LAWRENCE HIGH SCHOOL
A JESUIT CHRISTIAN MINORITY INSTITUTION



WORKSHEET-15
SUBJECT – MATHEMATICS
1st - Term

Chapter: Co-ordinate Geometry

Class: XI

Topic: Circles

Date: 22.08.2020

Choose the correct option **(1 x 15=15)**

1. If the equation of the circle is $x^2 + (2y - 3)y^2 - 4x + 6y - 1 = 0$,
then the Centre is –
 - a. $(2/3, -1)$
 - b. $(4/3, -1)$
 - c. $(-2/3, 1)$
 - d. $(2/3, 1)$

2. The diameter of the circle concentric to the circle $x^2 + y^2 + 4x - 2y = 20$ and passes through the origin is –
 - a. 10 unit
 - b. $\sqrt{20}$ unit
 - c. $\sqrt{5}$ unit
 - d. None of these.

3. The equation of the circle for which the line segment joining the points A(3, -5) and B(-3, 7) is a diameter , is –
 - a. $x^2 + y^2 + 2y + 44 = 0$
 - b. $x^2 + y^2 - 2y + 44 = 0$
 - c. $x^2 + y^2 + 2y - 44 = 0$
 - d. $x^2 + y^2 - 2y - 44 = 0$

4. The circle $(x + 2)^2 + (y - 3)^2 = 4$ touches –
 - a. Both the axes.
 - b. The x-axis
 - c. The y-axis.
 - d. None of these.

5. The equation $x^2 + y^2 + 2gx + 2fy + c = 0$ represents a point-circle when –
- $g^2 + f^2 = -c$
 - $g^2 - f^2 = c$
 - $g^2 + f^2 = c$
 - $-g^2 + f^2 = c$
6. The area of an equilateral triangle inscribed in the circle $x^2 + y^2 - 4x - 6y = 23$ is –
- $27\sqrt{2}$ sq. units.
 - $27\sqrt{3}$ sq. units.
 - $27\sqrt{5}$ sq. units.
 - $25\sqrt{3}$ sq. units.
7. The coordinates of two extremities of a diameter are (x , 3) and (3 , 5) and centre is at (2 , y). Then x & y are –
- 2 , 3
 - 3 , 2
 - 1 , 4
 - 4 , 1
8. The point lies on the circumference of the circle $x^2 + y^2 = 16$ is –
- (0 , 2)
 - (4 , 3)
 - (- 4 , 0)
 - (- 2 , 3)
9. The point lies on the circumference of the circle $(x - 2)^2 + (y + 3)^2 = 25$ is –
- (0 , 0)
 - (- 2 , 0)
 - (1 , - 4)
 - (0 , - 2)
10. The radius of the circle $x^2 + y^2 + 4x - 8y = 5$ is –
- 5 unit
 - 4 unit
 - 3 unit
 - 6 unit

11. The equation of the circle which is concentric with the circle $x^2 + y^2 = 8$ and whose radius is 4 unit, is -
- $x^2 + y^2 = 4$
 - $x^2 + y^2 = 1$
 - $x^2 + y^2 = 12$
 - $x^2 + y^2 = 16$
12. The circle $(x - 4)^2 + (y - 3)^2 = 9$ touches -
- The x-axis.
 - The y-axis.
 - Both the axes.
 - None of these.
13. The point (0 , 0) _____ ? the circle $x^2 + y^2 + 2x - 2y = 2$.
- Lies on
 - Lies inside
 - Lies outside
 - Is the centre of
14. The point (2 , -1) _____ ? the circle $x^2 + y^2 - 4x + 6y = -8$
- Lies on
 - Lies inside
 - Lies outside
 - Is the centre of
15. The length of the diameter of the circle $x^2 + y^2 + 4x - 7y = k$ is 9 . Then k = ?
- 1
 - 2
 - 3
 - 4

Prepared by :-

Mr. Sukumar Mandal (SkM)