

COMMON SECOND MID-TERM TEST - 2022

R

Standard IX MATHEMATICS

Reg.No.

Time : 3.00 hrs

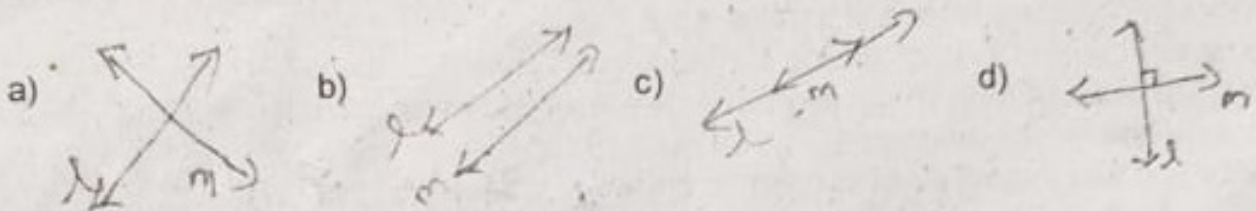
Marks : 100

Part - I

14 x 1 = 14

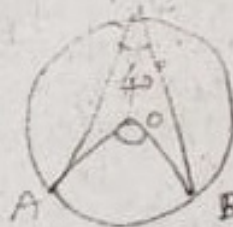
1. Choose the correct answer:

1. If (2, 3) is a solution of linear equation $2x + 3y = k$ then, the value of k is
 a) 12 b) 76 c) 0 d) 13
2. Which of the following is not a linear equation in two variable ?
 a) $ax + by + c = 0$ b) $0x + 0y + c = 0$
 c) $0x + by + c = 0$ d) $ax + 0y + c = 0$
3. A pair of linear equations has no solution then the graphical representation is



4. If $\frac{a_1}{a_2} = \frac{b_1}{b_2}$ where $a_1x + b_1y + c_1 = 0$ and $a_2x + b_2y + c_2 = 0$ then the given pair of linear equation has _____ solutions.
 a) no solution b) two solution c) unique d) infinite
5. The interior angle made by the side in a parallelogram is 90° then the parallelogram is a
 a) rhombus b) rectangle c) trapezium d) kite
6. PQ and RS are two equal chords of a circle with Centre O such that $\angle POQ = 70^\circ$ then $\angle ORS =$
 a) 60° b) 70° c) 55° d) 80°
7. A chord is at a distance of 15 cm from the centre of the circle of radius 25 cm. The length of the chord is
 a) 25cm b) 20cm c) 16cm d) 18cm
8. In the figure, O is the centre of the circle then $\angle AOB =$

- a) 80° b) 85°
 c) 70° d) 65°



9. If the y-coordinate of a point is zero, then the point always lies _____
 a) in the first quadrant b) in the second quadrant
 c) on x-axis d) on y-axis

10. On plotting the points $O(0,0)$, $A(3,-4)$, $B(3,4)$ and $C(0,4)$ and joining OA , AB , BC and CO which of the following figure is obtained?
 a) square b) rectangle c) trapezium d) rhombus
11. The point whose co-ordinate is 4 and which lies on the y-axis is _____
 a) $(4,0)$ b) $(0,4)$ c) $(1,4)$ d) $(4,2)$
12. The distance between the two points $(2,3)$ and $(1,4)$ is _____
 a) 2 b) $\sqrt{56}$ c) $\sqrt{10}$ d) $\sqrt{2}$
13. If the points $A(2,0)$, $B(-6,0)$, $C(3,a-3)$ lie on the x-axis then the value of a is _____
 a) 0 b) 2 c) 3 d) -6
14. The distance between the point $(5,-1)$ and the origin is _____
 a) $\sqrt{24}$ b) $\sqrt{37}$ c) $\sqrt{26}$ d) $\sqrt{17}$

Part - II

II. Answer any 10 questions. (Q.No.28 is compulsory)

10 x 2 = 20

15. Draw : Intersecting lines and parallel lines.
 16. What are the methods of solving simultaneous Linear Equations?
 17. Find the value of m from equation $2x + 3y = m$. If its one solution is $x = 2$ and $y = -2$.
 18. State - Pythagoras theorem.
 19. Write any two examples of concentric circles* * *

20. Find the value of x° .



~~$MNX = 260 - 130$~~ ~~$MNX = 130$~~

21. Draw a circle with centre, radius, diameter, chord.
 22. Mention the name of x-coordinate and y-coordinate.
 23. In which quadrant does the following points lie? a) $(3,-8)$ b) $(-1,-3)$
 24. Find the distance between the points $(-4,3)$ and $(2,-3)$
 25. Draw x and y axes and mention four quadrants.
 26. Find the distance between the points (a,b) and (c,b) 23) a. $3,8 = IV$ quadrant
 27. Write a point lies on x-axis and a point on y-axis. b. $1,-3 = III$ quadrant

28. Find the value of x° .

Part - III

10 x 5 = 50

III. Answer any 10 questions. (Q.No.42 is compulsory)

29. Solve, using the method of substitution : $2x - 3y = 7$, $5x + y = 9$
 30. Solve, by method of elimination : $2x - y = 3$, $3x + y = 7$
 31. Solve, by the method of cross multiplication : $3x - 4y = 10$, $4x + 3y = 5$
 32. ABCD is a cyclic quadrilateral such that $\angle A = (4y+20)^\circ$, $\angle B = (3y-5)^\circ$, $\angle C = (4x)^\circ$, $\angle D = (7x+5)^\circ$. Find the four angles.
 33. A chord is 12 cm away from the centre of the circle of radius 15 cm. Find the length of the chord.



34. Find the value of x° in the following figure.



35. In the given figure, O is the center of the circle. If the measure of $\angle OQR = 48^\circ$. What is the measure of $\angle P = ?$



36. Represent and draw the position of a point with respect to a circle.
 37. Plot the following points $(0,0)$, $(-4,0)$, $(-4,-4)$, $(0,-4)$ in the coordinate plane. Join them in order. What type of geometrical shape is formed?
 38. Determine whether the given points are collinear or not : $(7,-2)$ $(5,1)$ $(3,4)$
 39. $A(-1,1)$, $B(1,3)$ and $C(3,a)$ are points and if $AB = BC$, then find "a".
 40. Show that the point $(11,2)$ is the centre of the circle passing through the points $(1,2)$, $(3,-4)$, $(5,-6)$
 41. Calculate the distance between the points $A(7,3)$ and B which lies on the x-axis whose abscissa is 11.
 42. Plot the following points in the coordinate plane and join them. What is your conclusion about the resulting figure? : $(-5,3)$ $(-1,3)$ $(0,3)$ $(5,3)$

Part - IV

IV. Answer all the questions.

2 x 8 = 16

43. a) Construct ΔPQR whose sides are $PQ = 6$ cm, $\angle Q = 60^\circ$ and $QR = 7$ cm and locate its orthocentre.

(OR)

- b) draw an equilateral triangle of side 6.5 cm and locate its orthocentre.

44. a) Use graphical method to solve the following system of equations :
 $x + y = 5$, $2x - y = 4$

(OR)

- b) Use graphical method to solve the following system of equations :
 $y = 2x + 1$, $-4x + 2y = 2$
