

Time: 2 Hour

Total Marks: 60

Class : X

Subject : Mathematics - II

MCQ SINGLE CORRECT

(Attempt any 5)

1. A tangent AB at a point A of a circle of radius 5 cm meets a line through the centre O at point B such that OB = 12 cm. Length AB is
(a) 5 cm (b) 12 cm (c) 13 cm (d) $\sqrt{119}$ cm
2. The coordinates of a point on Y-axis equidistant from (-5, -2) and (3, 2) are
(a) (0, 2) (b) (2, 0) (c) (0, -2) (d) (-2, 0)
3. If a, b, c are sides of a triangle and $a^2 + b^2 = c^2$, name the type of triangle,
(a) Obtuse angled triangle (b) Acute angled triangle (c) Right angled triangle (d) Equilateral triangle
4. If the centroid of the triangle formed by (7, x), (y, -6) and (9, 10) is at (6, 3) then (x, y) =
(a) (2, 5) (b) (5, 2) (c) (3, 5) (d) (5, 3)
5. The slope of X axis is
(a) 1 (b) 0 (c) Undefined (d) None of these
6. When we see at a higher level, from the horizontal line, angle formed is ____
(a) Angle of elevation (b) Angle of depression (c) 0 (d) Straight angle

VERY SHORT DESC

(Attempt any 4)

7. Find the slopes of the lines passing through the given points:
C (5, -2), D (7, 3)
8. Angles made by the line with the positive direction of X-axis are given. Find the slope of these lines. 45°
9. Congruent chords of a circle and equidistant from the centre of the circle.
10. The segment joining the centre of a circle and the midpoint of its chord is perpendicular to the chord.
11. Find the slopes of the lines passing through the given points:
P (-3, 1), Q (5, -2)

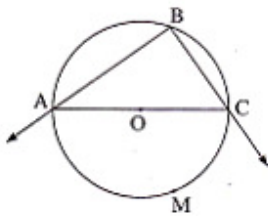
All The Best!!!

12. Angles made by the line with the positive direction of X-axis are given. Find the slope of these lines. 60°

SHORT DESC - 25 WORDS

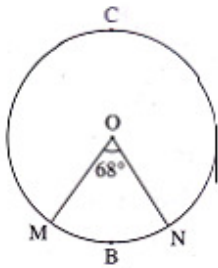
(Attempt any 3)

13. Determine whether the following points are collinear.
D (-2, -3), E(1, 0), F (2, 1)
14. Draw a circle of radius 3.4 cm and centre E. Take a point F on the circle. Take another point A such that E-F-A and FA = 4.1 cm. Draw tangents to the circle from point A.
15. Angle inscribed in a semicircle is a right angle.
Given : (1) A circle with centre O.
(2) seg AC is the diameter
(3) $\angle ABC$ is inscribed in arc ABC and intercepts arc AMC.



To prove: $\angle ABC = 90^\circ$

16. In the figure, radius of the circle is 7 cm and $m(\text{arc MBN}) = 60^\circ$, find
(1) Area of the circle
(2) A (O - MBN)
(3) A (O - MCN)

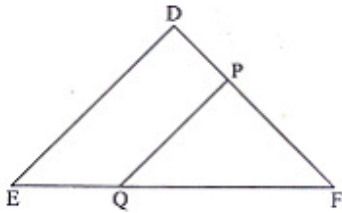


17. A (h, -6), B(2, 3) and C(-6, k) are the coordinates of vertices of a triangle whose centroid is G(1, 5). Find h and k.

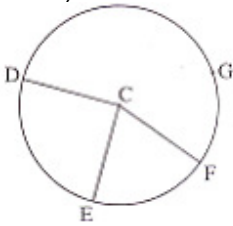
MED DESC - 50 WORDS

(Attempt any 2)

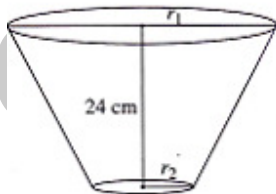
18. In the figure, seg PQ \parallel seg DE, $A(\Delta PQF) = 20$ units. $PF = 2 DP$, then find $A(\square DPQE)$ by completing the following activity.



19. In figure, points G, D, E, F are concyclic points of a circle with centre C. $\angle ECF = 70^\circ$ m (arc DGF) = 200° find m (arc DE) and m (arc DEF) .



20. The circumferences of circular faces of a frustum are 132 cm and 88 cm and its height is 24 cm. To find the curved surface area of the frustum complete the following activity. ($\pi = \frac{22}{7}$)



LONG DESC - 100 WORDS

(Attempt any 2)

21. A person is standing at a distance of 80 m from a church looking at its top. The angle of elevation is of 45° . Find the height of the church.
22. Ratio of areas of two triangles with equal heights of 2 : 3. If base of the smaller triangle is 6 cm then what is the corresponding base of the bigger triangle?
23. From the top of a lighthouse, an observer looking at a ship makes angle of depression of 60° . If the height of the lighthouse is 90 metres, then find how far the ship is from the lighthouse. ($\sqrt{3} = 1.73$)