



HANSRAJ PUBLIC SCHOOL

SECTOR-6, PANCHKULA

Class: IX Subject: Mathematics

PT 3 (Session 2025-26)

Date: 17.11.2025

Duration: 1 hour 30 mins.

Roll No: 15

Max Marks: 40

Instructions :

1. The question paper consists of 19 questions divided into five sections A, B, C, D, E.
2. All questions are compulsory.
3. Section A comprises of 9 questions of 1 mark each.
4. Section B comprises of 4 questions of 2 marks each.
5. Section C comprises of 3 questions of 3 marks each.
6. Section D comprises of 2 questions of 5 marks
7. Section E comprises of 1 case study-based question of 4 mark

SECTION A

1 MARK QUESTIONS

(9×1= 9 MARKS)

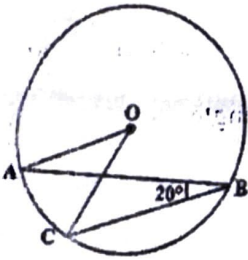
Q:1. In the given figure, if $\angle ABC = 20^\circ$, then $\angle AOC$ is equal to:

(a) 10°

(b) 20°

(c) 40°

(d) 60°



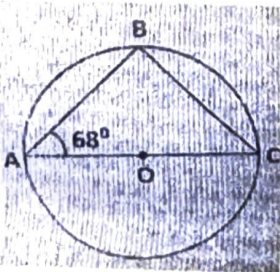
Q:2 In the given figure, O is centre of the circle, $\angle BAO = 68^\circ$, AC is diameter of the circle, then measure of $\angle BCO$ is

(a) 22°

(b) 33°

(c) 44°

(d) 68°



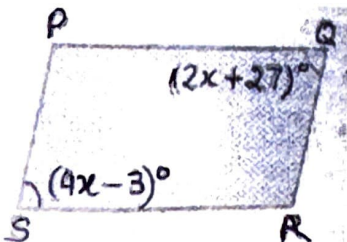
Q:3 In the given figure PQRS is a parallelogram in which a pair of opposite angles are given. The value of x is:

(a) 30

(b) 25

(c) 10

(d) 15



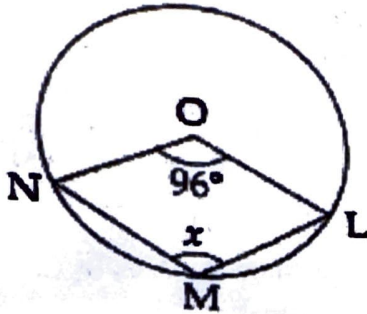
Q:4 From the given figure, the angle x is : (where O is the centre of the circle)

(a) 48°

(b) 132°

(c) 96°

(d) 264°



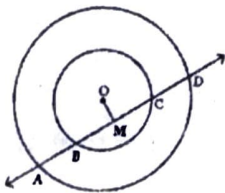
Q:5 If a line intersects two concentric circles with centre O at A, B, C and D , then:

(a) $AB = CD$

(b) $AB > CD$.

(c) $AB < CD$

(d) None of the above



Q:6 Assertion-Reason based Question :

In the following question, statement of Assertion (A) is followed by statement of Reason (R). Choose the correct answer out of the following choices.

Assertion (A): If the diagonals of a parallelogram are equal, then it is a rectangle.

Reason (R): The diagonals of parallelogram bisect each other at right angles.

(a) Both A and R are true and R is the correct explanation of A.

(b) Both A and R are true but R is not the correct explanation of A.

(c) A is true but R is false.

(d) A is false but R is true.

Q:7 Given a circle of radius 5 cm and centre O . OM is drawn perpendicular to the chord XY . If $OM = 3$ cm, then length of chord XY is

(a) 4 cm

(b) 6 cm

(c) 8 cm

(d) 10 cm

Q:8 Given a quadrilateral $ABCD$, and diagonals AC and BD bisect each other at P such that $AP = CP$ and $BP = DP$. Also $\angle APD = 90^\circ$, then quadrilateral is a

(a) rhombus

(b) trapezium

(c) parallelogram

(d) rectangle

Q:9 Write the value of $\angle A + \angle B$ in parallelogram? in $\parallel gm ABCD$

(a) 90°

(b) 80°

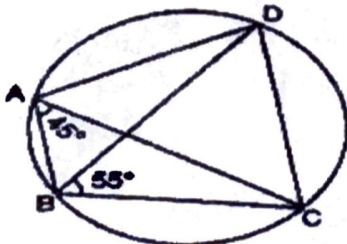
(c) 60°

(d) none of these

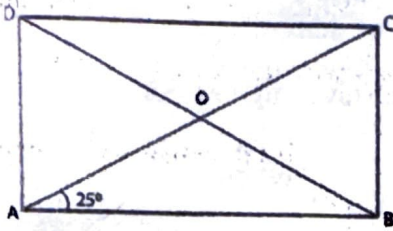
SECTION B

2 MARKS QUESTIONS (4X 2= 8 MARKS)

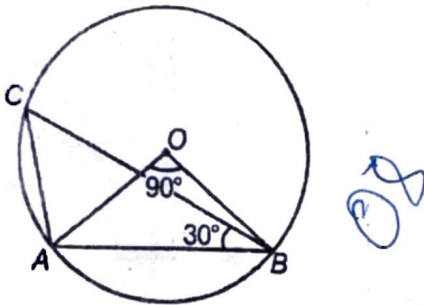
Q:10 In the given figure, $\angle DBC = 55^\circ$, $\angle BAC = 45^\circ$ then $\angle BCD$ is



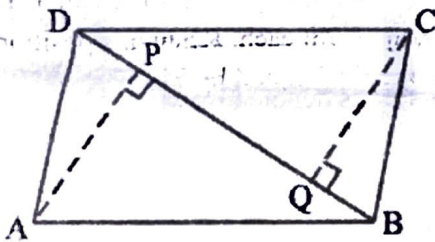
Q:11 A diagonal of a rectangle is inclined to one side of the rectangle at 25° . The acute angle between the diagonals is



Q:12 In the given figure, $\angle AOB = 90^\circ$ and $\angle ABC = 30^\circ$ Then $\angle CAO = ?$



Q: 13 ABCD is a parallelogram and AP and CQ are perpendiculars from vertices A and C on diagonal BD (see Fig.). Show that (i) $\triangle APB \cong \triangle CQD$ (ii) $AP = CQ$

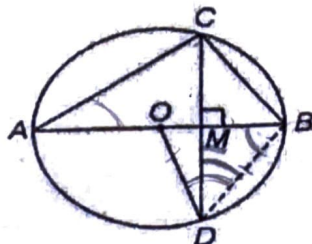


3 MARKS QUESTIONS (3 X 3 = 9 MARKS)

Q:14 Two parallel lines l and m are intersected by a transversal p . Show that the quadrilateral formed by the bisectors of interior angles is a rectangle.

Q: 15 A circular park of radius 20m is situated in a colony. Three boys Ankur, Syed and David are sitting at equal distance on its boundary each having a toy telephone in his hands to talk to each other. Find the length of the string of each phone.

Q: 16 O is the centre of the circle, $BD = OD$ and $CD \perp AB$. Find $\angle CAB$.



SECTION -D

5 MARKS QUESTIONS (2X 5 = 10 MARKS)

Q: 17 Show that the quadrilateral obtained by joining the mid point of sides of square is also a square.

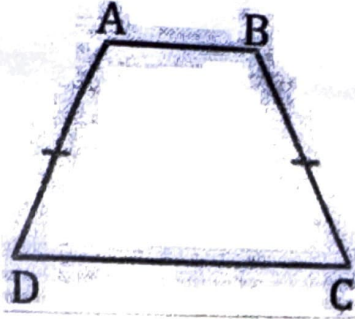
Q: 18 ABCD is a trapezium in which $AB \parallel CD$ and $AD = BC$ (see the given figure). Show that

(i) $\angle A = \angle B$

(ii) $\angle C = \angle D$

(iii) $\triangle ABC \cong \triangle BAD$

(iv) diagonal $AC =$ diagonal BD



SECTION -E
(Case Based Study)

4 MARK QUESTION (1X 4 = 4 MARKS)

Q:19 Three girls Reshma, Salma and Mandip are playing a game by standing on a circle having center O and radius 5m drawn in a park. Reshma throws a ball to Salma, Salma to Mandip, Mandip to Reshma. The distance between Reshma and Salma and between Salma and Mandip is 6m each. Reshma's position is denoted by R, Salma's position is denoted by S and Mandip's position is denoted by M.

(i) Find the area of triangle ORS.

[2]

(ii) What is the distance between Reshma and Mandip?

[2]