



INDIAN SCHOOL SOHAR
PERIODIC TEST –III(2022 – 23)
MATHEMATICS

Class: IX

MAX. MARKS: 20

Date: 19-01-2023

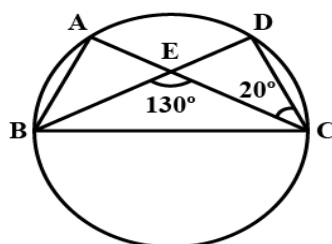
TIME : 45 MINS

General Instructions:

- a. All questions are compulsory.
 b. Section A comprises 1 question of 1 mark, Section B comprises 3 questions of 2 marks each and Section C comprises 3 questions of 3 marks each.

SECTION A

- The degree of 3 is:
 (a) 0 (b) 1 (c) 2 (d) 3
- The value of $p(x) = 5x - 4x^2 + 3$ for $x = -1$ is:
 (a) 6 (b) -6 (c) 3 (d) -3
- The bisectors of any two adjacent angles of a parallelogram intersect at:
 (a) 45° (b) 30° (c) 90° (d) 60°
- A chord of a circle is equal to the radius of the circle. Find the angle subtended by the chord at a point on the minor arc:
 (a) 150° (b) 30° (c) 60° (d) none of these
- In Figure, A, B, C and D are four points on a circle. AC and BD intersect at a point E such that $\angle BEC = 130^\circ$ and $\angle ECD = 20^\circ$. Find $\angle BAC$.



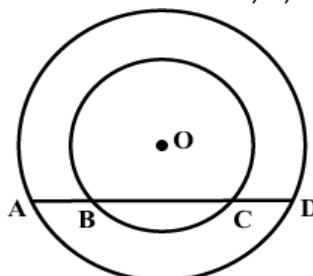
- (a) 80° (b) 60° (c) 90° (d) 110°

SECTION B

- Use the Factor Theorem to determine whether $g(x) = x + 1$ is a factor of $p(x) = 2x^3 + x^2 - 2x - 1$.
- ABCD is a rhombus. Show that diagonal AC bisects $\angle A$ as well as $\angle C$ and diagonal BD bisects $\angle B$ as well as $\angle D$.
- Prove that a cyclic parallelogram is a rectangle.

OR

If a line intersects two concentric circles with centre O at A, B, C and D, prove that $AB = CD$.

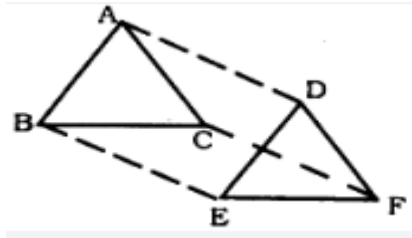


SECTION C

9. Factorize $x^3 - 3x^2 - 9x - 5$.
10. Prove "The angle subtended by an arc at the center is double the angle subtended by it at any point on the remaining part of the circle"
11. ABC is a triangle right angled at C. A line through the mid-point M of hypotenuse AB and parallel to BC intersects AC at D. Show that
- (i) D is the mid-point of AC.
 - (ii) $MD \perp AC$
 - (iii) $CM = MA = \frac{1}{2} AB$

OR

In $\triangle ABC$ and $\triangle DEF$, $AB = DE$, $AB \parallel DE$, $BC = EF$ and $BC \parallel EF$. Vertices A, B and C are joined to vertices D, E and F. Show that



- (i) quadrilateral ABED is a parallelogram
- (ii) quadrilateral BEFC is a parallelogram
- (iii) $AD \parallel CF$ and $AD = CF$.



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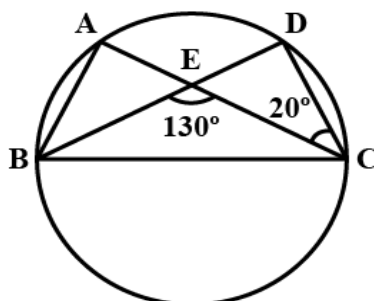
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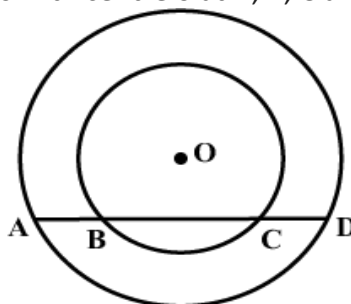
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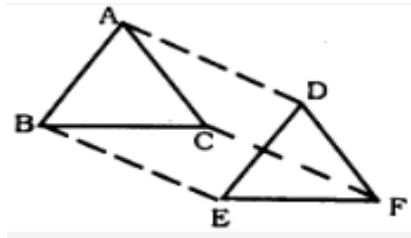


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