BK BIRLA CENTRE FOR DUCATION

SARALA BIRLA GROUP OF SCHOOLS
SENIOR SECONDARY CO-ED DAY CUM BOYS' RESIDENTIAL SCHOOL

PERODIC TEST-2 (2024)

MATHEMATICS

Class : IX
Date : 02-12-2024
Admission No.:

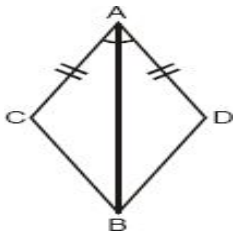
Duration : 1 Hr
Max. Marks : **25**
Roll No.:

General Instructions:

1. All Questions are compulsory.
2. There are 13 questions.

I. **CHOOSE THE CORRECT ALTERNATIVE IN THE FOLLOWING.** **5**

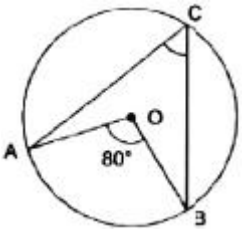
1. In the given figure, the congruency rule used in proving Δ ACB ≅ Δ ADB is



a) ASA b) SAS c) AAS d) RHS

2. In ΔABC, BC = AB and ∠B = 80°. Then ∠A is equal to :
a) 80^0 b) 40^0 c) 50^0 d) 100^0

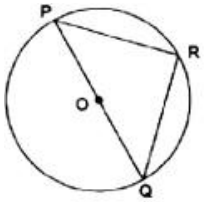
3. if O is the centre of a circle, then the measure of ∠ACB is:



a) 80° b) 100° c) 40° d) 60°

4. The sum of either pair of opposite angles of a cyclic quadrilateral is :
a) 180^0 b) 360^0 c) 90^0 d) 45^0

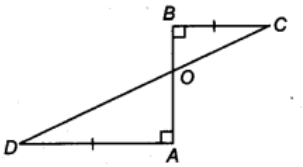
5. O is the centre of the circle and PR = QR. The measure of ∠PQR is :



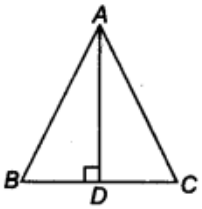
a) 60^0 b) 110^0 c) 75^0 d) 45^0

II. SOLVE THE FOLLOWING

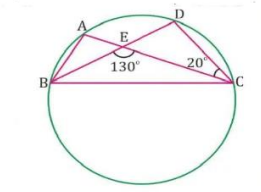
6. AD and BC are equal perpendiculars to a line segment AB (see figure). Show that CD bisects AB. **2**



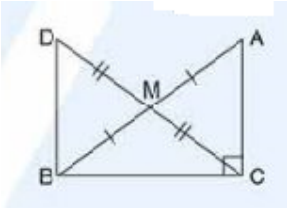
7. In ΔABC, AD is the perpendicular bisector of BC (see figure). Show that Δ ABC is an isosceles triangle in which AB = AC. **2**



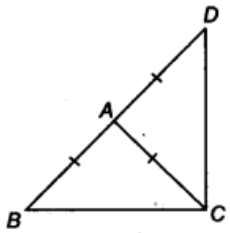
8. Prove that Equal chords of a circle subtend Equal angles at the centre. **2**
9. A , B , C and D are four points on a circle. AC and BD intersect at a point E such that ∠BEC = 130^0 and ∠ECD = 20^0 . Find ∠BDC. **2**



10. In right triangle ABC , right angled at C, M is the mid point of hypotenuse AB . C is joined to M and produced to a point D . DM = CM (Refer the figure)
Show that i) Δ AMC ≅ Δ BMD. Ii) ∠DBC is right angle. **3**

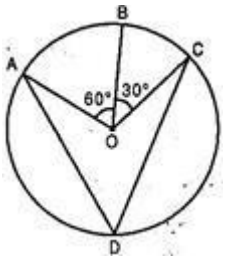


11. ΔABC is an isosceles triangle in which AB = AC. Side BA is produced to D such that AD = AB (see figure). Show that ∠BCD is a right angle. **3**



12. Prove that the perpendicular from the centre of a circle to a chord bisects the chord. **3**

13. A , B and C are three points on a circle with centre O .∠BOC = 30 ^{0} and ∠AOB = 60 ^{0} . D is a point on the circle. Find $\angle ADC$. **3**



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