

BHARATH COACHING CENTRE

9th CBSE

Circle

Total: 40

Maths

Time: 1.30 hrs

SECTION – A

$5 \times 1 = 5$

1. In how many parts a circle divides the plane in which it is drawn?
2. Write the name of the region between a chord and either of its arcs.
3. If AB is a diameter of a circle in which AP = 12cm and AB = 13cm, where O is the center of the circle. Find the distance PB. (see fig 1)

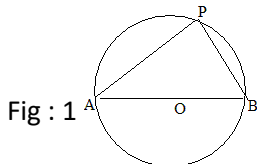


Fig : 1

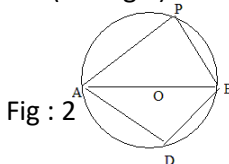


Fig : 2

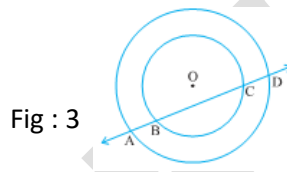


Fig : 3

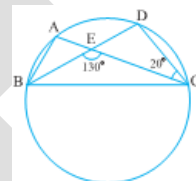


Fig : 4

4. If a diameter of a circle bisects two chords, then are the two chords parallel?
5. If the given figure, if $\triangle ABC$ is an equilateral triangle and $BD = BC$, find $\angle BCD$ (See fig 2).

SECTION – B

$5 \times 2 = 10$

6. Prove that equal chords of a circle subtend equal angles at the centre.
7. Prove that the line drawn through the centre of a circle to bisect a chord is perpendicular to the chord.
8. In the given fig - 3, 'L' is a line intersecting two concentric circle with centre P at points A, C, D and B. show that $AC = DB$.
9. Two circles of radii 5 cm and 3 cm intersect at two points and the distance between their centres is 4 cm. find the length of the common chord.
10. In Fig. 4, 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 $\angle BAC$.

SECTION – C

$3 \times 3 = 9$

11. Two circles of radii 10 cm and 8 cm intersect and the length of the common chord is 12 cm. Find the distance between their centres.
12. Two circles intersect at two points B and C. Through B, two line segments ABD and PBQ are drawn to intersect the circles at A, D and P, Q respectively (Fig 5). Prove that $\angle ACP = \angle QCD$.

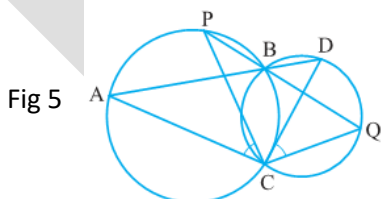


Fig 5

13. ABC and ADC are two right triangles with common hypotenuse AC. Prove that $\angle CAD = \angle CBD$.

14. Three boys Rohit, Samir and Tarun are sitting at equal distances from each other on the boundary of a circular garden. The radius of the circular garden is 40 m. find their distances from each other.
15. If the non – parallel sides of a trapezium are equal, prove that it is cyclic.
16. Three girls Reshma, Salma and Mandip are playing a game by standing on a circle of radius 5m drawn in a park. Reshma throws a ball to Salma, Salma to Mandip, Mandip to Reshma. If the distance between Reshma and Salma and between Salma and Mandip is 6m each, what is the distance between Reshma and Mandip?
17. If two equal chords of a circle intersect within the circle, prove that the line joining the point of intersection to the centre makes equal angles with the chords.

BHARATH