1. Q. In figure $\angle PQR = 100^\circ$, where $P, Q$ and $R$ are points on a circle with centre $O$. Find $\angle OPR$

![Diagram of a circle with angles PQR and OPR]

2. Q. Two equal chords of a circle intersect within the circle. Prove that the line joining their point of intersection to the centre makes equal angles with the chords.

3. Q. In fig, $O$ is the centre of the circle. If $\angle AOB = 80^\circ$ then find the measures of $\angle ADB$ and $\angle ACB$.

![Diagram of a circle with angles AOB and ADB]

4. Q. In adjacent Fig., two chords $AB$ and $CD$ of a circle intersect at right angle. If $\angle ABD = 65^\circ$, find the measure of $\angle CAB$.

![Diagram of a circle with angles ABD and CAB]

5. Q. In the figure, $AB = BP$ prove that $DP = DC$.

6. Q. Prove that equal chords of a circle subtend equal angles at the centre.

7. Q. Prove that the line drawn through the centre of a circle to bisect a chord is perpendicular to the chord.
8. Q. In the figure, two circles with diameters AC and AD intersect at two points A and B. Prove that B lies on the line segment DC.

![Diagram](image1.png)

9. Q. If diagonals of a cyclic quadrilateral are diameters of the circle and perpendicular to each other, prove that it is a square.

10. Q. Find the length of a chord of a circle which is at a distance of 4 cm from the centre of the circle with radius 5 cm.

11. Q. Prove that of all chord of circle through a given point within it, the least is one which is bisected at the point.

**Three marks Questions**

12. Q. The bisectors of the angle formed by producing opposite sides of a cyclic quadrilateral intersect at right angle.

13. Q. Bisectors of angle A, B and C of triangle ABC intersect its circumcircle at D, E, and F respectively. Prove that the angle of triangle DEF are $90 - \angle A/2$, $90 - \angle B/2$ and $90 - \angle C/2$.

14. Q. In figure ABCD is a cyclic quadrilateral in which AB is extended till F and BE \parallel DC. If $\angle FBE = 20^\circ$ and $\angle DAB = 95^\circ$, then find $\angle ADC$.

![Diagram](image2.png)