

## Circles

### Work sheet -2

1. Prove that if the angles subtended by the chords of a circle at the centre are equal, then the chords are equal.
2. AB is a chord of a circle having centre at O. If  $\angle AOB = 60^\circ$ , prove that the chord AB is of radius length.
3. A, B and C are three points on a circle such that  $AB=BC=CA$  and O is the centre of the circle. Find the angles subtended by the chords AB, BC and AC at the centre O.
4. If arcs AXB and CYD of a circle are congruent, find the ratio of AB and CD.
5. Find the length of a chord of a circle which is at a distance of 6cm from the centre of the circle. The radius of the circle is 10cm.
6. AB and CD are two parallel chords of a circle lying on opposite sides of the centre, such that  $AB=10\text{cm}$  and  $CD=24\text{ cm}$ . If the radius of the circle is 13cm, find the distance between AB and CD.
7. Two chords AB and AC of a circle are equal. Prove that the bisector of  $\angle BAC$  passes through the centre O of the circle.
8. AB and CD are two parallel chords of a circle (lying on opposite sides of the centre) such that  $AB=16\text{cm}$  and  $CD=12\text{cm}$ . If the distance between AB and CD is 14cm, find the radius of the circle.
9. Find the length of the chord of a circle which is at a distance of 5 cm from the centre of the circle. The radius of the circle is 13cm.
10. A, B and C are three points on a circle. Prove that the perpendicular bisectors of AB BC and CA are concurrent.

Exercises: - 10.3 and 10.4

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