

Circles - Basic Terms and Properties

Chapter 9: Circles · Topic 1

Key Concept

Another important property states that the perpendicular drawn from the centre of a circle to any chord always bisects that chord exactly at its midpoint — this relationship is frequently used to solve problems involving chord lengths and their distance from the centre, using the Pythagoras theorem within the right triangle formed by the radius, half-chord, and perpendicular distance. These foundational circle properties support more advanced circle theorems studied in higher classes.

Quick Revision Notes

- Circle terms: centre, radius, chord, diameter (longest chord), arc.
- Equal chords of a circle are equidistant from the centre.
- The perpendicular from the centre to a chord always bisects the chord.
- These properties combine with the Pythagoras theorem to solve chord-related problems.

Practice Questions

- 1 State the relationship between equal chords and their distance from the centre.
- 2 If a chord is 8cm long and the radius is 5cm, find its distance from the centre using the Pythagoras theorem.
- 3 Explain why the perpendicular from the centre bisects a chord.