

Circle theorems *key words*

ANSWERS

A Fill in the missing words from the word bank.

Word bank

Two words are not needed.

alternate

bisects

centre

chord

cyclic

diameter

equal

opposite

perpendicular

sector

segment

semicircle

subtended

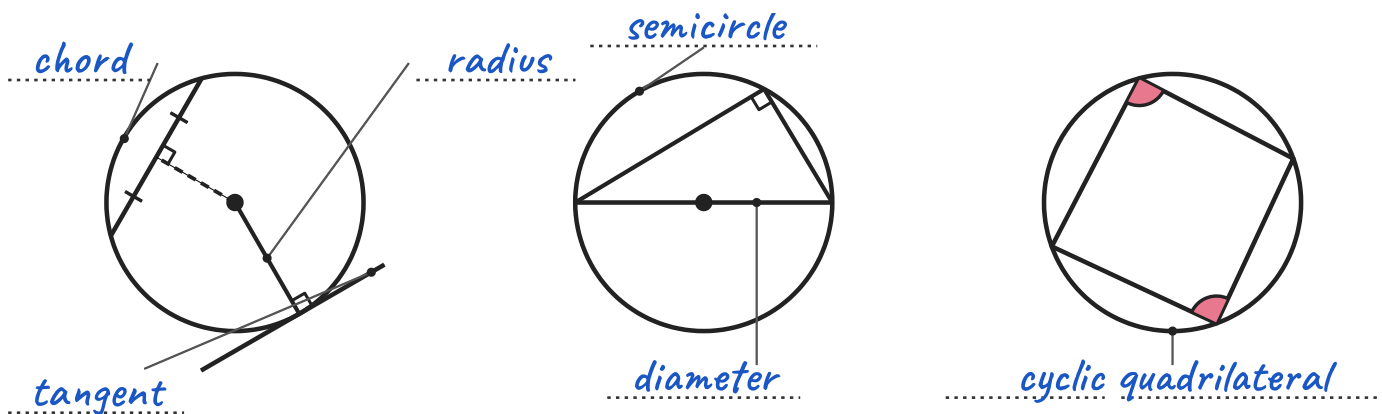
tangent

A chord joins two points on a circle. The perpendicular from the centre to a chord bisects the chord. A tangent meets the radius at 90° where it touches the circle, and two tangents from the same point outside the circle are equal in length.

The angle subtended by an arc at the centre is twice the angle it subtends at the circumference. The angle in a semicircle is 90° . Angles in the same segment are equal.

A cyclic quadrilateral has all four of its vertices on the circle, and its opposite angles add up to 180° . The angle between a tangent and a chord is equal to the angle in the alternate segment.

B Label the diagram. No word bank this time. Each label gives the first letter.



C Each sentence uses the wrong key word. Cross it out and write the right word.

- 1 A chord meets the radius at 90° where it touches the circle.
- 2 The adjacent angles of a cyclic quadrilateral add up to 180° .
- 3 The perpendicular from the centre to a chord subtends the chord.
- 4 Angles in the same sector are equal.

tangent

opposite

bisects

segment