

Exercise walk-through

4.3

Circles

Pearson Edexcel · International GCSE · Mathematics A

Exercises 2.1·2.3

2.1 (Higher) Find the circumference angle corresponding to a 100° central angle.

2.2 (Higher) Find the angle opposite 112° in a cyclic quadrilateral.

2.3 (Higher) Find the angle between a radius and its tangent in degrees.

3 Exam-style questions

Exercises 2.1·2.3

2.1 (Higher) Find the circumference angle corresponding to a 100° central angle.

2.1 For the same chord and corresponding arc, centre angle=twice circumference angle:
 $100/2=50^\circ$.

2.2 (Higher) Find the angle opposite 112° in a cyclic quadrilateral.

2.2 Opposite cyclic angles sum to 180° , so $180-112=68^\circ$.

2.3 (Higher) Find the angle between a radius and its tangent in degrees.

3 Exam-style questions

2.3 A radius and its tangent are perpendicular at contact: 90° .

Exercise 3.1

3.1 Decide whether this claim is true. Justify with a concrete calculation or counterexample: Every quadrilateral has opposite angles summing to 180° .

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3.1 False. A parallelogram with successive angles $60^\circ, 120^\circ, 60^\circ, 120^\circ$ has opposite sums 120° and 240° . The 180° theorem requires a cyclic quadrilateral.

Local review guidance: show the chosen method; give the checked result; explain the condition or failed shortcut. This is authored classroom guidance.