

Lesson 76 **MIXED**

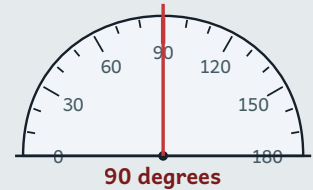
Angle sum of a quadrilateral

WHAT THIS LESSON TEACHES

A **quadrilateral**'s angles add to 360° . Splitting any polygon into triangles gives its angle sum (each triangle adds 180°).

→ A quadrilateral = 2 triangles → $2 \times 180^\circ = 360^\circ$.

→ A pentagon = 3 triangles → 540° .



MODEL THIS ON THE BOARD

THREE ANGLES OF A QUADRILATERAL ARE 90° , 100° AND 85° . FIND THE FOURTH.

- ① A quadrilateral's angles add to 360° .
- ② $90 + 100 + 85 = 275$.
- ③ $360 - 275 = 85^\circ$.

ANSWER KEY

W1: 89°

W2: 60°

Q1: 58°

Q2: 30°

Q3: 11°

Q4: 99°

EXTENSION SHEET · STRETCH ANSWERS

S1: 37°

S2: 106°

S3: 73°

Investigation: Angle sums of polygons — open-ended; scan pupils' working for valid solution paths rather than a single answer.