

Understanding Shapes (Polygons)

Chapter 16: Understanding Shapes (Polygons) · Topic 1

Key Concept

A polygon's angle sum can be calculated using the formula $(n-2) \times 180^\circ$, where n is the number of sides.

For a quadrilateral (4 sides), the angle sum is $(4-2) \times 180^\circ = 360^\circ$, while a pentagon (5 sides) has $(5-2) \times 180^\circ = 540^\circ$.

Regular polygons have all sides and angles equal, like an equilateral triangle or a square, while irregular polygons do not.

Understanding polygon properties helps us classify shapes and solve geometry problems involving angles and sides.

Quick Revision Notes

- A polygon is a closed shape with straight sides.
- Angle sum formula: $(n-2) \times 180^\circ$.
- Quadrilateral angle sum: 360° .
- Pentagon angle sum: 540° .
- Regular polygons have equal sides and angles.
- Irregular polygons do not.
- Polygon properties help classify shapes.
- They help solve angle and side problems.

Practice Questions

- 1 Calculate the angle sum of a heptagon (7 sides).
- 2 Discuss the difference between regular and irregular polygons.
- 3 Find the angle sum of an octagon (8 sides).
- 4 Draw a regular pentagon.
- 5 Discuss an example of an irregular polygon.
- 6 Explain the angle sum formula in your own words.