

Area of Trapezium and Polygon

Chapter 20: Area of Trapezium and Polygon · Topic 1

Key Concept

The area of a trapezium is calculated as $(1/2) \times (\text{sum of parallel sides}) \times \text{height}$.

For irregular polygons, we can often divide the shape into triangles or other simple shapes, calculate each area, and add them together.

For a regular polygon, area can be calculated using $(1/2) \times \text{perimeter} \times \text{apothem}$ (distance from centre to a side).

These area calculations are useful in real life for tasks like calculating land area, flooring, or material needed for construction.

Quick Revision Notes

- Trapezium area = $(1/2) \times (\text{sum of parallel sides}) \times \text{height}$.
- Irregular polygons can be divided into triangles.
- We calculate and sum each triangle's area.
- Regular polygon area = $(1/2) \times \text{perimeter} \times \text{apothem}$.
- Apothem is the distance from centre to a side.
- These formulas help calculate land area.
- They help with flooring and construction material.
- Understanding these formulas is practical for real life.

Practice Questions

- 1 Calculate the area of a trapezium with sides 8cm, 5cm and height 4cm.
- 2 Divide an irregular pentagon into triangles and estimate its area.
- 3 Discuss why the apothem is used for regular polygons.
- 4 Calculate area for a real object, like a piece of land.
- 5 Solve two trapezium area problems.
- 6 Discuss a real-life use of polygon area calculation.