

Area and Perimeter of Plane Figures

Chapter 20: Area and Perimeter of Plane Figures · Topic 1

Key Concept

The perimeter of any figure is the sum of all its boundary lengths, while area measures the space enclosed within the figure.

For a triangle, $\text{area} = (1/2) \times \text{base} \times \text{height}$, and for a circle, $\text{area} = \pi \times \text{radius}^2$, with $\text{circumference} = 2 \times \pi \times \text{radius}$.

For combined or composite figures, we can calculate area by breaking the figure into simpler shapes and adding their areas.

Mastering these formulas is essential for solving real-world problems involving land measurement, construction, and design.

Quick Revision Notes

- Perimeter is the sum of boundary lengths.
- Area measures enclosed space.
- Triangle area = $(1/2) \times \text{base} \times \text{height}$.
- Circle area = $\pi \times \text{radius}^2$.
- Circle circumference = $2 \times \pi \times \text{radius}$.
- Composite figures break into simpler shapes.
- We add areas of simpler shapes together.
- These formulas apply to real-world measurement problems.

Practice Questions

- 1 Calculate the area of a triangle with base 10cm and height 6cm.
- 2 Calculate the area and circumference of a circle with radius 5cm.
- 3 Break a composite figure into simpler shapes and find its area.
- 4 Discuss a real-life use of these formulas.
- 5 Solve two area and perimeter problems.
- 6 Measure a real object and calculate its area.