

Exploring the Circle

Chapter 11: Exploring Some Geometric Themes · Topic 1

Key Concept

The value π (pi), approximately 3.14159 or the fraction $\frac{22}{7}$, represents the constant ratio of a circle's circumference to its diameter — remarkably, this ratio is exactly the same for every circle, regardless of its size, a discovery that has fascinated mathematicians for thousands of years. Understanding these circle components and formulas is essential for solving real-world problems involving circular objects, from wheel design to architectural domes.

Quick Revision Notes

- Circle parts: centre, radius, diameter ($2 \times \text{radius}$), chord, arc, and circumference.
- Circumference = $2\pi r$, where π (pi) $\approx$ 3.14159 or $\frac{22}{7}$.
- π represents the constant ratio of circumference to diameter, same for every circle.
- Circle formulas apply to real-world objects like wheels and domes.

Practice Questions

- 1 Find the circumference of a circle with radius 7cm (use $\pi = \frac{22}{7}$).
- 2 If a circle's diameter is 20cm, find its radius.
- 3 Explain what the value of π represents in relation to a circle.