

Triangles

Chapter 3: Triangles · Topic 1

Key Concept

The sum of the interior angles of any triangle is always 180° , a fundamental property used to find missing angles.

An exterior angle of a triangle equals the sum of the two non-adjacent interior angles, a useful property for solving problems.

Triangle inequality theorem states that the sum of any two sides of a triangle must be greater than the third side.

Congruent triangles have all corresponding sides and angles equal, proven through criteria like SSS, SAS, ASA, and RHS.

Quick Revision Notes

- Sum of triangle's interior angles = 180° .
- Exterior angle = sum of two non-adjacent interior angles.
- Triangle inequality: sum of two sides $>$ third side.
- Congruent triangles: all corresponding parts equal.
- Proven via SSS, SAS, ASA, RHS criteria.
- These properties solve triangle problems.
- They're fundamental to geometry proofs.
- Practice builds proof-writing skills.

Practice Questions

- 1 Find a missing angle using the angle sum property.
- 2 Verify the exterior angle theorem with an example.
- 3 Check if sides 3,4,5 satisfy the triangle inequality.
- 4 Prove two triangles congruent using SSS.
- 5 Discuss why congruence criteria are useful.
- 6 Explain triangle properties in your own words.