

Pythagoras Theorem

Chapter 13: Pythagoras Theorem · Topic 1

Key Concept

The theorem is written as $a^2 + b^2 = c^2$, where c is the hypotenuse and a, b are the other two sides of a right triangle.

This theorem can be used to find an unknown side when the other two sides of a right triangle are known.

The converse of the Pythagoras Theorem states that if $a^2 + b^2 = c^2$ holds for a triangle's sides, the triangle must be a right triangle.

This theorem has wide applications in construction, navigation, and various fields requiring distance or length calculations.

Quick Revision Notes

- Pythagoras Theorem: $a^2 + b^2 = c^2$.
- c is the hypotenuse; a, b are other sides.
- It finds an unknown side of a right triangle.
- The converse proves a triangle is right-angled.
- This holds if $a^2 + b^2 = c^2$ for the sides.
- It has applications in construction and navigation.
- It's used for distance calculations.
- This is a fundamental geometry theorem.

Practice Questions

- 1 Verify the theorem with $a=6, b=8, c=10$.
- 2 Find c if $a=5$ and $b=12$.
- 3 Find b if $c=13$ and $a=5$.
- 4 Use the converse to check if sides 3,4,5 form a right triangle.
- 5 Discuss a real-life use of the Pythagoras Theorem.
- 6 Solve two Pythagoras Theorem problems.