

Practice and Revision - Pythagoras Theorem

Chapter 2: Pythagoras Theorem · Topic 2

Key Concept

The Pythagoras theorem is stated as $a^2+b^2=c^2$, where c is the hypotenuse (longest side) and a, b are the other two sides of a right triangle.

This theorem only applies to right triangles, where one angle measures exactly 90° , and c is always opposite this right angle.

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

The Pythagoras theorem has practical applications in construction, navigation, and calculating distances that cannot be measured directly.

Quick Revision Notes

- Pythagoras theorem: $a^2+b^2=c^2$.
- c = hypotenuse (longest side).
- a, b = other two sides.
- Only applies to right triangles.
- One angle is exactly 90° .
- c is opposite the right angle.
- Converse: if $a^2+b^2=c^2$, triangle is right-angled.
- Applications: construction, navigation, distances.

Practice Questions

- 1 Find the hypotenuse of a right triangle with legs 6 and 8.
- 2 Verify if a triangle with sides 5,12,13 is a right triangle.
- 3 Solve a real-life problem using the Pythagoras theorem.
- 4 Discuss why this theorem only applies to right triangles.
- 5 Calculate a missing side using the theorem.
- 6 Explain the Pythagoras theorem in your own words.