

# Trigonometry

Chapter 6: Trigonometry · Topic 1

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## Key Concept

In a right triangle, sine (sin) is the ratio of the opposite side to the hypotenuse, relative to a given angle.

Cosine (cos) is the ratio of the adjacent side to the hypotenuse, while tangent (tan) is the ratio of opposite to adjacent sides.

These trigonometric ratios remain constant for a given angle, regardless of the triangle's size, making them powerful tools for calculations.

Trigonometry has practical applications in fields like architecture, navigation, and physics, especially for calculating heights and distances.

## Quick Revision Notes

- Sine (sin) = opposite/hypotenuse.
- Cosine (cos) = adjacent/hypotenuse.
- Tangent (tan) = opposite/adjacent.
- These ratios are for right triangle angles.
- Ratios constant for a given angle.
- Independent of triangle size.
- Applications: architecture, navigation, physics.
- Used for calculating heights, distances.

## Practice Questions

- 1 Calculate sin, cos, tan for a given right triangle.
- 2 Discuss why these ratios stay constant for an angle.
- 3 Calculate the height of an object using trigonometry.
- 4 Research a practical use of trigonometry.
- 5 Solve a right triangle problem using sine.
- 6 Explain sine, cosine, tangent in your own words.