Edulyte

COSINE FORMULA

The cosine rule is a mathematical formula that connects the lengths of the sides of a triangle to one of the angles in that triangle, specifically the cosine angle. This formula allows for calculating the length of a specific side or determining the measure of an angle when given its corresponding side. Additionally, it's possible to use this rule effectively by using the hypotenuse to calculate the cosine angle.

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Q1: Which type of triangle can the cosine rule be applied to?

A: Only equilateral triangles
B: Only right triangles
C: Any type of triangle
D: Only isosceles triangles

Q2: What do 'a,' 'b,' and 'c' represent in the cosine rule formula?

A: Side lengths of the triangle
B: Angles of the triangle
C: The perimeter of the triangle
D: Area of the triangle

Q3: What is the cosine rule used when calculating angles in a triangle?

A: Finding any angle in any triangle
B: Finding only the right angles in a triangle
C: Finding the largest angle in a triangle
D: Finding angles in an isosceles triangle

Q4: Identify the General Formula of the Cosine Rule

A: b2 = c2 + a2 - 2ca·cosB
B: c2 = a2 + b2 - 2ab·cosC
C: $b^2 - c^2 = 2\cos B$
D: a2 = b2 + c2 - 2bc·cosA

Q5: A farmer has a huge field in the shape of a triangle. The two sides of the field measure 624 ft and 327 ft, and the angle between them measures 93°. Calculate how much fencing is needed to enclose the field.

A: 1600 ft
B: 1670 ft
C: 1750 ft
D: 1800 ft

Q6: A boy is standing at point A, and two boats are located at points B and C, so the positions of all three form a triangle. If the measure of angle A is 36° with the lengths AB and AC measuring 2.5 ft and 1.8 ft, respectively, determine the distance between the two boats floating at the lake.

A: 1.05
B: 1.55
C: 1.50
D: 1.25

Q7: The adjacent sides of a parallelogram measure 6 in and 10 in, with the angle between them measuring 79°. Can you determine the length of the diagonal of the parallelogram?

A: 12.60
B: 11.65
C: 10.60
D: 3.45

Q8: Which Theorem is useful for calculating Angles through the Cosine Rule?

A: Isosceles Theorem
B: Right Triangle Theorem
C: Scalene Theorem
D: Pythagoras Theorem

Q9: Where to Apply the Cosine Rule?

A: Navigation
B: Physics
C: Engineering
D: All of these

Q10: The Special Cosine Rule Applies To—

A: Sides
B: Angles
C: Right Angle
D: None of these

Answers

Q1: C - Any type of triangle

Q2: A - Side lengths of the triangle

Q3: A - Finding any angle in any triangle

Q4: D - $a^2 = b^2 + c^2 - 2bc \cdot \cos A$

Q5: B - 1670 ft

Q6: C - 1.50

Q7: A - 12.60

Q8: D - Pythagoras Theorem

Q9: D - All of these

Q10: B - Angles