

Triangle Properties and Congruence Quiz

Grade Level: Grade 9 | **Date:** 2025-11-15 23:02:49

Instructions: Answer all questions. Show your work where applicable.

Question 1: In triangle ABC, if side AB is equal to side AC, and the measure of angle B is 65° , what is the measure of angle A? Explain your reasoning.

Answer: _____

Answer Key

Question 1: Angle A = 50°

Explanation: Since AB = AC, triangle ABC is an isosceles triangle. In an isosceles triangle, the angles opposite the equal sides are equal. Therefore, angle C must also be 65° (angle C = angle B). The sum of angles in any triangle is 180°. So, angle A + angle B + angle C = 180°. Substituting the known values, angle A + 65° + 65° = 180°. This simplifies to angle A + 130° = 180°. Therefore, angle A = 180° - 130° = 50°.