

Similar Triangle Worksheet Answer Key PDF

Similar Triangle Worksheet Answer Key PDF

Disclaimer: The similar triangle worksheet answer key pdf was generated with the help of StudyBlaze AI. Please be aware that AI can make mistakes. Please consult your teacher if you're unsure about your solution or think there might have been a mistake. Or reach out directly to the StudyBlaze team at max@studyblaze.io.

Part 1: Building a Foundation

What is the primary condition for two triangles to be considered similar?

undefined. A) They have the same area.

undefined. B) They have the same perimeter.

undefined. C) Their corresponding angles are equal. ✓

undefined. D) Their corresponding sides are equal.

Two triangles are considered similar if their corresponding angles are equal.

Which of the following are criteria for triangle similarity? (Select all that apply)

undefined. **A) AA (Angle-Angle) ✓**

undefined. **B) SAS (Side-Angle-Side) ✓**

undefined. **C) SSS (Side-Side-Side) ✓**

undefined. **D) ASA (Angle-Side-Angle) ✓**

The criteria for triangle similarity include AA, SAS, SSS, and ASA.

Explain in your own words what it means for two triangles to be similar.

Two triangles are similar if they have the same shape but may differ in size, meaning their corresponding angles are equal and their sides are proportional.

List the three criteria used to determine if two triangles are similar.

1. Criterion 1

AA

2. Criterion 2

SAS

3. Criterion 3

SSS

The three criteria are AA, SAS, and SSS.

Part 2: Comprehension and Application

If triangle ABC is similar to triangle DEF, which of the following statements is true?

undefined. A) Angle A is equal to angle D. ✓

undefined. B) Side AB is equal to side DE.

undefined. C) The perimeter of triangle ABC is equal to the perimeter of triangle DEF.

undefined. D) Triangle ABC is congruent to triangle DEF.

If two triangles are similar, their corresponding angles are equal.

Which of the following statements are true about similar triangles? (Select all that apply)

undefined. A) They have equal corresponding angles. ✓

undefined. B) Their corresponding sides are proportional. ✓

undefined. C) They always have the same orientation.

undefined. D) They can be different sizes. ✓

Similar triangles have equal corresponding angles and proportional sides, but they can be different sizes.

Triangle XYZ is similar to triangle PQR. If the length of side XY is 6 cm and the length of side PQ is 9 cm, what is the ratio of the sides of triangle XYZ to triangle PQR?

undefined. A) 2:3 ✓

undefined. B) 3:2

undefined. C) 1:2

undefined. D) 1:3

The ratio of the sides of triangle XYZ to triangle PQR is 2:3.

A ladder leans against a wall forming a triangle with the ground. Explain how you could use similar triangles to find the height the ladder reaches on the wall.

You can use the properties of similar triangles to set up a proportion based on the lengths of the sides of the triangles formed by the ladder, wall, and ground.

Part 3: Analysis, Evaluation, and Creation

In a pair of similar triangles, the sides of one triangle are 4, 6, and 8. If the longest side of the second triangle is 12, what is the length of the shortest side of the second triangle?

undefined. A) 6 ✓

undefined. B) 8

undefined. C) 9

undefined. D) 10

The length of the shortest side of the second triangle is 6.

Analyze how the SSS criterion can be used to determine if two triangles are similar, and provide an example.

The SSS criterion states that if the sides of two triangles are proportional, then the triangles are similar. For example, if one triangle has sides of 2, 4, and 6, and another has sides of 4, 8, and 12, they are similar.

Two triangles are similar, and the ratio of their corresponding sides is 1:3. If the area of the smaller triangle is 10 square units, what is the area of the larger triangle?

undefined. A) 30 square units

undefined. B) 60 square units

undefined. C) 90 square units ✓

undefined. D) 120 square units

The area of the larger triangle is 90 square units.

Design a real-world problem that involves similar triangles and explain how you would solve it using the properties of similar triangles.

An example could be determining the height of a tree using a shadow. By measuring the shadow of the tree and a nearby object, you can set up a proportion to find the height of the tree.

