Similar or Congruent?

ID: 11063

Time required
15 minutes

Activity Overview

In this activity, students will explore AAA and SSS relationships in triangles to support understanding of the concepts of triangle similarity and congruence.

Topic: Triangles & Congruence

- *Corresponding Angles and Sides*
- *Similarity (AAA) and Congruence (SSS)*

Teacher Preparation and Notes

- *Students must have the Cabri Jr. App on their calculator and know how to open files.*
- *Press* [ALPHA] *to grab a point.*
- ***To download the student worksheet and Cabri Jr. files (.8xv files), go to education.ti.com/exchange and enter "11063" in the keyword search box.***

Associated Materials

- *SimilarOrCongruent_Student.doc*
- *ANGLE.8xv*
- *SIDE.8xv*

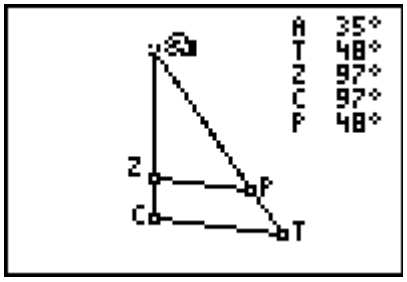
Suggested Related Activities

To download any activity listed, go to education.ti.com/exchange and enter the number in the keyword search box.

- *Congruent Triangles (TI-Nspire technology) — 8516*

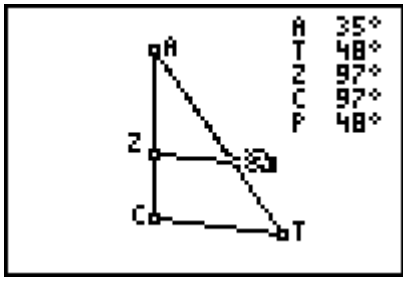
Exploring angle measures

When students open the ANGLE file in Cabri Jr., they will see a triangle within a triangle. The measures of the angles have already been calculated for them.



If you choose to have students measure the angles, delete the measures before sending out the file. Then they can use the **Angle** tool from the Measurement menu, selecting the three points that make up the angle.

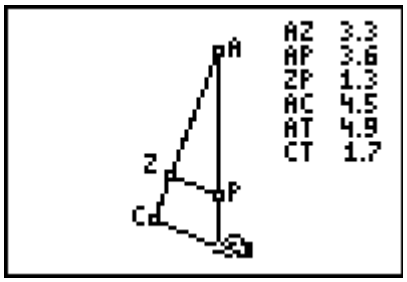
By dragging points *A*, *C*, or *T*, students should see that corresponding angles are congruent.



Dragging point *P* will change the size of ΔZAP only. Students should see that the corresponding angles remain congruent. Segment *ZP* can be placed over top of segment *CT*.

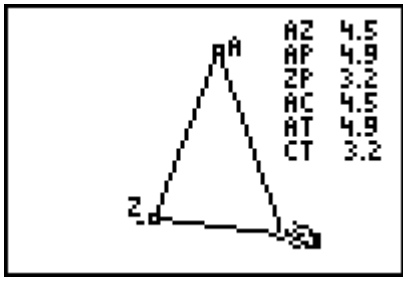
Exploring side lengths

Then students are to open the file SIDE, where they will see the same triangles. This time the side lengths have already been measured for the students.



If you choose to have students measure the sides, delete the measures before sending out the file. Then they can use the **D. & Length** tool from the Measurement menu, selecting the two points that make up the side.

After dragging points *A*, *C*, or *T*, students should see that the corresponding side lengths are different.



The only time that the side lengths are the same is when segment *ZP* is over top of segment *CT*.

Students should make the conjecture that when the corresponding angles but not the side lengths are congruent/equal then the two triangles are similar. Explain to students about the Angle-Angle (AA) Similarity Postulate.

When the corresponding angles and the side lengths are congruent/equal then the two triangles are congruent. Explain to students about the Side-Side-Side (SSS) Congruence Postulate.