

Congruent Triangles – ID: 8817

Name _____

Class _____

In this activity, you will explore:

- *Conditions that create congruent triangles.*

Use this document to record your answers.

Problem 1 – Three Corresponding Sides (SSS)

1. Based on your observations, are two triangles with three pairs of corresponding congruent sides (SSS) congruent?

2. Does this result change when a vertex of the triangle is dragged?

3. When the two compass circles are created, there are two points of intersection. Do you think it makes a difference which one you choose to be point F ?

Problem 2 – Two Corresponding Sides and the Included Angle (SAS)

4. Based on your observations, are two triangles with two pairs of corresponding congruent sides and the included angle (SAS) congruent?

5. Do you think it matters whether the included angle $\angle ABC$ is acute, right, or obtuse?

Problem 3 – Two Corresponding Angles and the Included Side (ASA)

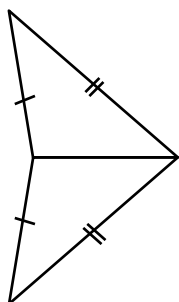
6. Based on your observations, are two triangles with two pairs of corresponding congruent angles and the included side (ASA) congruent?

7. Why do you think the selection order of the angle vertices matters?

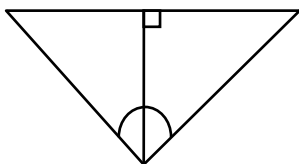
Apply The Math

Name the congruence postulate (SSS, SAS, or ASA) that shows the triangles to be congruent.

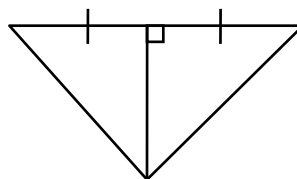
1.



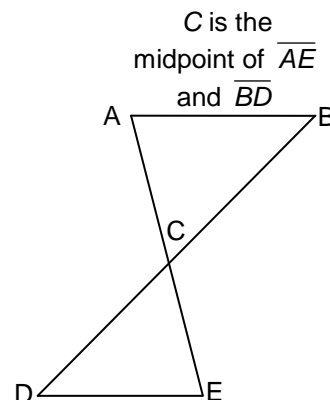
2.



3.



4.



Optional Extension – Two Corresponding Sides and the NON-Included Angle

Use the file you saved as *CongTri*. Investigate the results if you copy two sides of a triangle and the NON-included angle. Will the triangles be congruent?