

Name _____

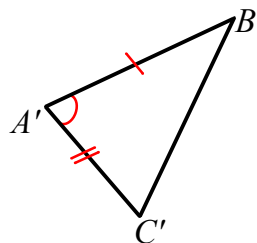
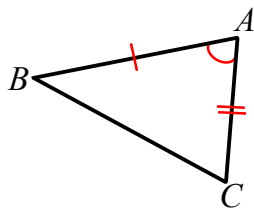
Lesson 19: Congruent Triangles - SAS

LEARNING TARGETS

I CAN use my knowledge of rigid motions to prove two triangles are congruent.

Warm Up

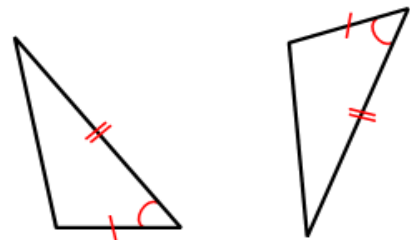
Provided the two *distinct* triangles below, assume $AB = A'B'$ (Side), $m\angle A = m\angle A'$ (Angle), $AC = A'C'$ (Side), can you prove these two triangles are congruent using a sequence of rigid motion?



Mini Lesson

Side-Angle-Side Triangle Congruence Criteria (SAS): Given two triangles $\triangle ABC$ and $\triangle A'B'C'$ so that $AB = A'B'$ (Side), $m\angle A = m\angle A'$ (Angle), $AC = A'C'$ (Side). Then the triangles are congruent.

Given: Triangles with a pair of corresponding sides of equal length and a pair of included angles of equal measure. Sketch and label three phases of the sequence of rigid motions that prove the two triangles to be congruent.



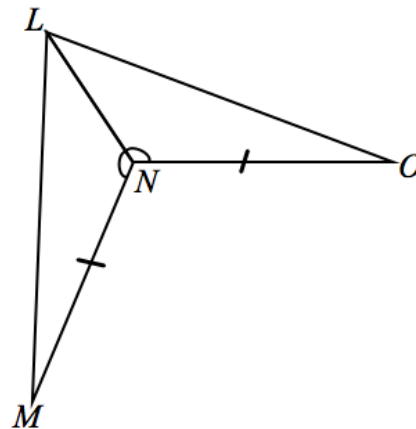
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Justify whether the triangles meet the SAS congruence criteria; explicitly state which pairs of sides or angles are congruent and why. If the triangles do meet the SAS congruence criteria, describe the rigid motion(s) that would map one triangle onto the other.

Example 1:

Given: $\angle LNM = \angle LNO$, $MN = ON$.

Do $\triangle LMN$ and $\triangle LON$ meet the SAS criteria?

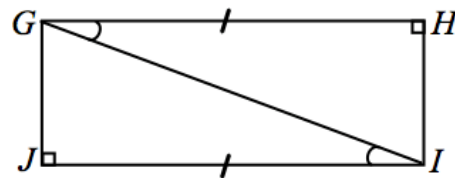


Work Time:

Exercise 1:

Given: $\angle HGI = \angle JIG$, $HG = JI$.

Do $\triangle HGI$ and $\triangle JIG$ meet the SAS criteria?



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Classwork/Homework

Lesson 19: Congruent Triangles - SAS

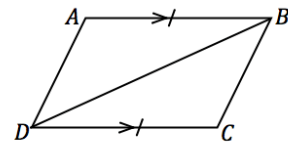
Directions:

Decide if there is enough information given to prove the triangles meet the SAS congruence criterion. If there is enough information:

- a. Write a T-table proof
- b. Describe the rigid motion/motions that would map one triangle onto the other.

1. Given: $\overline{AB} \parallel \overline{CD}$, $AB = CD$

Do $\triangle ABD$ and $\triangle CDB$ meet the SAS criteria?



2. Given: \overline{KM} and \overline{JN} bisect each other.

Do $\triangle JKL$ and $\triangle NML$ meet the SAS criteria?

