Objective: In this lesson, you will explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions.

**ASA (angle-side-angle)**

- Two angle measurements in one triangle are the same  
- The sides between those two angles in each triangle are  

ΔABC is congruent to ΔDEF by ASA.

**Example**

Two of the corresponding angles and the included sides of two triangles are congruent. Which statement must be true regarding the triangles?
SAS (side-angle-side)

- Two side lengths in one triangle are the same

- The angles between those two sides in each triangle are

\[ \triangle ABC \text{ is congruent to } \triangle DEF \text{ by SAS.} \]

**Example**

The diagram shows that \( \angle A \cong \angle D \) and \( \overline{AB} \cong \overline{DE} \). Which other statement do you need to prove triangle congruency through the SAS criterion?
SSS (side-side-side)

If the corresponding sides of two triangles are all equal in length, then ____________

Example

ΔABC is congruent to ΔDEF by SSS.

ΔABC is congruent to ΔADC by the SSS criterion. What is the value of x?
## Summary

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