

Study Guide

More Congruent Triangles

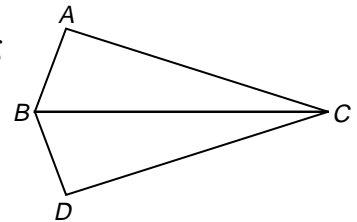
In the previous lesson, you learned three postulates for showing that two triangles are congruent: Side–Side–Side (SSS), Side–Angle–Side (SAS), and Angle–Side–Angle (ASA).

Another test for triangle congruence is the Angle–Angle–Side theorem (AAS).

If two angles and a non-included side of one triangle are congruent to the corresponding two angles and a side of a second triangle, the two triangles are congruent.

Example: In $\triangle ABC$ and $\triangle DBC$, $\overline{AC} \cong \overline{DC}$, and $\angle ACB \cong \angle DCB$. Indicate the additional pair of corresponding parts that would have to be proved congruent in order to use AAS to prove $\triangle ACB \cong \triangle DCB$.

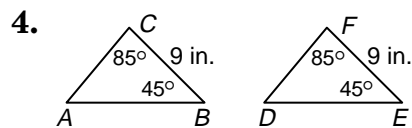
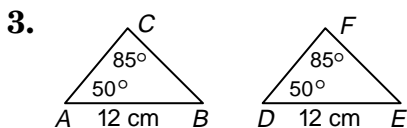
You would need to prove $\angle ABC \cong \angle DBC$ in order to prove that $\triangle ACB \cong \triangle DCB$.



Draw and label triangles ABC and DEF. Indicate the additional pairs of corresponding parts that would have to be proved congruent in order to use the given postulate or theorem to prove the triangles congruent.

- $\angle B \cong \angle E$ and $\overline{BC} \cong \overline{EF}$ by ASA
- $\overline{AC} \cong \overline{DF}$ and $\overline{CB} \cong \overline{FE}$ by SSS

Eliminate the possibilities. Determine which postulates show that the triangles are congruent.



Write a paragraph proof.

5. **Given:** \overline{HK} bisects $\angle GKN$.
 $\angle G \cong \angle N$
Prove: $\overline{GK} \cong \overline{NK}$

