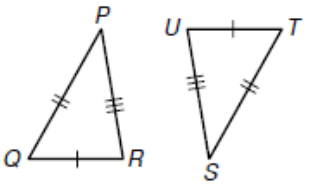
Identifying Congruent Triangles

Side-Side-Side (SSS) Congruence Postulate

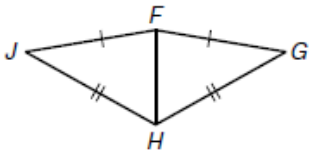
If three sides of one triangle are congruent to three sides of another triangle, then the triangles are congruent.

$\overline{QR} \cong \overline{TU}$, $\overline{RP} \cong \overline{US}$, and $\overline{PQ} \cong \overline{ST}$, so $\triangle PQR \cong \triangle STU$.



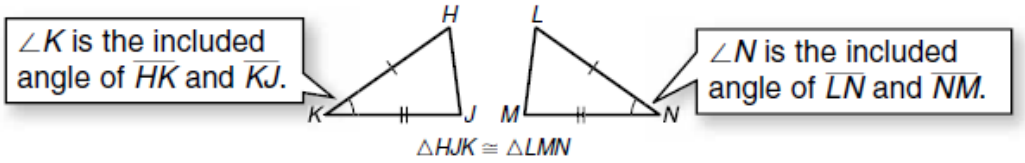
You can use SSS to explain why $\triangle FJH \cong \triangle FGH$.

It is given that $\overline{FJ} \cong \overline{FG}$ and that $\overline{JH} \cong \overline{GH}$. By the Reflex. Prop. of $\cong$, $\overline{FH} \cong \overline{FH}$. So $\triangle FJH \cong \triangle FGH$ by SSS.



Side-Angle-Side (SAS) Congruence Postulate

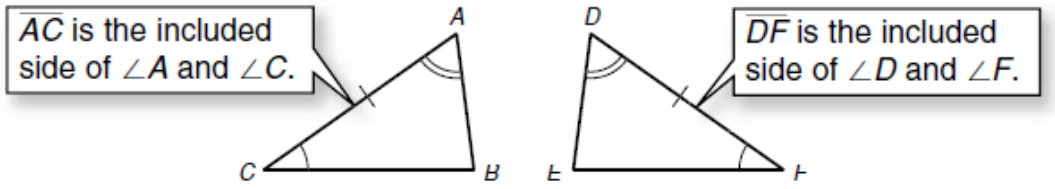
If two sides and the included angle of one triangle are congruent to two sides and the included angle of another triangle, then the triangles are congruent.



$\triangle HJK \cong \triangle LMN$

Angle-Side-Angle (ASA) Congruence Postulate

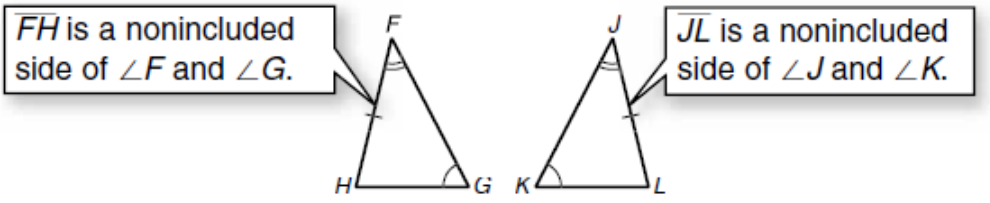
If two angles and the included side of one triangle are congruent to two angles and the included side of another triangle, then the triangles are congruent.



$\triangle ABC \cong \triangle DEF$

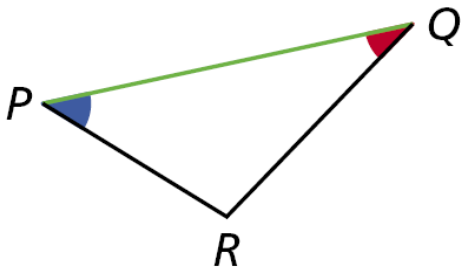
Angle-Angle-Side (AAS) Congruence Theorem

If two angles and a nonincluded side of one triangle are congruent to the corresponding angles and nonincluded side of another triangle, then the triangles are congruent.



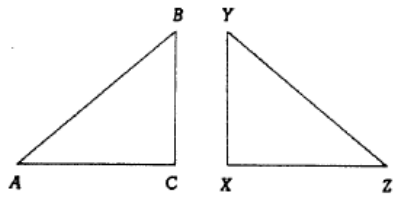
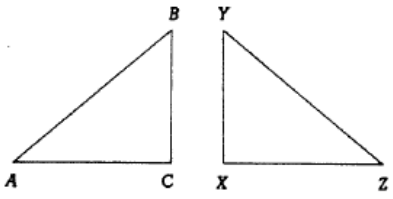
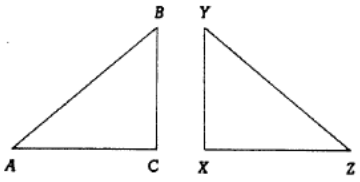
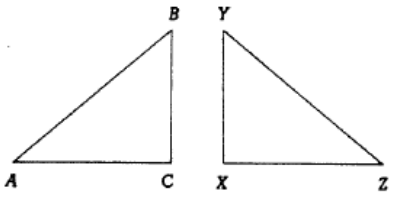
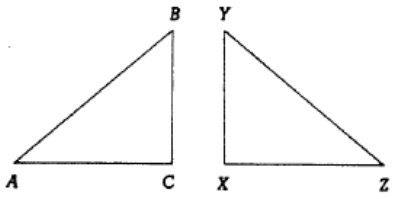
$\triangle FGH \cong \triangle JKL$

An **included side** is the common side of two consecutive angles in a polygon. The following postulate uses the idea of an included side.



$\overline{PQ}$ is the included side of $\angle P$ and $\angle Q$.

Name the postulate or theorem you would use to prove $\triangle ACB \cong \triangle ZXY$ given following information. If there is *not* enough information, state none.

$\angle B \cong \angle Y$ $\angle A \cong \angle Z$ $\overline{BC} \cong \overline{YX}$ 	$\angle C \cong \angle X$ $\angle A \cong \angle Z$ $\overline{CA} \cong \overline{XZ}$ 	$\overline{AC} \cong \overline{ZX}$ $\angle B \cong \angle Y$ $\overline{BC} \cong \overline{YX}$ 
$\overline{ZX} \cong \overline{AC}$ $\overline{XY} \cong \overline{CB}$ $\angle X \cong \angle C$ 	$\overline{AB} \cong \overline{ZY}$ $\overline{AC} \cong \overline{ZX}$ $\overline{CB} \cong \overline{XY}$ 	$\overline{AB} \cong \overline{BC}$, $\overline{BD}$ bisects $\angle ABC$.