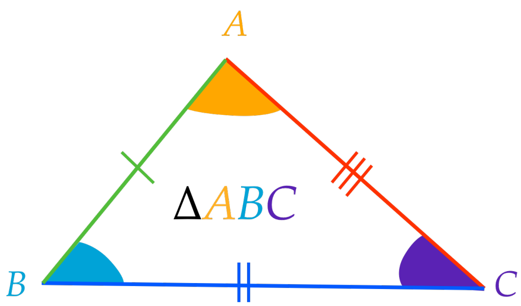
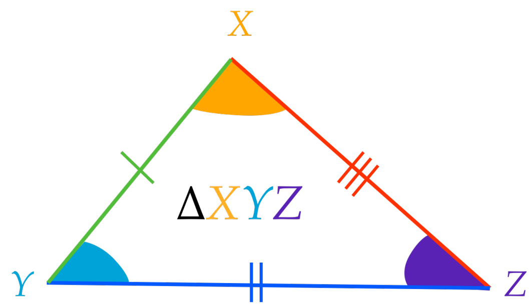
Angle-Angle-Side (AAS) Postulate

Name ______________________________

Date _________________ Period ______

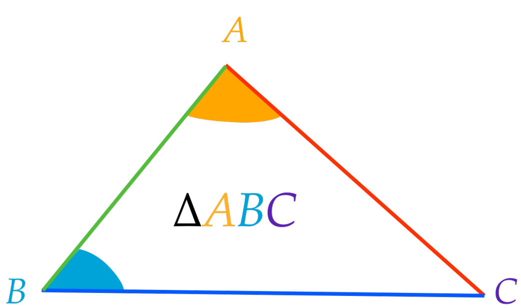
Two triangles are congruent if and only if
their corresponding angles and sides are congruent.

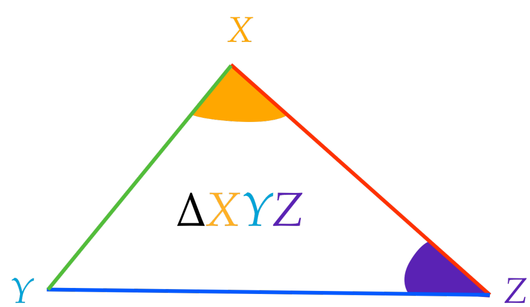




If $\angle A \cong \angle X$, $\angle B \cong \angle Y$, $\angle C \cong \angle Z$ and $\overline{AB} \cong \overline{XY}$, $\overline{BC} \cong \overline{YZ}$, $\overline{AC} \cong \overline{XZ}$ then $\Delta ABC \cong \Delta XYZ$

Included Side - The side of the triangle that is common to two angles.

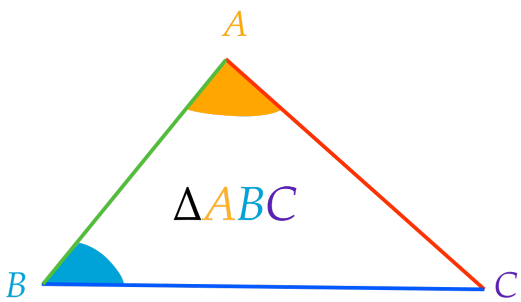




$\overline{AB}$ is the included side of $\angle A$ and $\angle B$.

The included side of $\angle X$ and $\angle Z$ is $\overline{XZ}$.

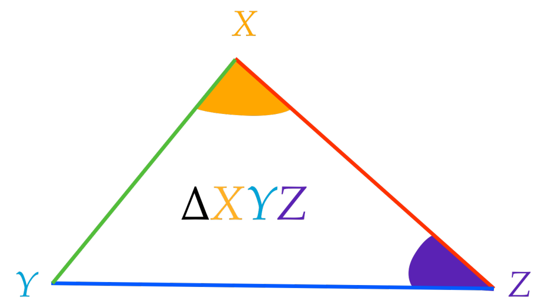
Non-included Side - The side of the triangle that is not common to two angles.



$\angle A$ and $\angle B$

Non-included sides

$\overline{AC}$ and $\overline{BC}$

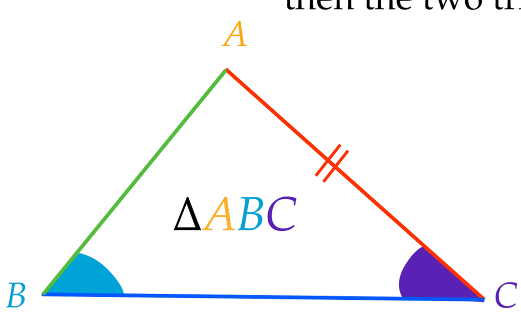


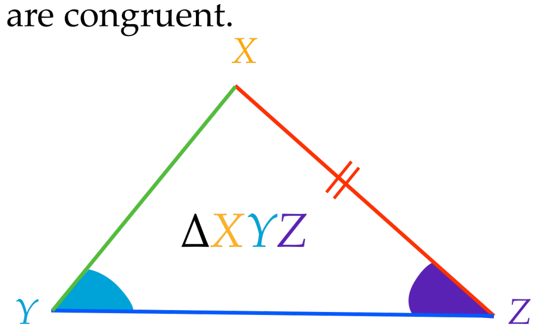
$\angle X$ and $\angle Z$

Non-included sides

$\overline{XY}$ and $\overline{YZ}$

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





If $\angle B \cong \angle Y$, $\angle C \cong \angle Z$, and $\overline{AC} \cong \overline{XZ}$, then $\Delta ABC \cong \Delta XYZ$

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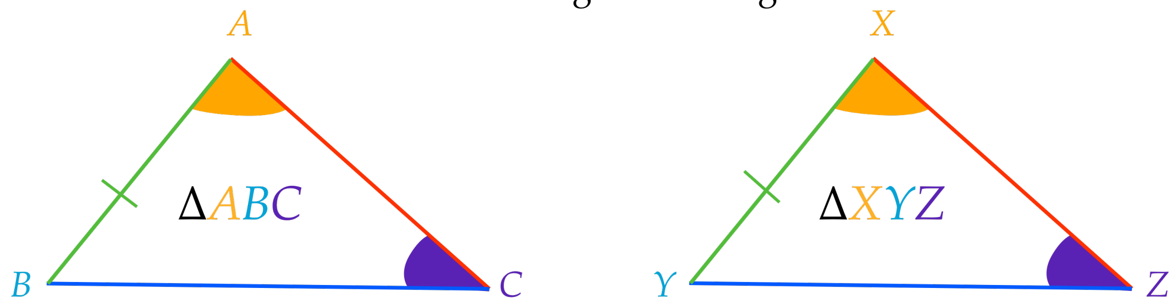


If $\angle C \cong \angle Z$, $\angle A \cong \angle X$, and $\overline{AB} \cong \overline{XY}$, then $\Delta ABC \cong \Delta XYZ$

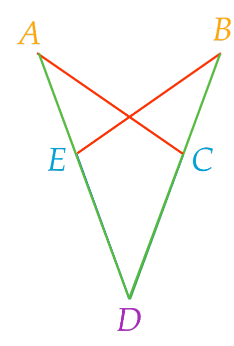
Angle - Angle - Non-included Side

Statements	Reasons

Given: $\angle A \cong \angle B$

$\overline{BE} \cong \overline{AC}$

Prove: $\overline{AD} \cong \overline{BD}$



Statements	Reasons

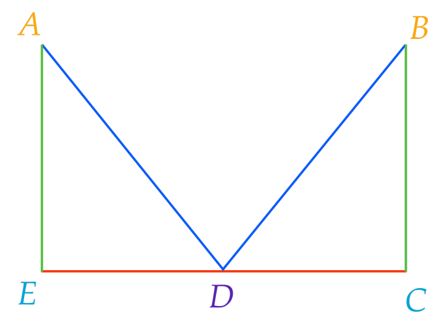
Given: $\overline{AE} \parallel \overline{BC}$

$\overline{AD} \cong \overline{BD}$

$\angle A \cong \angle B$

$\angle C$ is a right angle

Prove: $\overline{AE} \cong \overline{BC}$



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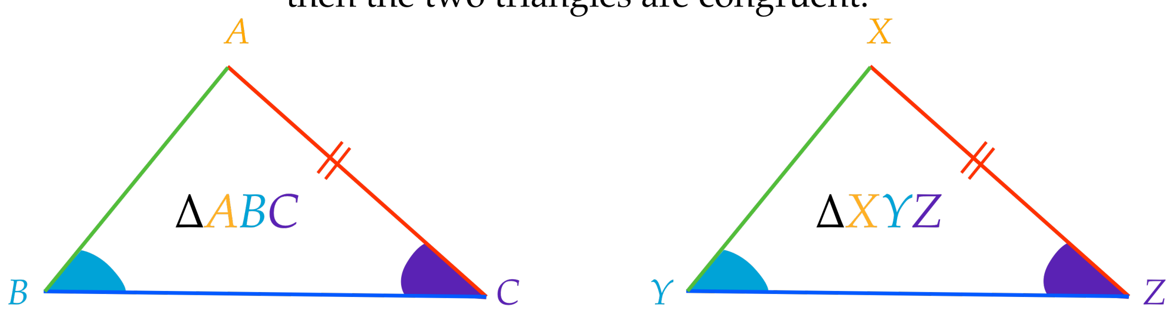

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