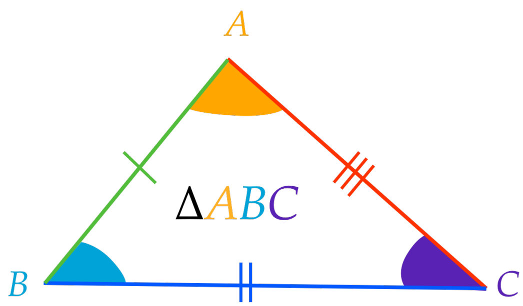
www.iTutoring.com - NOTES

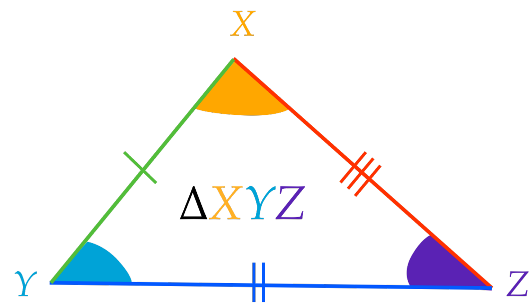
Hypotenuse Leg (HL) Theorem with Right Triangles

Name ____________________

Date ____________ Period ______

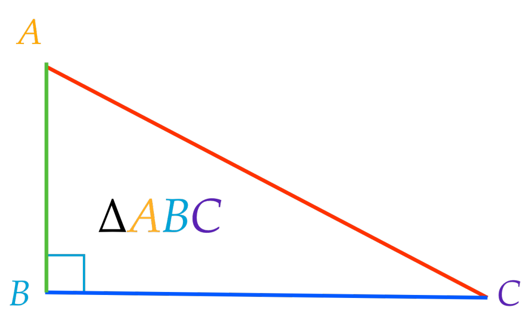
Two triangles are congruent if and only if
their corresponding angles and sides are congruent.

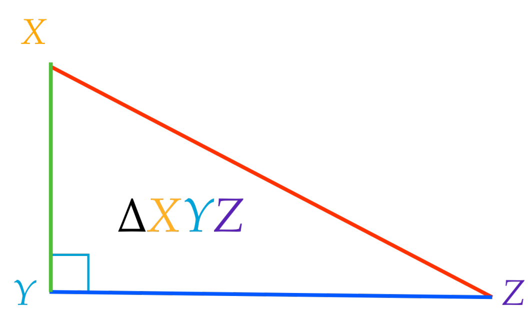




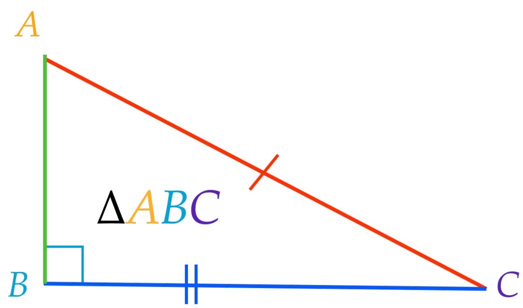
If $\angle A \cong \angle X$, $\angle B \cong \angle Y$, $\angle C \cong \angle Z$ and $\overline{AB} \cong \overline{XY}$, $\overline{BC} \cong \overline{YZ}$, $\overline{AC} \cong \overline{XZ}$ then $\Delta ABC \cong \Delta XYZ$

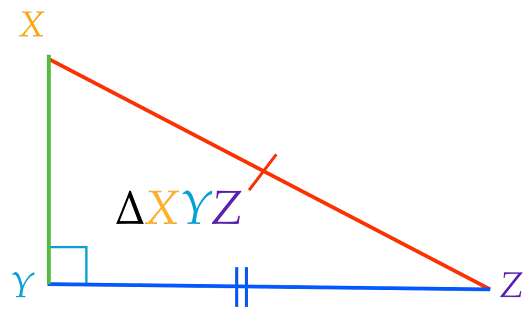
The hypotenuse of a right triangle is the side opposite the right angle.
The other two sides of a right triangle are called legs.





If the hypotenuse and leg of one right triangle are congruent to the hypotenuse and corresponding leg of another right triangle, then the triangles are congruent.





If $\overline{AC} \cong \overline{XZ}$, and $\overline{BC} \cong \overline{YZ}$, then $\Delta ABC \cong \Delta XYZ$

Only with Right Triangles - Hypotenuse - Leg (HL)

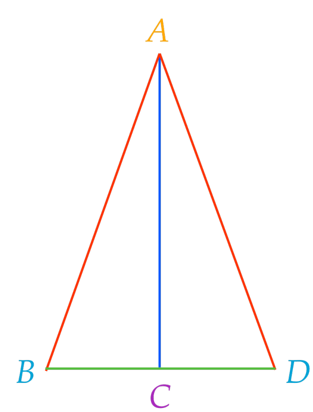
Statements	Reasons

Given: C is midpoint of $\overline{BD}$

$\overline{AC} \perp \overline{BD}$

$\overline{AB} \cong \overline{AD}$

Prove: $\angle B \cong \angle D$



Statements	Reasons

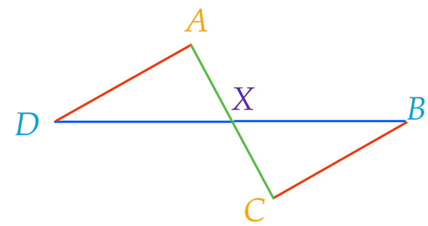
Given: $\overline{AC} \perp \overline{AD}$

$\overline{AC} \perp \overline{BC}$

X is the midpoint of $\overline{AC}$

X is the midpoint of $\overline{BD}$

Prove: $\Delta AXD \cong \Delta CXB$



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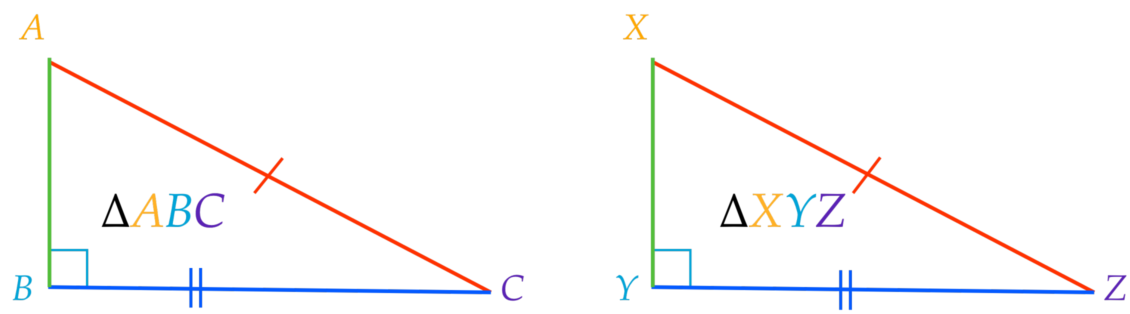

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Only with Right Triangles - Hypotenuse - Leg (HL)