Sec 4-6: Congruence in Right Triangles

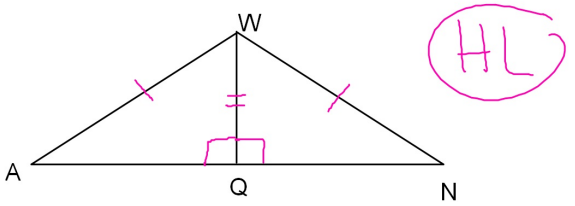
HL Theorem

Theorem 4-6 **Hypotenuse-Leg (HL) Theorem**

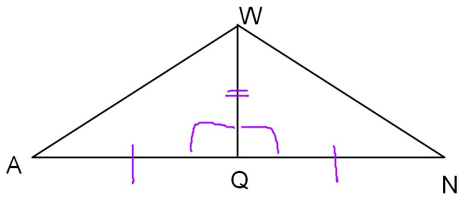
If the hypotenuse and a leg of one right triangle are congruent to the hypotenuse and a leg of another right triangle, then the triangles are congruent.

Are the triangles congruent? If yes, give a reason.

Given: $\overline{AW} \cong \overline{NW}$ and $\overline{WQ}$ is $\perp$ to $\overline{AN}$.



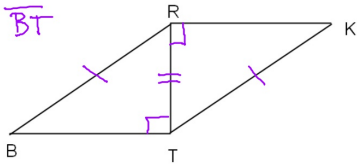
Given: $\overline{WQ}$ is the $\perp$ bisector of $\overline{AN}$.



SAS

Given: $\overline{BR} \cong \overline{KT}$ and $\overline{RT}$ is $\perp$ to $\overline{RK}$ and $\overline{BT}$

Prove: $\Delta BRT \cong \Delta KTR$



Statement	Reason
1. Given: $\overline{BR} \cong \overline{KT}$ and $\overline{RT}$ is $\perp$ to $\overline{RK}$ and	1. Given
2. $\overline{RT} \cong \overline{RT}$	2. Reflexive Prop
3 $\Delta BRT \cong \Delta KTR$	3. HL