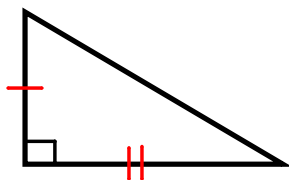
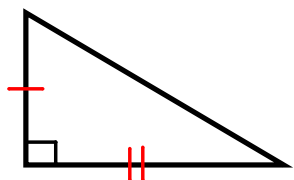
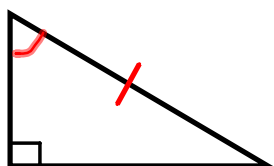
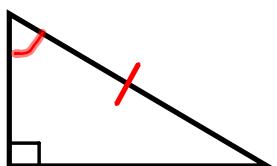


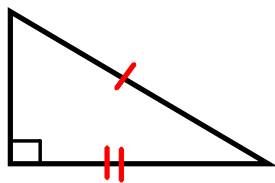
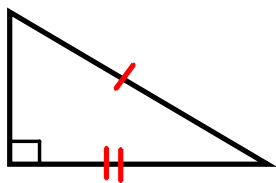
Do-now: Which pairs of triangles below can be proven to be congruent? Why?



Yes! SAS.



Yes! AAS.



~~No! ASS NO BAD WORDS~~  
Yes!

## Hypotenuse-Leg Theorem (HL)

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



In order to use HL, you must  
FIRST STATE YOU HAVE RIGHT TRIANGLES!

ex:  $\triangle ABC$  &  $\triangle DEF$   
are right  $\triangle$ s

Given:

$$\overline{AB} \perp \overline{BC}$$

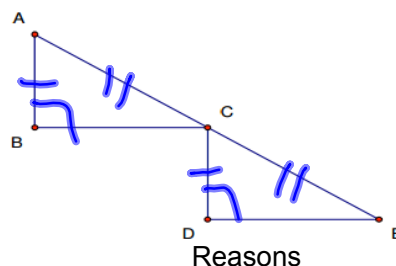
$$\overline{CD} \perp \overline{DE}$$

$$\overline{AB} \cong \overline{CD}$$

C is the midpoint of  $\overline{AE}$

Prove:

$$\triangle ABC \cong \triangle CDE$$



Statements

Reasons

1. $\overline{AB} \perp \overline{BC}$	1. Given
2. $\angle B = 90^\circ$	2. Def of $\perp$
3. $\overline{CD} \perp \overline{DE}$	3. Given
4. $\angle D = 90^\circ$	4. Def of $\perp$
5. $\triangle ABC$ & $\triangle CDE$ are rt. $\triangle$ s	5. Def of a right $\triangle$
6. $\overline{AB} \cong \overline{CD}$	6. Given
7. C is the mdpt of $\overline{AE}$	7. Given
8. $\overline{AC} \cong \overline{CE}$	8. Def of a midpoint
9. $\triangle ABC \cong \triangle CDE$	9. HL

**Classwork:**

Answer questions in notebook:

USE TWO-COLUMN METHOD FOR EACH PROOF

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