

14. To prove that right triangles are congruent, some geometry books also use the methods stated below. For each method, draw two right triangles that appear to be congruent. Mark the given information on your triangles. Use your marks to determine which of our methods (SSS, SAS, ASA, AAS, or HL) could be used instead of each method listed.

- Leg-Leg Method (LL)** If two legs of one right triangle are congruent to the two legs of another right triangle, then the triangles are congruent.
- Hypotenuse-Acute Angle Method (HA)** If the hypotenuse and an acute angle of one right triangle are congruent to the hypotenuse and an acute angle of another right triangle, then the triangles are congruent.
- Leg-Acute Angle Method (LA)** If a leg and an acute angle of one right triangle are congruent to the corresponding parts in another right triangle, then the triangles are congruent.

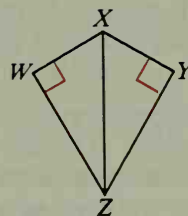
Written Exercises

- A 1. Supply the missing statements and reasons.

Given: $\angle W$ and $\angle Y$ are rt. \angle s;

$$\overline{WX} \cong \overline{YX}$$

Prove: $\overline{WZ} \cong \overline{YZ}$



Proof:

Statements	Reasons
1. $\angle W$ and $\angle Y$ are rt. \angle s.	1. ?
2. $\triangle XWZ$ and $\triangle XYZ$ are rt. \triangle s.	2. ?
3. $\overline{WX} \cong \overline{YX}$	3. ?
4. ?	4. Reflexive Prop.
5. $\triangle XWZ \cong \triangle XYZ$	5. ?
6. ?	6. ?

2. Place the statements in an appropriate order for a proof.

Given: $\overline{KL} \perp \overline{LA}$; $\overline{KJ} \perp \overline{JA}$;
 \overrightarrow{AK} bisects $\angle LAJ$.

Prove: $\overline{LK} \cong \overline{JK}$

(a) $\overline{KL} \perp \overline{LA}$; $\overline{KJ} \perp \overline{JA}$

(b) $\angle 1 \cong \angle 2$

(c) \overrightarrow{AK} bisects $\angle LAJ$.

(d) $m\angle L = 90$; $m\angle J = 90$

(e) $\overline{LK} \cong \overline{JK}$

(f) $\angle L \cong \angle J$

(g) $\triangle LKA \cong \triangle JKA$

(h) $\overline{KA} \cong \overline{KA}$

