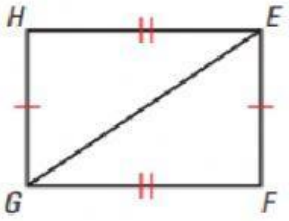
Name:

Proving Triangle Congruence using SSS and SAS

Drag and drop the boxes to fill in the blanks and complete the proof.

GIVEN ▶ $\overline{EF} \cong \overline{GH}$, $\overline{FG} \cong \overline{HE}$

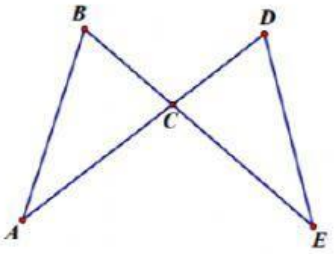
PROVE ▶ $\triangle EFG \cong \triangle GHE$



Statements	Reasons
1. $\overline{EF} \cong \overline{GH}$	1. _____
2. $\overline{FG} \cong \overline{HE}$	2. _____
3. $\overline{GE} \cong \overline{GE}$	3. _____
4. $\triangle EFG \cong \triangle GHE$	4. _____

Given | Given | Reflexive Property | SSS | SAS

Given: $\overline{BC} \cong \overline{DC}$; $\overline{AC} \cong \overline{EC}$
Prove: $\Delta BCA \cong \Delta DCE$



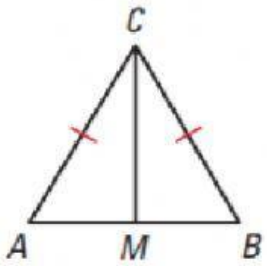
Statements	Reasons
1.	1. Given
2.	2. Vertical ∠s Theorem
3. $\Delta BCA \cong \Delta DCE$	3.

$\angle ACB \cong \angle ECD$ | SAS | $\overline{BC} \cong \overline{DC}$ | $\overline{AC} \cong \overline{EC}$ | SSS

. **GIVEN** ▶ $\overline{AC} \cong \overline{BC}$,

M is the midpoint of $\overline{AB}$.

PROVE ▶ $\triangle ACM \cong \triangle BCM$



Statements	Reasons
1.	1. Given
2.	2. Given
3. $\overline{AM} \cong \overline{MB}$	3.
4. $\overline{CM} \cong \overline{CM}$	4.
5. $\triangle ACM \cong \triangle BCM$	5.

$\overline{AC} \cong \overline{BC}$	Reflexive Property	SAS
Definition of midpoint	M *is the midpoint of* $\overline{AB}$	SSS