

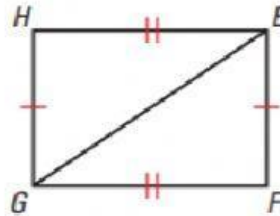
Name: _____

Proving Triangle Congruence using SSS and SAS

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

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

PROVE $\triangleright \triangle EFG \cong \triangle GHE$



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

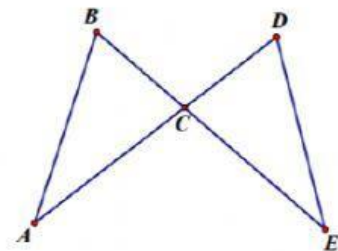
SSS

SAS

Given: $\overline{BC} \cong \overline{DC}; \overline{AC} \cong \overline{EC}$

Prove: $\triangle BCA \cong \triangle DCE$

Statements	Reasons
1.	1. Given
2.	2. Vertical $\angle$ s Theorem
3. $\triangle BCA \cong \triangle DCE$	3.



$\angle ACB \cong \angle ECD$

SAS

$\overline{BC} \cong \overline{DC}$

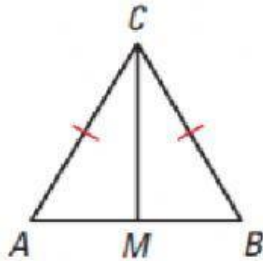
$\overline{AC} \cong \overline{EC}$

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