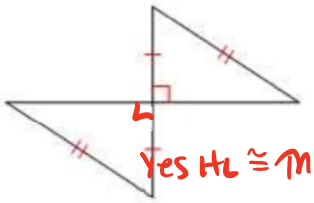
HL

Hw Section 4.4

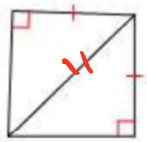
State if the two triangles are congruent. If they are, state why.

1.



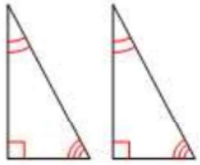
Yes HL ≅ Theorem

2.



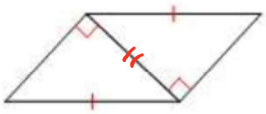
Yes HL ≅ Theorem

3.



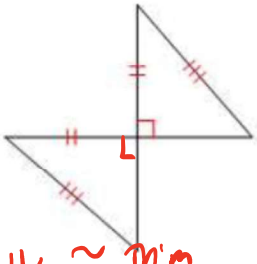
NO

4.



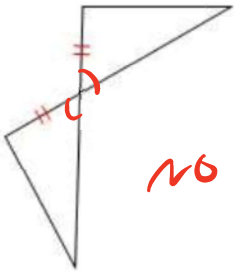
Yes HL ≅ Theorem

5.



Yes HL ≅ Th'm

6.



NO

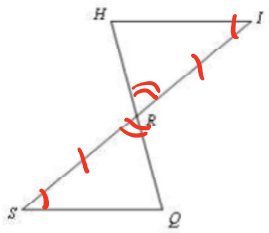
Mark the picture. Answer the question. Prove it.

7.

Given: R **is the midpoint of** $\overline{SI}$

$\angle S \cong \angle I$

Prove: $\angle Q \cong \angle H$



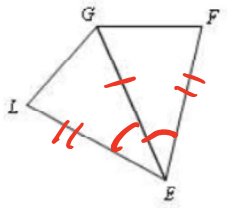
WHY ARE THE TWO TRIANGLES CONGRUENT? ASA

STATEMENTS	REASONS
R is the midpoint of $\overline{SI}$ $\angle S \cong \angle I$	Given
$\overline{SR} \cong \overline{RI}$	Midpoint Theorem
$\angle HRI \cong \angle SRQ$	Vertical $\angle$s Theorem
$\triangle SRQ \cong \triangle IRH$	ASA ≅ Postulate
$\angle Q \cong \angle H$	CPCTC

Mark the picture. Answer the question. Prove it.

8.
Given: $\overline{GE}$ **is the angle bisector of** $\angle LEF$
$\overline{LE} \cong \overline{FE}$

Prove: $\overline{LG} \cong \overline{FG}$

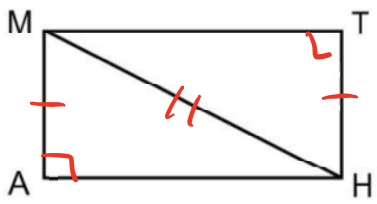


WHY ARE THE TWO TRIANGLES CONGRUENT? SAS

STATEMENTS	REASONS
$\overline{GE}$ is the angle bisector of $\angle LEF$ $\overline{LE} \cong \overline{FE}$	GIVEN
$\angle LEG \cong \angle FEG$	Def'n of angle bisector
$\overline{GE} \cong \overline{GE}$	Congruence of segments is Reflexive
$\triangle LEG \cong \triangle FEG$	SAS $\cong$ Postulate
$\overline{LG} \cong \overline{FG}$	CPCTC

9.
Given: $\angle A$ **and** $\angle T$ **are right angles**
$\overline{MA} \cong \overline{TH}$

Prove: $\angle MHA \cong \angle HMT$



WHY ARE THE TWO TRIANGLES CONGRUENT? HL

STATEMENTS	REASONS
$\angle A$ and $\angle T$ are right angles $\overline{MA} \cong \overline{TH}$	Given
$\angle A \cong \angle T$	All right angles are congruent
$\overline{MH} \cong \overline{MH}$	Congruence of segments is reflexive
$\triangle MAH$ & $\triangle HTA$ are right $\triangle$s	Def'n of right $\triangle$
$\triangle MAH \cong \triangle HTM$	HL Theorem
$\angle MHA \cong \angle HMT$	CPCTC