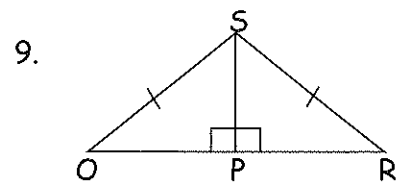
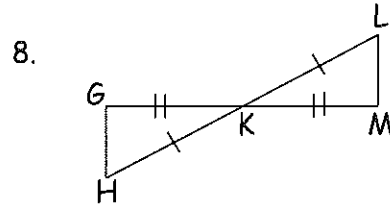
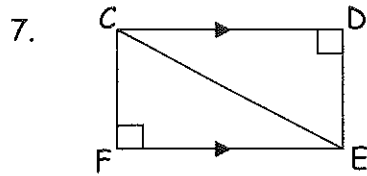
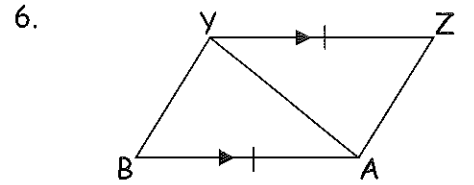
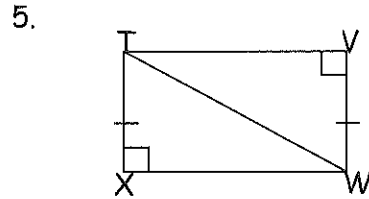
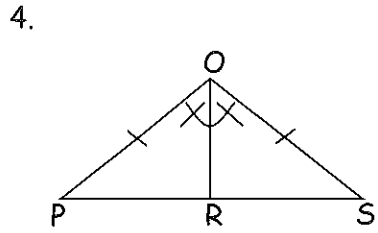
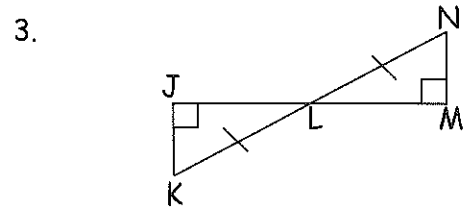
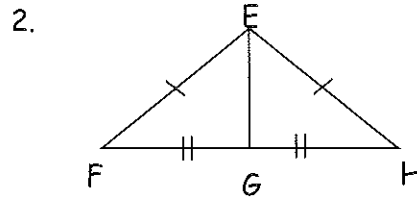
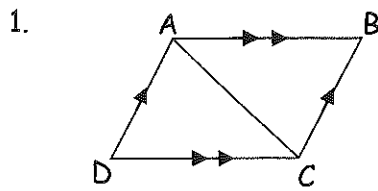


Congruent Triangles

Worksheet

Name _____

Write a triangle congruency statement.



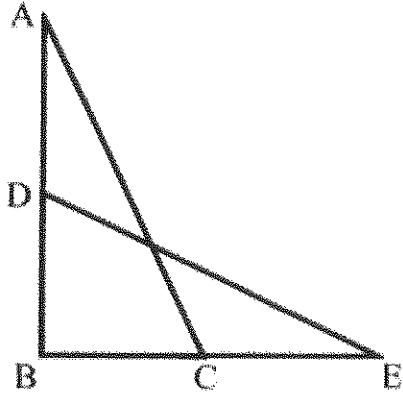
For each of the following problems, draw and label a figure to show the congruent triangles.

10. If $\triangle CAT \cong \triangle DOG$, $CA = 14$, $AT = 18$, $TC = 21$ and $DG = 2x + 7$, find the value of x .

11. If $\triangle JKL \cong \triangle ABC$, $m\angle J = 37^\circ$, $m\angle B = 64^\circ$, and $m\angle C = (3x + 52)^\circ$, find the value of x .

12. If $\triangle PQR \cong \triangle CDE$, PQ is 10 less than 3 times a number, PR is 2 less than twice the number, DE is 5 more than the number, CD is 4 more than the number, find PQ and CE .

13. If $\triangle ABC \cong \triangle RST$, $m\angle A$ is 5 more than twice a number, $m\angle S$ is 15 less than the number, and $m\angle T$ is 28 more than 3 times the number, find the measures of each of the angles in the triangles.



Given: $\angle A \cong \angle E$

$\overline{AB} \cong \overline{BE}$

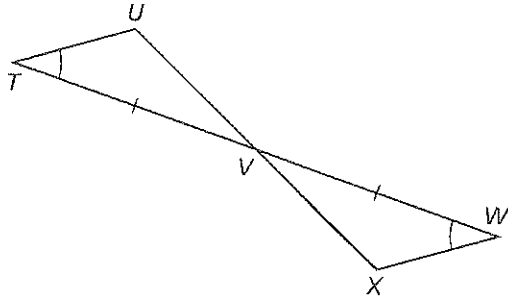
Prove: $\overline{AD} \cong \overline{EC}$

5.7 Notetaking with Vocabulary (continued)

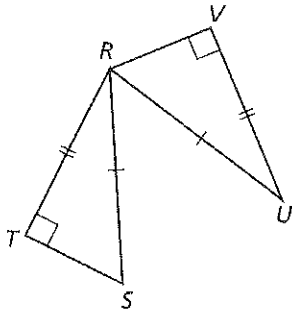
Extra Practice

In Exercises 1–3, explain how to prove that the statement is true.

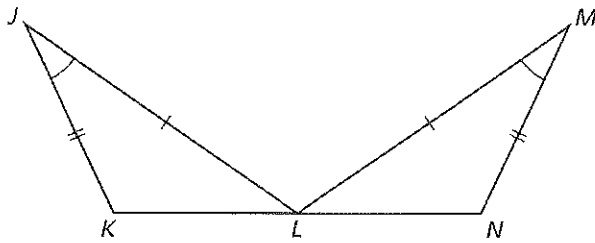
1. $\overline{UV} \cong \overline{XV}$



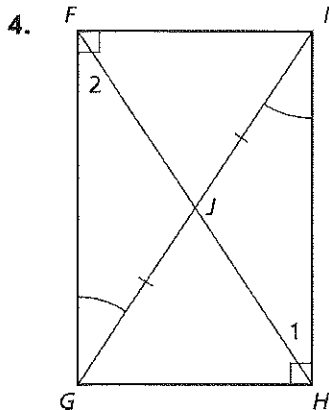
2. $\overline{TS} \cong \overline{VR}$



3. $\angle JLK \cong \angle MLN$



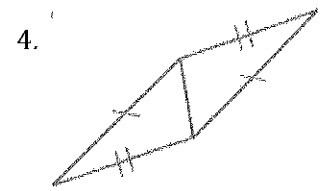
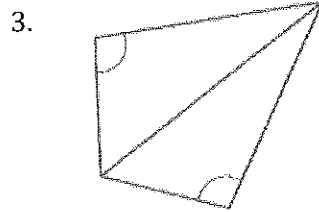
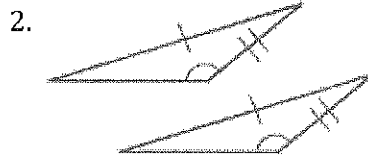
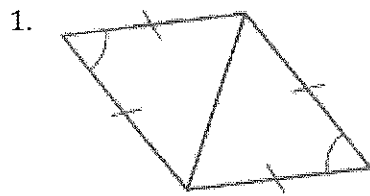
In Exercises 4 and 5, write a plan to prove that $\angle 1 \cong \angle 2$.



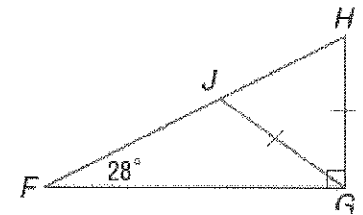
Proving Congruence
Worksheet

Name _____ Period _____

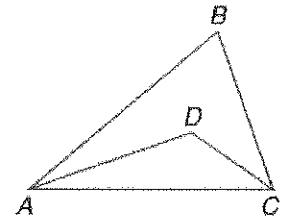
For #1-4, determine which postulate can be used to prove that the triangles are congruent. If it is not possible to prove that they are congruent, write *not possible*.



5. In the figure, $\triangle FHG$ is a right triangle. What is the measure of $\angle JGH$? Show all work.



6. In $\triangle ABC$, \overline{AD} and \overline{DC} are angle bisectors and $m\angle B = 64^\circ$ and $m\angle BCA = 76^\circ$. What is the measure of $\angle ADC$? Show all work.



For # 7-12, \overline{BD} and \overline{AE} are angle bisectors and segment bisectors. Name the indicated segments and angles.

- 7. segment congruent to \overline{EC}
- 8. angle congruent to $\angle ABD$
- 9. angle congruent to $\angle BDC$
- 10. segment congruent to \overline{AD}
- 11. angle congruent to $\angle BAE$
- 12. angle congruent to $\angle BXA$

