Lesson 4.5 • Are There Other Congruence Shortcuts?

Name ___________________________ Period ___________ Date _______________

In Exercises 1–6, name a triangle congruent to the given triangle and state the congruence conjecture. If you cannot show any triangles to be congruent from the information given, write “cannot be determined” and explain why.

1. \( \triangle PIT \equiv \triangle \)___ 
   
   \( \text{SSA - cannot be determined} \)

2. \( \triangle XWV \equiv \triangle \)___ 
   
   \( \text{AAS} \)

3. \( \triangle ECD \equiv \triangle \)___  
   
   \( \text{ASA or AAS} \)

4. \( \overline{PS} \) is the angle bisector of \( \angle QPR \).
   \( \triangle PQS \equiv \triangle \)___  
   
   \( \text{ASA} \)

5. \( \triangle ACN \equiv \triangle \)___  
   
   \( \text{AAS} \)

6. \( \triangle EGH \) is a parallelogram.
   \( \triangle EQG \equiv \triangle \)___  
   
   \( \text{ASA or AAS} \)

7. The perimeter of \( \triangle QRS \) is 350 cm. Is \( \triangle QRS \equiv \triangle MOL \)? Explain.
   
   \( \text{Yes} \)  
   
   \( \triangle QRS \equiv \triangle MOL \)  
   
   \( \text{SSS} \)

8. The perimeter of \( \triangle TUV \) is 95 cm. Is \( \triangle TUV \equiv \triangle WXV \)? Explain.
   
   \( \text{No} \)  
   
   Corresponding sides \( \overline{TV} \) and \( \overline{WV} \) are not congruent.

In Exercises 9 and 10, construct a triangle with the given parts. Then, if possible, construct a different (noncongruent) triangle with the same parts. If it is not possible, explain why not.

9. 

10. 

only one - \( \text{ASA} \)

only one triangle \( \text{AAS} \)