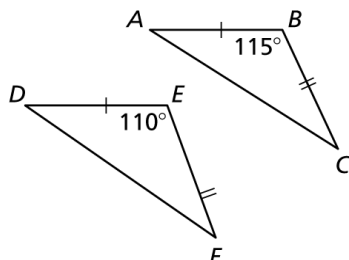


# 6.6

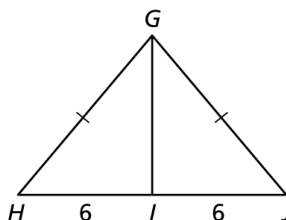
## Practice A

In Exercises 1–4, copy and complete the statement with  $<$ ,  $>$ , or  $=$ . Explain your reasoning.

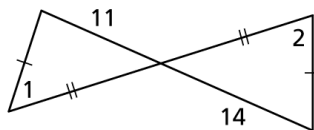
1.  $AC$  \_\_\_\_\_  $DF$



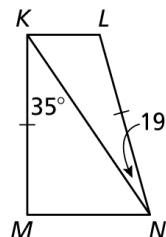
2.  $m\angle HGI$  \_\_\_\_\_  $m\angle IGJ$



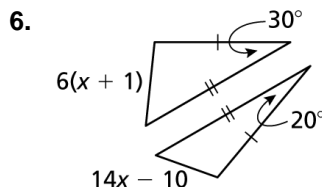
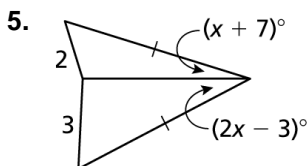
3.  $m\angle 1$  \_\_\_\_\_  $m\angle 2$



4.  $KL$  \_\_\_\_\_  $MN$



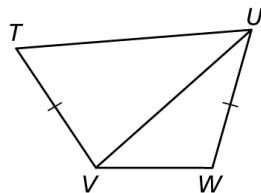
In Exercises 5 and 6, write and solve an inequality for the possible values of  $x$ .



In Exercises 7 and 8, write a proof.

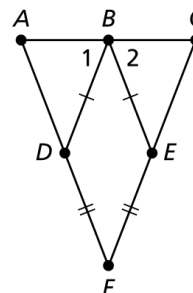
7. **Given:**  $\overline{TV} \cong \overline{UW}$ ,  $TU > VW$

**Prove:**  $m\angle TVU > m\angle WUV$

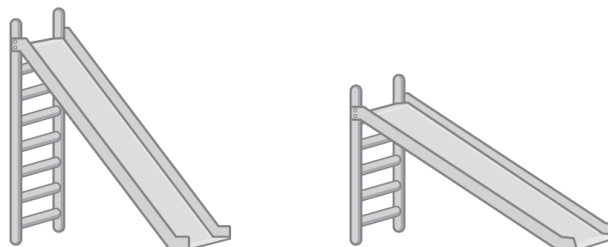


8. **Given:**  $m\angle 1 > m\angle 2$ ,  $B$  is the midpoint of  $AC$ .

**Prove:**  $AF > CF$



9. The figure shows two sliding boards. The slide is the same length in each case, but one is steeper than the other. Can you apply the Hinge Theorem (Theorem 6.12) or the Converse of the Hinge Theorem (Theorem 6.13) in this problem? Explain your reasoning.

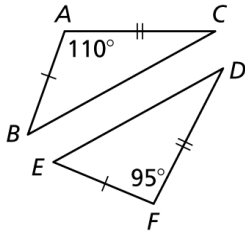


# 6.6

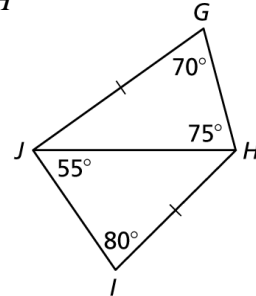
## Practice B

In Exercises 1–4, copy and complete the statement with  $<$ ,  $>$ , or  $=$ . Explain your reasoning.

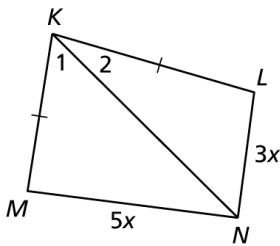
1.  $BC$  \_\_\_\_\_  $DE$



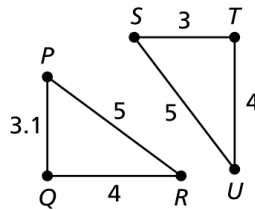
2.  $JI$  \_\_\_\_\_  $GH$



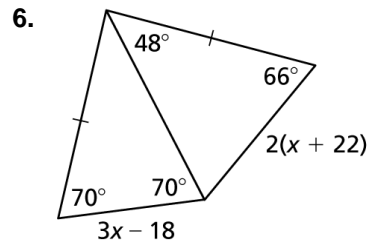
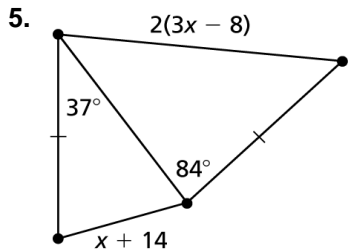
3.  $m\angle 1$  \_\_\_\_\_  $m\angle 2$



4.  $m\angle U$  \_\_\_\_\_  $m\angle R$



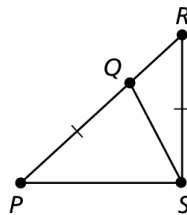
In Exercises 5 and 6, write and solve an inequality for the possible values of  $x$ .



7. Use the figure to write a proof.

**Given:**  $\overline{PQ} \cong \overline{SR}$

**Prove:**  $m\angle PQS > m\angle RSQ$



8. Two sailboats started at the same location. Sailboat A traveled 5 miles west, then turned  $29^\circ$  toward the north and continued for 8 miles. Sailboat B first went south for 8 miles, then turned  $51^\circ$  toward the east and continued for 5 miles. Which sailboat was farther from the starting point? Explain your reasoning.

9. How are the Hinge Theorem (Theorem 6.12) and the SAS Congruence Theorem (Theorem 5.5) similar? How are they different? Explain your reasoning.