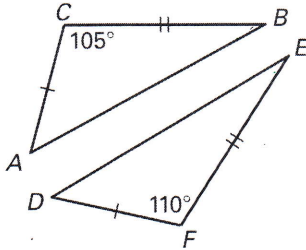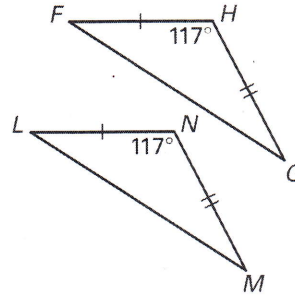# Practice – Hinge Theorem

Complete with <, >, or = .
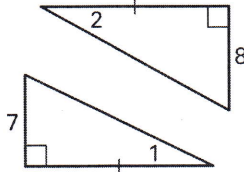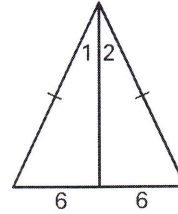
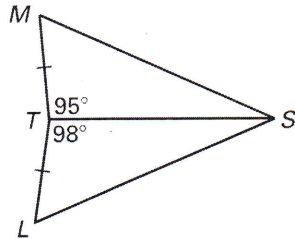**1.** AB ____ DE

2. FG ____ LM

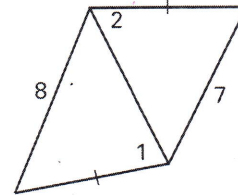**3.** $m\angle 1$ ____ $m\angle 2$

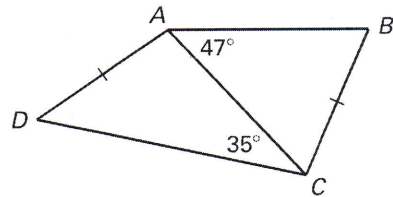**4.** $m\angle 1$ ____ $m\angle 2$

5. MS ____ LS

6. $m\angle 1$ ____ $m\angle 2$

7. Error Analysis *Explain* why the student's reasoning is not correct.

By the Hinge Theorem, $AB > DC$.

Name _____ Date _____

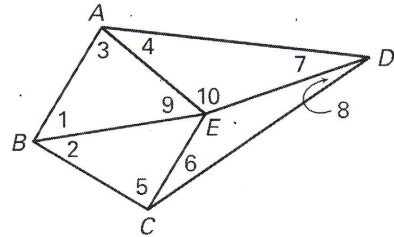# Practice *continued*

Match the conclusion on the right with the given information.
***Explain* your reasoning.**

8. $AB = BC, m\angle 1 > m\angle 2$ **A.** $m\angle 7 > m\angle 8$

9. $AE > EC, AD = CD$ **B.** $AD > AB$

10. $m\angle 9 < m\angle 10, BE = ED$ **C.** $m\angle 3 + m\angle 4 = m\angle 5 + m\angle 6$

11. $AB = BC, AD = CD$ **D.** $AE > EC$

Use the Hinge Theorem or its converse and properties of triangles to write and solve an inequality to describe a restriction on the value of *x*.

12.

13.

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