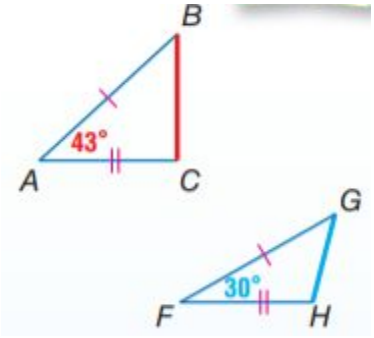
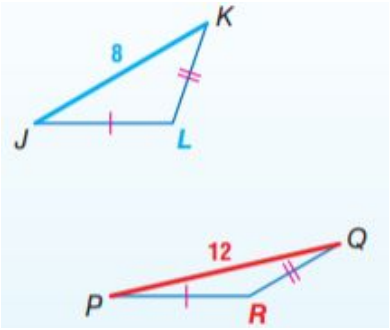
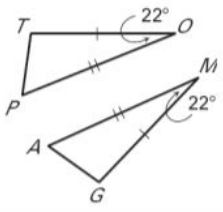
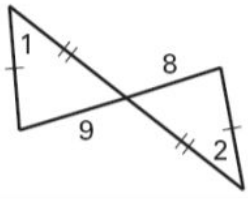
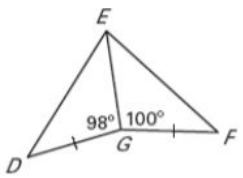
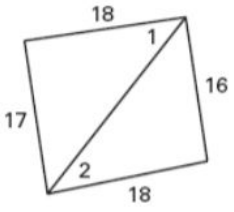
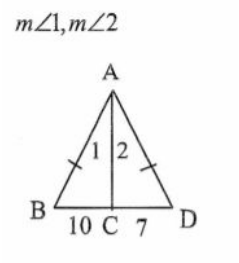
Hinge Theorem	If two sides of a triangle are congruent to two sides of another triangle, and the included angle of the first is larger than the included angle of the second triangle, then the third side of the first triangle is longer than the third side of the second triangle	 If $\overline{AB} \cong \overline{FG}$, $\overline{AC} \cong \overline{FH}$, and $m\angle A > m\angle F$, then $BC > GH$.
Converse of the Hinge Theorem	If two sides of a triangle are congruent to two sides of another triangle, and the third side in the first is longer than the third side in the second triangle, then the included angle measure of the first triangle is great than the included angle measures in the second triangle.	 If $\overline{JL} \cong \overline{PR}$, $\overline{KL} \cong \overline{QR}$, and $PQ > JK$, then $m\angle R > m\angle L$.

Complete the following statements with <, >, or =

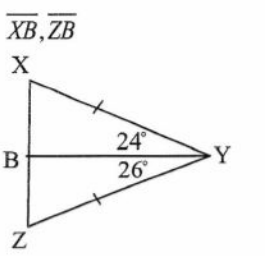
1. TP_____AG	2. m∠1_____m∠2	3.DE_____EF	4. m∠1_____m∠2
			

5. Refer to the figures below and write an inequality for the given pair of angles or sides.

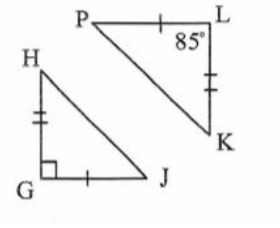
a. $m\angle 1, m\angle 2$



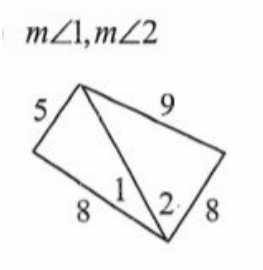
b. $\overline{XB}, \overline{ZB}$



c. $\overline{HJ}, \overline{KP}$



d. $m\angle 1, m\angle 2$



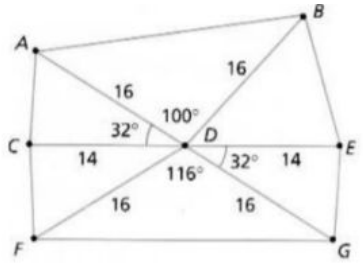
6. Complete the following statements with a $<$, $>$, *or* $=$'

b. AC _____ EG

c. AB _____ FG

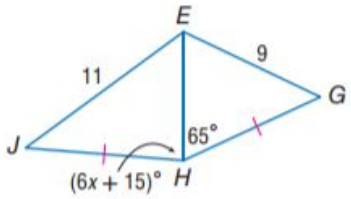
d. If $BE = 12$ and $EG = 8$ then $m\angle BDE$ _____ $m\angle EDG$

e. If $EG = 8$ and $CF = 8$ then $m\angle CDF$ _____ $m\angle EDG$

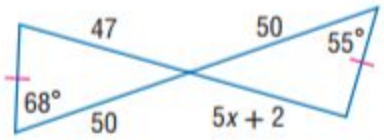


7. Find the range of possible values for x:

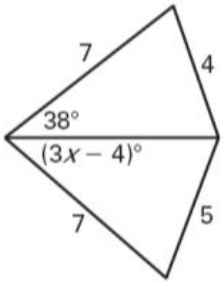
b.



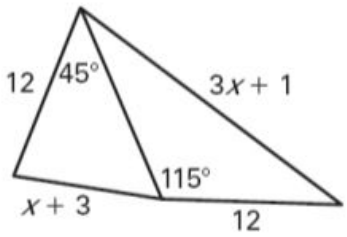
c.



d.



e.



f.