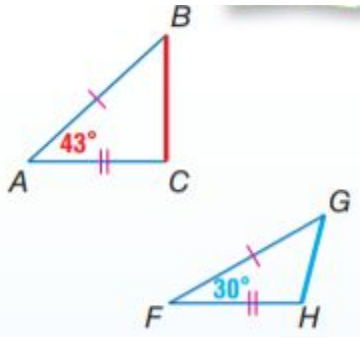
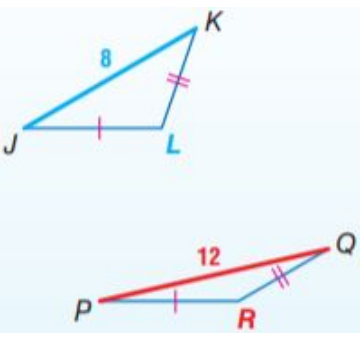
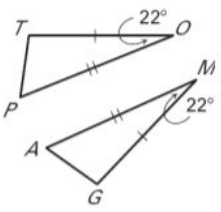
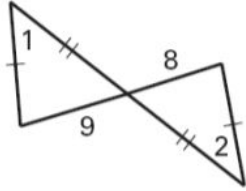
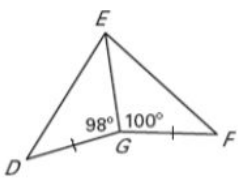
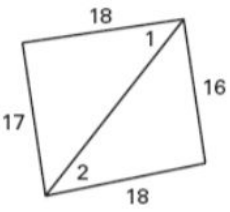
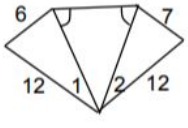
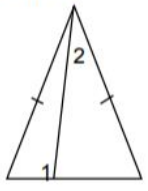
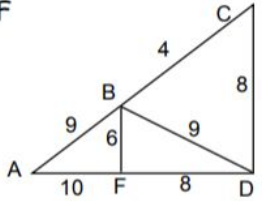
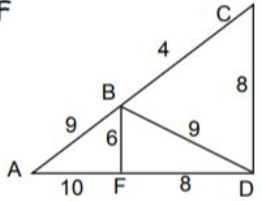


5.6 Inequalities in Two Triangles

<p>Hinge Theorem</p>	<p>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</p>	 <p>If <math>\overline{AB} \cong \overline{FG}</math>, <math>\overline{AC} \cong \overline{FH}</math>, and <math>m\angle A &gt; m\angle F</math>, then <math>BC &gt; GH</math>.</p>
<p>Converse of the Hinge Theorem</p>	<p>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 greater than the included angle measure of the second triangle.</p>	 <p>If <math>\overline{JL} \cong \overline{PR}</math>, <math>\overline{KL} \cong \overline{QR}</math>, and <math>PQ &gt; JK</math>, then <math>m\angle R &gt; m\angle L</math>.</p>

Complete the following statements with  $<$ ,  $>$ , or  $=$

<p>1. <math>TP</math> _____ <math>AG</math></p> 	<p>2. <math>m\angle 1</math> _____ <math>m\angle 2</math></p> 	<p>3. <math>DE</math> _____ <math>EF</math></p> 	<p>4. <math>m\angle 1</math> _____ <math>m\angle 2</math></p> 
<p>5. <math>m\angle 1</math> _____ <math>m\angle 2</math></p> 	<p>6. <math>m\angle 1</math> _____ <math>m\angle 2</math></p> 	<p>7. <math>m\angle DBF</math> _____ <math>m\angle ABF</math></p> 	<p>8. <math>m\angle FDB</math> _____ <math>m\angle BDC</math></p> 

5.6 Inequalities in Two Triangles

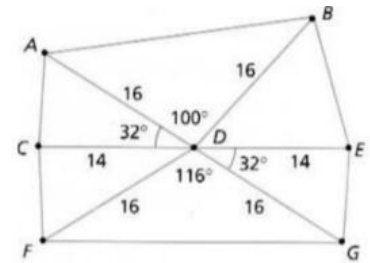
9. Complete the following statements with a  $<$ ,  $>$ , or  $=$

a.  $AC$  \_\_\_\_\_  $EG$

b.  $AB$  \_\_\_\_\_  $FG$

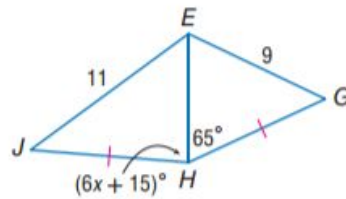
c. If  $BE = 12$  and  $EG = 8$  then  $m\angle BDE$  \_\_\_\_\_  
 $m\angle EDG$

d. If  $EG = 8$  and  $CF = 8$  then  $m\angle CDF$  \_\_\_\_\_  
 $m\angle EDG$

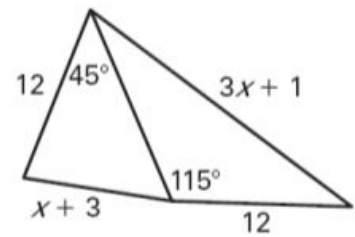


10. Find the range of possible values for  $x$ :

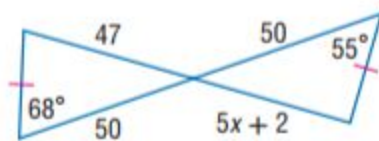
a.



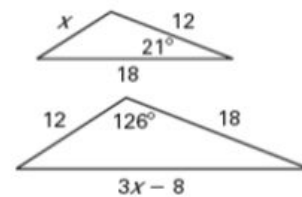
d.



b.



e.



c.

