

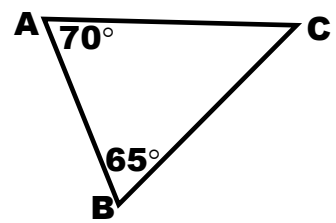
NAME \_\_\_\_\_ DATE \_\_\_\_\_ PER. \_\_\_\_\_

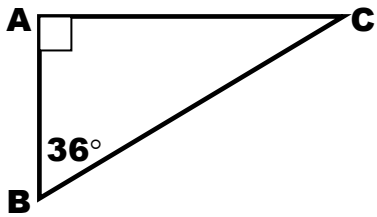
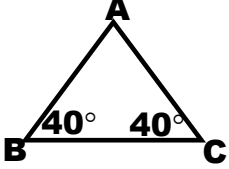
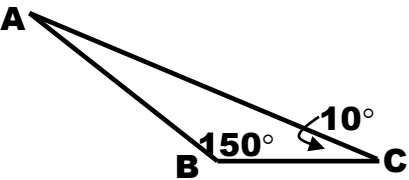
### TRIANGLE INEQUALITIES

**Is it possible for a triangle to have sides with the following lengths? If YES, classify the triangle by its sides.**

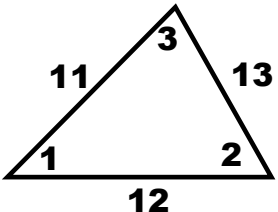
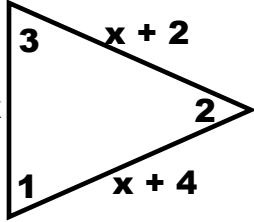
1. YES or NO Classification: _____	Side lengths: 20, 9, 8
2. YES or NO Classification: _____	Side lengths: 3, 4, 5
3. YES or NO Classification: _____	Side lengths: 9, 12, 15
4. YES or NO Classification: _____	Side lengths: 6, 6, 20
5. YES or NO Classification: _____	Side lengths: 15, 15, 0.03
6. YES or NO Classification: _____	Side lengths: 5, 5, 10.2

**Name the longest segment in each of the following triangles.**

7. _____	 <p style="text-align: center;"> <math>\angle A = 70^\circ</math>  <math>\angle B = 65^\circ</math> </p>
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<p>8. _____</p>	
<p>9. _____</p>	
<p>10. _____</p>	

Name the largest angle in each of the following.

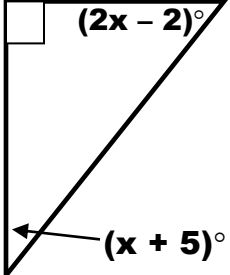
<p>11. _____</p>	
<p>12. _____</p>	

List the sides of  $\triangle ABC$  in order from longest to shortest if the angles of  $\triangle ABC$  have the indicated measures.

<p>13. Sides:</p>	<p><math>m\angle A = (5x + 2)^\circ</math>, <math>m\angle B = (6x - 10)^\circ</math>, and <math>m\angle C = (x + 20)^\circ</math>.</p>
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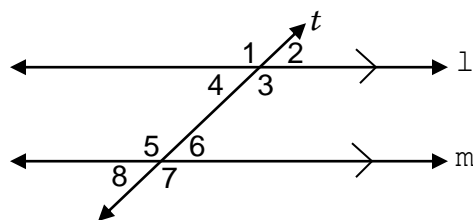
14. Sides:	$m\angle A = (x + 16)^\circ$ , $m\angle B = (x)^\circ$ , and $m\angle C = (x + 29)^\circ$ .
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**REVIEW PROBLEMS**

15. _____	<p>Find the missing angles.</p> 
<p>16. TL = _____</p> <p>LC = _____</p>	<p>L is between T and C. If <math>TL = x + 7</math>, <math>LC = 2x - 3</math>, and <math>TC = 25</math>, find TL and LC.</p>
17. _____	<p>Lines <math>m</math> and <math>n</math> are cut by a transversal so that <math>\angle 2</math> and <math>\angle 5</math> are corresponding angles. If <math>m\angle 2 = (x + 18)^\circ</math> and <math>m\angle 5 = (2x - 28)^\circ</math>, which value of <math>x</math> makes lines <math>m</math> and <math>n</math> parallel?</p> <p>A. <math>3\frac{1}{3}</math></p> <p>B. <math>33\frac{1}{3}</math></p> <p>C. 46</p> <p>D. 72</p>

18. \_\_\_\_\_

In the figure below, line  $t$  crosses parallel lines  $l$  and  $m$ . Which of the following statements are true?



- I.  $\angle 1$  and  $\angle 6$  are alternate interior angles.
  - II.  $\angle 2 \cong \angle 4$
  - III.  $\angle 2 \cong \angle 8$
- F. I only  
G. II only  
H. III only  
J. I and II only  
K. II and III only