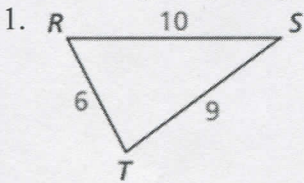


Honors Geometry – 6.5 TRIANGLE INEQUALITY DAY TWO CYU

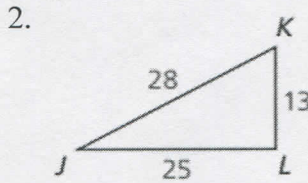
Use when you get it right all by yourself
S Use when you did it all by yourself, but made a silly mistake
H Use when you could do it alone with a little help from teacher or peer
G Use when you completed the problem in a group
X Use when a question was attempted but wrong (get help)
N Use when a question was not even attempted

CONCEPTS	BASIC	INTERMEDIATE	ADVANCED
Triangle or not a triangle	8 - 10		
Third side inequality	6	7	
Determining shortest & longest sides	3 - 5		
Determining smallest & largest angles	1, 2		
Side & Angle inequality comparison	11	12	13, 14

List the angles of the given triangle from smallest to largest.

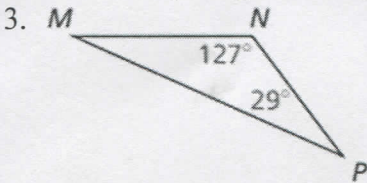


$\angle S, \angle R, \angle T$

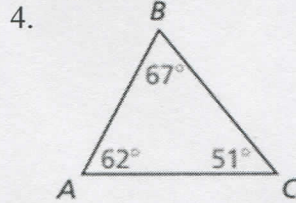


$\angle J, \angle K, \angle L$

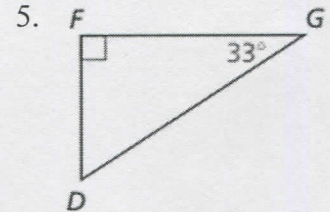
List the sides of the given triangle from shortest to longest.



$\overline{NP}, \overline{MN}, \overline{MP}$



$\overline{AB}, \overline{BC}, \overline{AC}$



$\overline{FD}, \overline{FG}, \overline{DG}$

Write an inequality for the range of possible lengths of the third side of the triangle given the lengths of the other two sides.

6. 5 inches & 12 inches

$7\text{in} < x < 17\text{in}$

7. 2 feet & 40 inches

$16\text{in} < x < 64\text{in}$

Is it possible to construct a triangle with the given side lengths? If not, explain why not.

8. 6, 7, 11

yes

9. 3, 6, 9

no; $3+6 \not> 9$

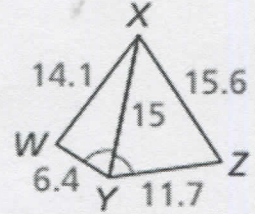
10. 28, 17, 46

no; $28+17 \not> 46$

11. **REASONING** In the figure, \overline{XY} bisects $\angle WYZ$. List all six angles of $\triangle XYZ$ and $\triangle WXY$ in order from smallest to largest. Explain your reasoning.

$\angle WXY$
 $\angle YXZ$
 $\angle Z$
 $\angle WYX$
 $\angle XYZ$

$\triangle WXY$ is largest \triangle



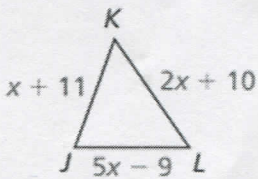
12. **MATHEMATICAL CONNECTIONS** In $\triangle DEF$, $m\angle D = (x + 25)^\circ$, $m\angle E = (2x - 4)^\circ$, and $m\angle F = (63)^\circ$. List the side lengths and angle measures of the triangle in order from least to greatest.

$x = 32$
 $m\angle D = 57^\circ$
 $m\angle E = 60^\circ$
 $m\angle F = 63^\circ$

$m\angle D < m\angle E < m\angle F$
 so ...
 $EF < DF < DE$

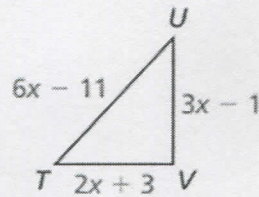
Describe the possible values of x .

13.



$2 < x < 15$

14.



$\frac{15}{7} < x < 13$

CYU Reflection: How far can you go: basic, intermediate, or advanced?

Rate your mastery level!

How confident are you with the skills this CYU covered? Circle the score you would give yourself.

● ● ● ● ● ● ●

1	2	3	4	5	6	7	8
Basic		Intermediate			Advanced		Solved ALL!

➔