NAME: Key Date _____ Pd _____

Honors Geometry – 6.5 TRIANGLE INEQUALITY DAY ONE 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	1a, 1d, 1f	1b, 1c, 1f	
Third side inequality	2a, 2c	2b	
Determining shortest & longest sides		4, 5	3
Determining smallest & largest angles		4, 5	
Side & Angle inequality comparison		6, 7	

1. Determine whether it is possible to form a triangle with the given side lengths. Show work for full credit.

   a. 5, 12, 8 ✓

   b. $\frac{1}{2}, \frac{7}{8}, \frac{1}{4}$ X

   c. $\frac{1}{6}, \frac{5}{12}, \frac{1}{3}$ ✓

   d. 4, 6, 2 X

   e. $\frac{3}{7}, \frac{5}{14}, 1$ X

   f. 8, 7, 5 ✓

2. The measures of two sides of a triangle are given. Between what two numbers must the third side fall? Write an inequality to show the reasonable range for the side lengths of your triangle.

   a. 4 and 13 $9 < x < 17$

   b. $\frac{1}{6}$ and $\frac{5}{9}$ $\frac{17}{18} < x < \frac{13}{18}$

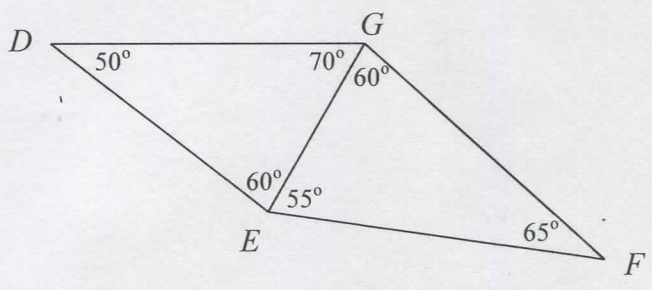
   c. 2 and 28 $26 < x < 30$

3. Refer to the figure at the right.

   a. Name the longest side in ΔDEG. $\overline{DE}$

   b. Name the shortest side in ΔGEF. $\overline{GF}$

   c. Name the shortest side of the figure. $\overline{GF}$



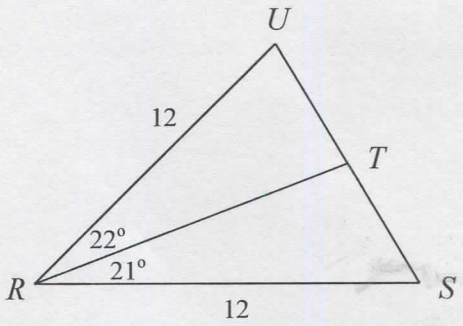
4. List the angles of ΔKLM in order from least to greatest if $KL = x-4$, $LM = x+4$, $KM = 2x-1$ and the perimeter of ΔKLM is 27.

$\angle M ; \angle K ; \angle L$

5. List the sides of ΔKLM in order from least to greatest if $m\angle K = (3x-2)^\circ$, $m\angle L = (4x+14)^\circ$, $m\angle M = 7x^\circ$.

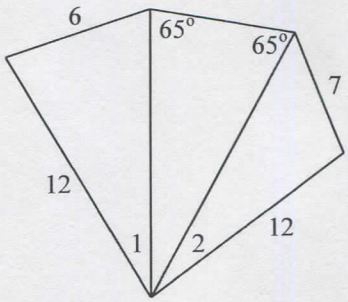
$\overline{LM} ; \overline{KM} ; \overline{KL}$

6. Write an inequality relating the given pair of segments or angle measures. Give the reason for your conclusion.



a. $\overline{UT}$ ___>___ $\overline{ST}$ $(<,>,=)$.

Reason: $22 > 21$

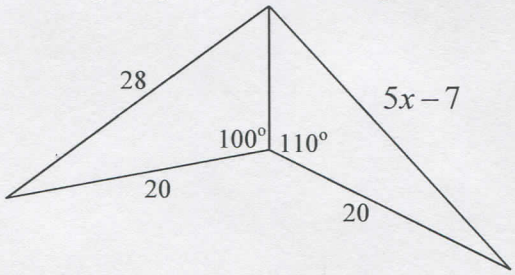


b. $m\angle 1$ ___<___ $m\angle 2$ $(<,>,=)$.

Reason: $7 > 6$

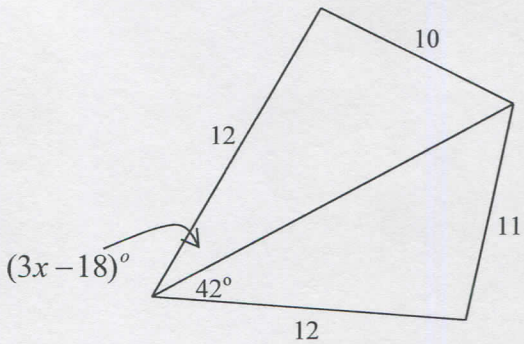
7. Write an inequality to describe the possible values of x.

a.



$7 < x$

b.



$6 < x < 20$

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!