

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

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

d. 4, 6, 2

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

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

b. $\frac{1}{6}$ and $\frac{5}{9}$

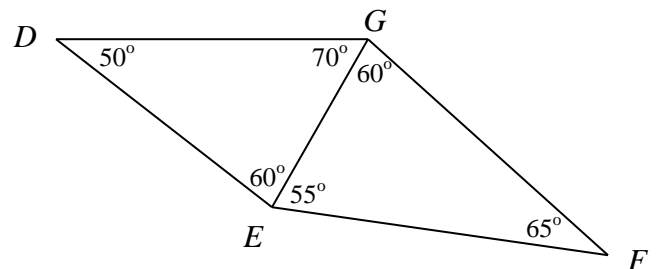
c. 2 and 28

3. Refer to the figure at the right.

a. Name the longest side in $\triangle DEG$.

b. Name the shortest side in $\triangle GEF$.

c. Name the shortest side of the figure.



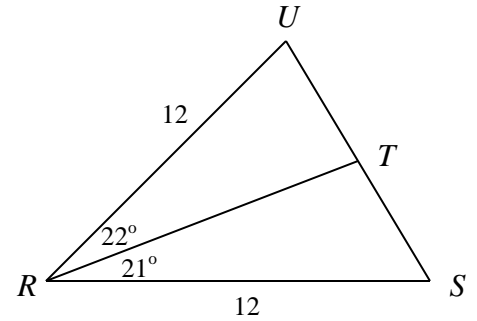
4. List the angles of $\triangle KLM$ in order from least to greatest if $KL = x - 4$, $LM = x + 4$, $KM = 2x - 1$ and the perimeter of $\triangle KLM$ is 27.

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

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

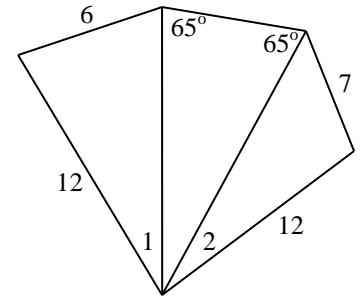
a. \overline{UT} _____ \overline{ST} ($<$, $>$, $=$).

Reason:



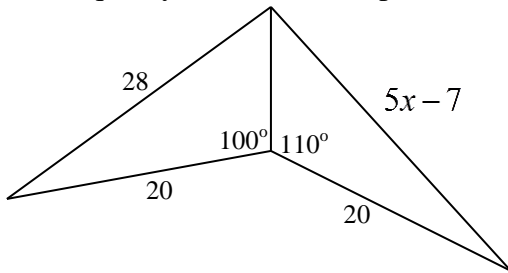
b. $m\angle 1$ _____ $m\angle 2$ ($<$, $>$, $=$).

Reason:

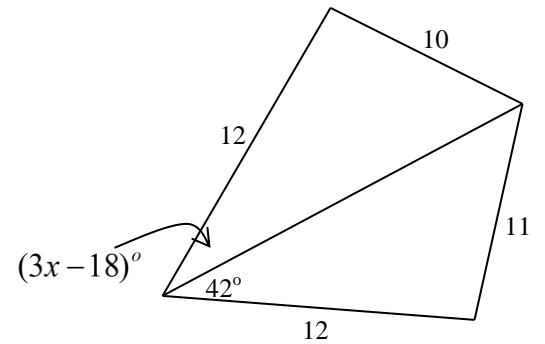


7. Write an inequality to describe the possible values of x .

a.



b.



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!

