Unit: Angles & Triangles
Student Handout 4

Name _____

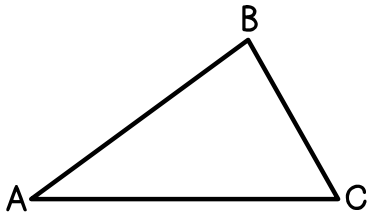
Date _____Pd_____

SIDE LENGTHS OF TRIANGLES

SIDE LENGTHS OF A TRIANGLE

- Triangles can be named by their sides and described by the terms _____, _____, and _____.
- The side length of a triangle corresponds with the angle measure _____ the side.

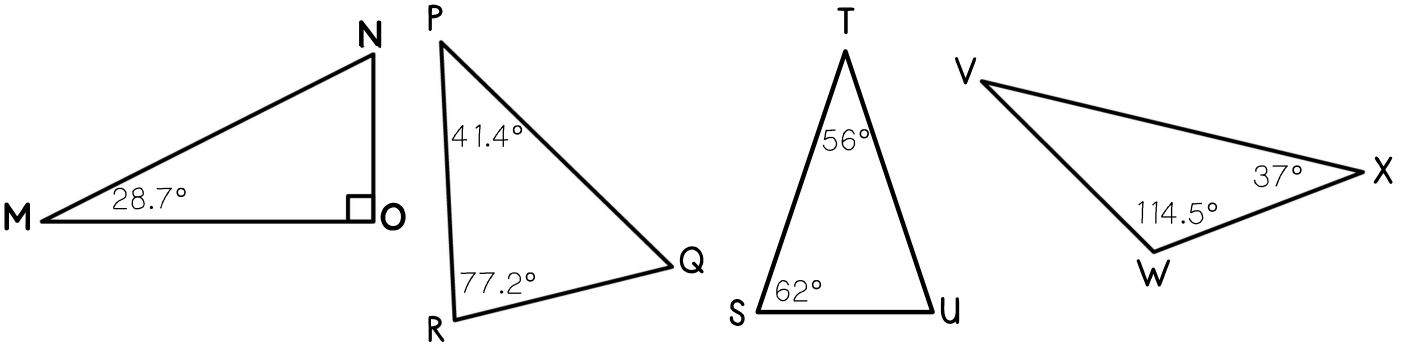
Ex: Triangle ABC is shown at the right.



- Side AB corresponds with angle _____.
- Side BC corresponds with angle _____.
- Side CA corresponds with angle _____.

- The smallest angle will be opposite the _____ side, while the largest angle will be opposite the _____ side.
- A side is _____ to another side if it has an equal length.

1. Use the triangles below to answer the questions about side length.



a. Which side corresponds to angle TUS? _____

b. Which side corresponds to angle VXW? _____

c. Which side length will be the smallest in triangle PQR? _____

d. Which side length will be the largest in triangle MNO? _____

TRIANGLE INEQUALITY THEOREM

- For a triangle to be formed, the sum of any _____ side lengths must be _____ the length of the third side.
- If the line segments satisfy those conditions, then exactly _____ _____ triangle is formed.

Ex: Triangle ABC has side lengths of AB = 7 cm and BC = 9 cm.

1. the greatest AC could be is _____
2. the shortest AC could be is _____
3. _____

©Maneuvering the Middle LLC, 2016

Use your understanding of triangles to answer the following questions.

2. Three line segments have measures of 13 units, 7 units, and 5 units. Will the segments form a triangle?	3. Three line segments have measures of 4 units, 6 units, and 8 units. Will the segments form a triangle?
1: _____ 2: _____ 3: _____	1: _____ 2: _____ 3: _____
Does it form a triangle?	Does it form a triangle?

Measure the line segments below to the nearest inch. Use the table to determine which sets of line segments form a triangle. Justify your response.

LINE A

LINE B

LINE C

LINE D

LINE E

LINE F

LINE SEGMENTS	TRIANGLE?	HOW DO YOU KNOW?
A, B, D		
A, E, C		
A, C, D		
B, F, E		
D, B, F		

4. Mr. Stewart gives his students 3 straws that measure 10 inches, 12 inches and 18 inches. Ryan says that there is only one unique way to arrange the straws to form a triangle. Marcy says there are many ways to arrange the straws to form a triangle. Which student is correct? Explain.

_____

_____

©Maneuvering the Middle LLC, 2016

Unit: Angles & Triangles
Homework 4

Name _____

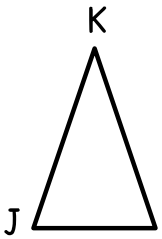
Date _____Pd_____

SIDE LENGTHS OF A TRIANGLE

Students were asked to create true statements about side lengths of triangles. Circle the names of the students who correctly completed the task. Then, unscramble the underlined letters of the circled names to answer the riddle at the bottom.

BETHANY

side length KL corresponds with angle JKL

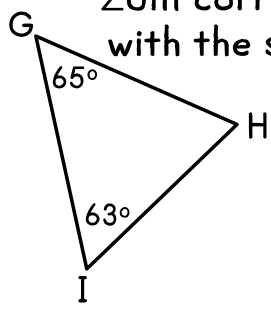


ISAIAH

Three side lengths of 23, 32, and 45 units will form exactly one unique triangle.

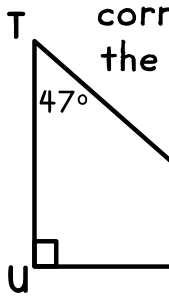
PABLO

∠GIH corresponds with the shortest side



QUINN

side length TV corresponds with the largest angle

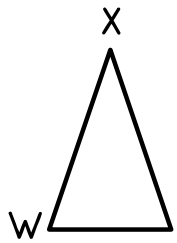


APRIL

If triangle QRS has side lengths of QR = 12.3 and RS = 8.8, then the greatest length side QS could be is 21.1.

TROY

side length WX corresponds with angle WYX

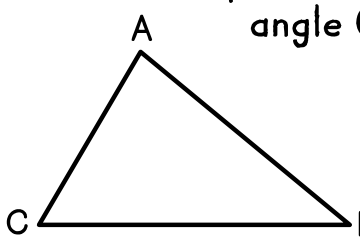


TRENT

Three side lengths of 6, 8, and 15 units will form a triangle.

SAMANTHA

side length BC corresponds with angle CAB



MEGAN

Three side lengths of 5.2, 6.3, and 10.5 units will form exactly one unique triangle.

WHAT KIND OF TRIANGLE IS NEVER WRONG?

_____

©Maneuvering the Middle LLC, 2016