TOPIC 5-2: TRIANGLE INEQUALITIES

Students are going to attempt to make triangles with different side lengths of 2 in, 3 in, 4 in, 5 in, and 6 in. on the Smart Board.

To do this, go to website: http://www.geogebratube.org/student/m8663

Fill in the chart with the results as each student comes to the board.

Sides			Classify by Sides	Sum of the two shorter sides	>, <, or =	Longest side	Could a triangle be made? YES or NO
2	2	2					
2	2	3					
2	3	4					
2	3	5					
2	3	6					
3	4	5					
3	3	6					
3	3	3					
3	3	4					
3	5	6					

What pattern did you discover?

EXAMPLES: Determine if the following sides will make a triangle and if yes, then classify by sides.

1. 8, 9, 10 yes or no _____

2. 1, 1, 2 yes or no _____

3. 6, 6, 10 yes or no _____

4. 3, 5, 7 yes or no _____

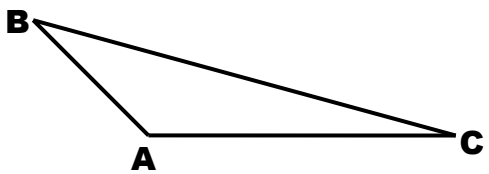
5. 4, 4, 4 yes or no _____

In a triangle…

*The **longest** side is opposite the **largest** angle.*

The shortest side is opposite the smallest angle.

EXAMPLE 6: **∠ A = 120°, ∠ B = 40°, ∠C = 20°**

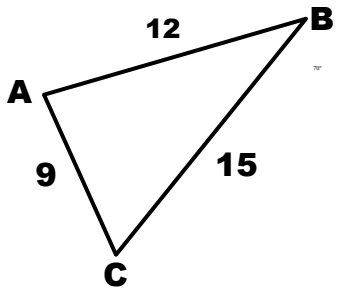


Longest side:

Shortest side:

EXAMPLE 7

Classify the triangle by sides, then list the angles from smallest to largest.



Classify:_____

Angles:_____, _____, _____

EXAMPLE 8

List the sides of ∆ABC in order from longest to shortest if the angles of ∆ABC have the indicated measures: m∠A = (10x)°, m∠B = (5x – 17)°, m∠C = (7x –1)°