**Topic: Triangles with Side Lengths**

**Examples: Can you make a triangle with the following side lengths?**

1. 3 , 5, 8 yes no why?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Sum \_\_\_\_\_\_ > \_\_\_\_\_\_\_\_ Third Side
2. 2, 3, 4 yes no why?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Sum \_\_\_\_\_\_ > \_\_\_\_\_\_\_\_ Third Side
3. 4, 4, 6 yes no why?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Sum \_\_\_\_\_\_ > \_\_\_\_\_\_\_\_ Third Side
4. 10, 15, 2 yes no why?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Sum \_\_\_\_\_\_ > \_\_\_\_\_\_\_\_ Third Side
5. 8, 12, 4 yes no why?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Sum \_\_\_\_\_\_ > \_\_\_\_\_\_\_\_ Third Side
6. 26, 19, 21 yes no why?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Sum \_\_\_\_\_\_ > \_\_\_\_\_\_\_\_ Third Side

 \_\_\_, \_\_\_, \_\_\_ Will make a triangle because: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
 \_\_\_, \_\_\_, \_\_\_ Will NOT make a triangle because: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Side Lengths:

When you know the 3 side lengths of a triangle, there is only 1 triangle that can be formed (one unique triangle).

**The Third-Side Rule-**

\*The sum of the two SHORTER sides must be greater than the length of the THIRD LONGEST side.

\*The third side of a triangle must be **smaller than the sum of the other two sides
 AND greater than the difference of the other two sides**

Writing Assignment: Write and or model how 3 side lengths make one unique triangle. Also include a description of when a triangle cannot be formed based on the side lengths. (5 sentence and 1 model minimum)