Triangle Inequality Theorem
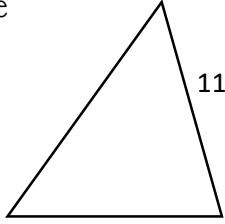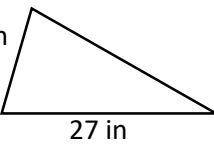
In order to form a triangle, the _____ of the lengths of two _____

MUST be _____ than the length of the third _____.

Could the following lengths be used to form a triangle? 2 9 10	Could the following lengths be used to form a triangle? 13 5 8	**Your turn:** Write three side lengths that would form a triangle.	**Helpful Hint:** First, add the two smaller side lengths. If their sum is GREATER than the longest side, then you know it *can* form a triangle.

What if you knew the length of two sides, could you determine a possible length for the third side?

- Find the sum of the two given side lengths.
- The third side would have to be _____ than the sum.

Determine which is a possible length for the missing side

11 mm

9 mm

17

20

23

On Your Own
Could the following lengths be used to form a triangle?

32 59 28

One More . . . Determine which is a possible length for the missing side

16 in

27 in

43

44

38