Name _____

Period _____   Date _____

Triangle Inequality Activity Sheet

Using the straws that are cut into lengths of 2 in., 3 in., 4 in., 5 in., and 6 in., choose any 3 at random. Arrange the straws so that the ends are touching, but not overlapping, to form a triangle.

Record your chosen lengths on the chart below.

Indicate whether the side lengths will create a triangle.

Table 1

Side 1	Side 2	Side 3	Triangle created? (y/n)

Questions:

Which set of segments created a triangle?

Which sets did not?

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- Add any 2 sides and compare the sum to the third side.
- Using symbols <, >, or = what do you observe about the sum of those 2 sides in comparison to the 3rd?

Table 2

Side 1	Side 2	Sum of Sides 1 & 2	< > =	Side 3

What pattern are you noticing?

Is it possible to create a triangle with side lengths of 18 cm, 12 cm, and 6 cm?   Justify you answer.

Is it possible to create a triangle with side lengths of 7 cm, 12 cm, and 6 cm?   Justify you answer.

Two sides of a triangle are 15 in. and 20 in. in length. What is the range of possible values for the length of the third side? Justify you answer.