Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **HW – Triangle Inequality**

Monica
Geometry Period:\_\_\_\_\_\_

Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Directions:** Answer all of the questions below. You must show all of your work to receive full credit.

 1) The plot of land illustrated in the accompanying diagram has a perimeter of 34 yards. Find the length, in yards, of *each* side of the figure. Could these measures actually represent the measures of the sides of a triangle? Explain your answer.



 2) On the banks of a river, surveyors marked locations *A*, *B*, and *C*. The measure of  and the measure of .



Which expression shows the relationship between the lengths of the sides of this triangle?

|  |  |
| --- | --- |
| 1) |  |
| 2) |  |
| 3) |  |
| 4) |  |

 3) In scalene triangle *ABC*,  and . What is the order of the sides in length, from longest to shortest?

|  |  |
| --- | --- |
| 1) | , ,  |
| 2) | , ,  |
| 3) | , ,  |
| 4) | , , As 4) 4) In the diagram of  below, *B* is a point on  and  is drawn. If , , and , what is the longest side of ? Why?5) In , , , and . Determine the longest side of .  |
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