

Section 5.5
The Triangle Inequality

Objective To apply the Triangle Inequality Theorem.

Triangle Inequality Thm. The sum of the lengths of any sides of a triangle is greater than the length of the third side.

Example 1 Given the length of two sides of a triangle. What are the possible lengths for the third side of the triangles.

1. 5, 7

2. 3, 6

3. 2, 14

Example 2 Determine whether it is possible to draw a triangle with sides of the given measure. If it is possible, draw the triangle.

4. 15, 40, 19

5. 21, 32, 32

6. 4, 18, 21