Geometry   Name:_____
Assignment 6.1

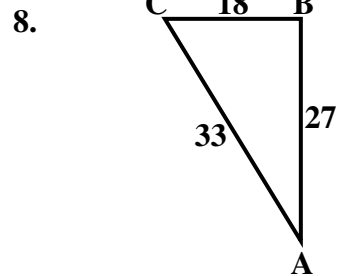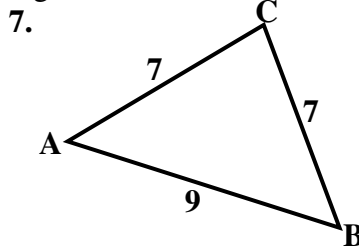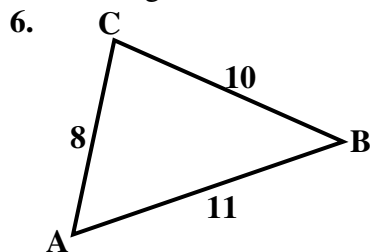**1.** According the Triangle Inequality Theorem, the sum of any two sides of a triangle is greater
   than the _____.

2. Given three segments lengths, if the sum of the two _____ segments is
   greater than the third, then a triangle can be constructed.

List the sides in order from shortest to longest.

3.   **4.**   **5.**
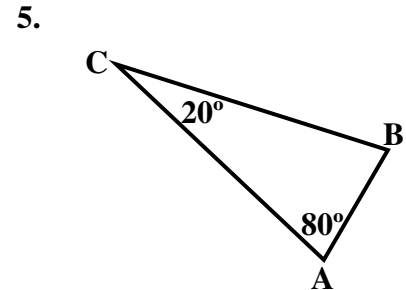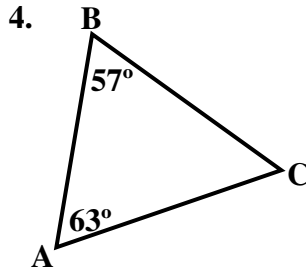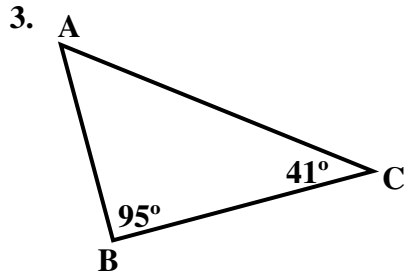
List the angles in order from smallest to largest.

6.   **7.**   **8.**

Determine if a triangle can be constructed with the given side lengths.
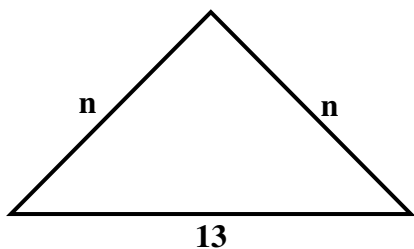
9. 3 in., 2 in., 5 in.   **10.** 4 cm, 2 cm, 5 cm   **11.** 2 ft., 5 ft., 2 ft.
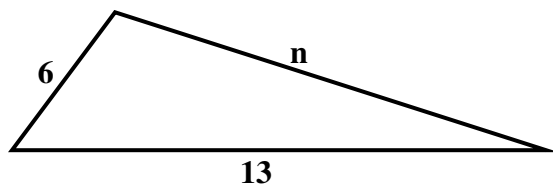
12. Given BC = 4 and AC = 6. Find the possible measures of AB in ΔABC.

13. A triangle has one side of 5 centimeters and another of 13 centimeters.
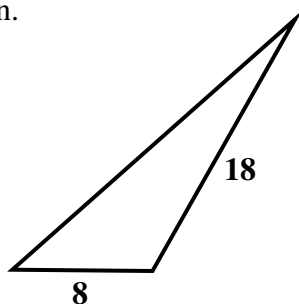   Describe the possible lengths of the third side.

14. In the figure below, n is a whole number. What is the smallest possible value for n?

15. In the figure below, n is a whole number. What is the largest possible value for n?

16. The lengths of two sides of the triangle are known.

Which of the following could be the perimeter of the triangle?

A 10

B 26

C 20

D 37

17. Two sides of a triangle measure 17 and 9. Which of the following cannot be the perimeter of the triangle.

A 35

B 51

C 27

D 40

Answer Key:

1. third   **2.** smaller **3.** $\overline{AB}, \overline{BC}, \overline{AC}$ **4.** $\overline{AC}, \overline{AB}, \overline{BC}$ **5.** $\overline{AB}, \overline{AC} \leftrightarrow \overline{BC}$ **6.** $\angle B, \angle A, \angle C$

7. $\angle A \leftrightarrow \angle B, \angle C$ **8.** $\angle A, \angle C, \angle B$ **9.** No   **10.** Yes   **11.** No   **12.** $2 < AB < 10$ **13.** $8 < x < 18$

14. 7   **15.** 18   **16.** D   **17.** C