**Complete each Inequality Theorem.**

1) If one side of a triangle is longer than a second side, then the larger angle lies opposite the _____ side.

2) If one angle of a triangle is larger than second angle, then the longer side lies opposite the _____ angle.

3) The sum of the lengths of any two sides of a triangle is _____ than the length of the third side.

Name the largest angle and the smallest angle of each triangle.

4)

5)

Name the largest angle and the smallest angle of each triangle.

6)

7)
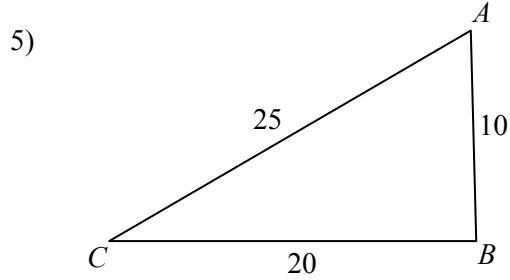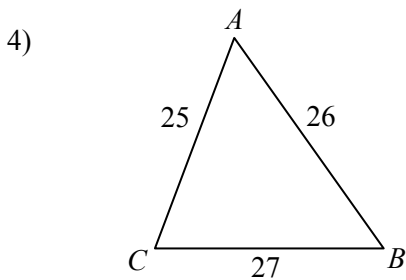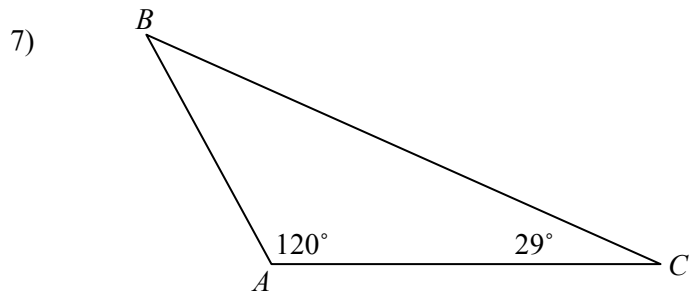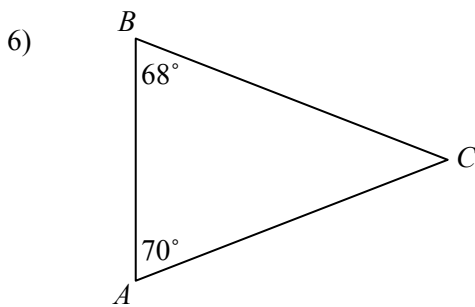
Is it possible for a triangle to have the sides with the lengths indicated? Explain.

8) 3, 7, 8

9) 1, 1, 4

10) 9, 6, 2

11) 3, 4, 5

12) 2.4, 2.9, 5

13) 3, 6, 10

14) Two sides of a triangle have lengths of 10 and 13. The length of the third side can be any number between _____ and _____.

15) Two sides of a triangle have lengths of $5x$ and $11x$. The length of the third side can be any number between _____ and _____.

Answer Key

1) longer
2) larger
3) greater
4) $\angle A$; $\angle B$
5) $\angle B$; $\angle C$
6) $\overline{BC}$; $\overline{BA}$
7) $\overline{BC}$; $\overline{BA}$
8) Yes
9) No
10) No
11) Yes
12) Yes
13) No
14) 23, 3
15) $16x$, $6x$