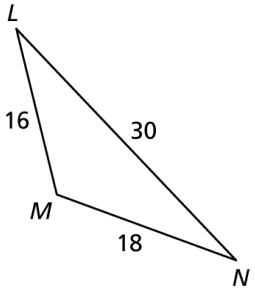
Name_____ Date _____

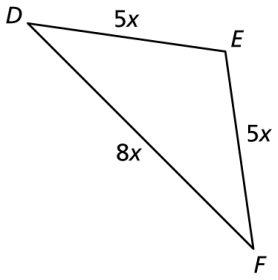
6.5 Practice A

In Exercises 1 and 2, list the angles of the given triangle from smallest to largest.

1.

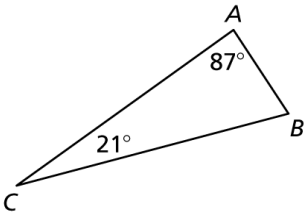


2.

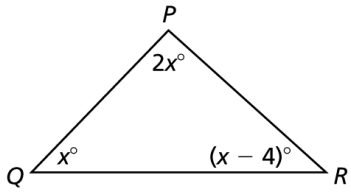


In Exercises 3 and 4, list the sides of the given triangle from shortest to longest.

3.



4.



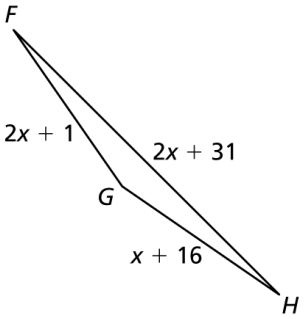
In Exercises 5 and 6, is it possible to construct a triangle with the given side lengths? Explain.

5. 15, 37, 53

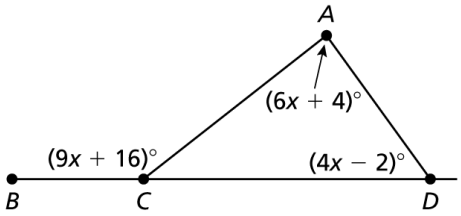
6. 9, 16, 8

7. Write an indirect proof that a triangle has at most one obtuse angle.

8. Describe the possible values of x in the figure shown.



9. List the angles of the given triangle from smallest to largest. Explain your reasoning.



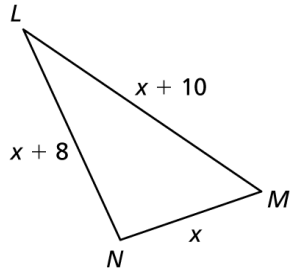
10. The shortest distance between two points is a straight line. Explain this statement in terms of the Triangle Inequality Theorem (Theorem 6.11).

Name _____ Date _____

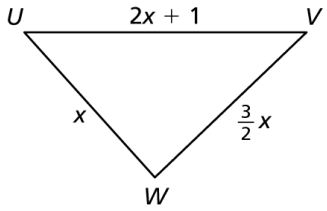
6.5 Practice B

In Exercises 1 and 2, list the angles of the given triangle from smallest to largest.

1.

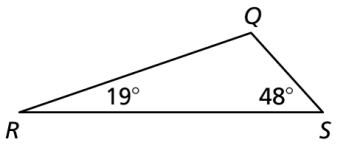


2.

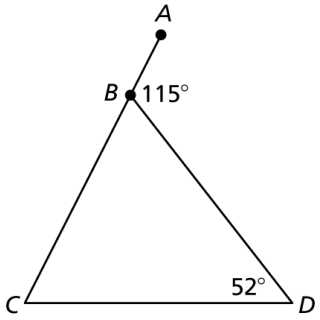


In Exercises 3 and 4, list the sides of the given triangle from shortest to longest.

3.



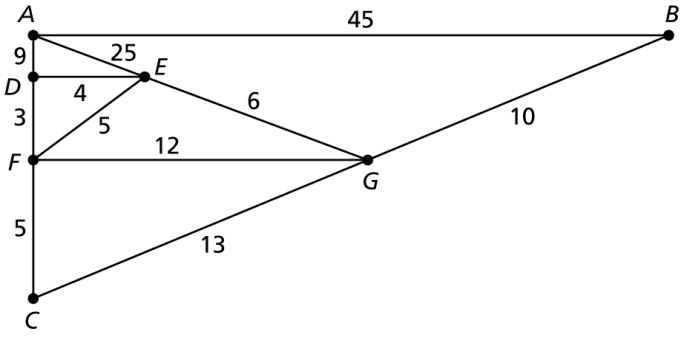
4.



5. Write an indirect proof that a right triangle has exactly two acute angles.

6. Is it possible to construct a triangle with side lengths $5(2x - 6)$, $3x + 80$, and $x^2 + 41$ if $x = 9$? Explain.

7. The figure shows several triangles, with labeled side lengths. Which of the triangles are labeled correctly? Explain.



8. Your friend claims that if you are given the three angle measures of a triangle, you can construct a triangle that obeys the Triangle Inequality Theorem (Theorem 6.11), even if you are not given any of the side lengths. Is your friend correct? Explain your reasoning.