

ACTIVITY 5.5

Using Technology

Geometry Software Activity for use with Lesson 5.5

Side Lengths and Angle Measures

You can use geometry software to decide which sides and angles are the smallest and largest in a triangle.

STUDENT HELP

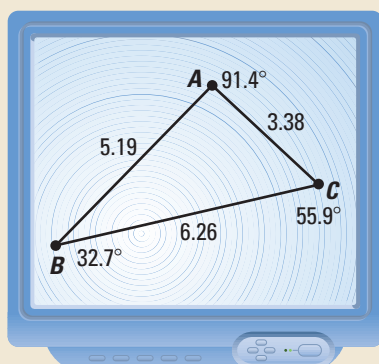
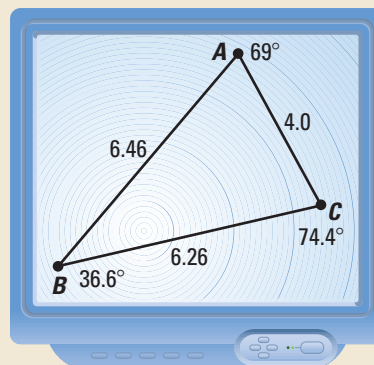


SOFTWARE HELP

Visit our Web site
www.mcdougallittell.com
to see instructions for
several software
applications.

► CONSTRUCT Construct a triangle.

- 1 Draw any scalene triangle. Label the vertices as A , B , and C .
- 2 Find the measure of each angle of the triangle.
- 3 Find the length of each side of the triangle.



◀ INVESTIGATE

1. In $\triangle ABC$, is the longest side *adjacent to* or *opposite* the largest angle?
2. In $\triangle ABC$, is the shortest side *adjacent to* or *opposite* the smallest angle?
3. Drag point A to change the shape and size of $\triangle ABC$. Answer the questions in Exercises 1 and 2 for the new triangle.

► MAKE A CONJECTURE

4. Make a conjecture about how the positions of sides of different lengths in a triangle are related to the positions of the angles of different measures.

EXTENSION

CRITICAL THINKING Use the triangle measurements from the activity above. Complete the following expressions.

$$\frac{\text{measure of smallest angle}}{\text{measure of largest angle}} = \frac{?}{?} = \underline{\quad ? \quad}$$

$$\frac{\text{length of shortest side}}{\text{length of longest side}} = \frac{?}{?} = \underline{\quad ? \quad}$$

Tell whether this statement is *true* or *false*:

“The quotient of the measures of two angles in a triangle is always the same as the quotient of the lengths of the sides opposite those angles.”