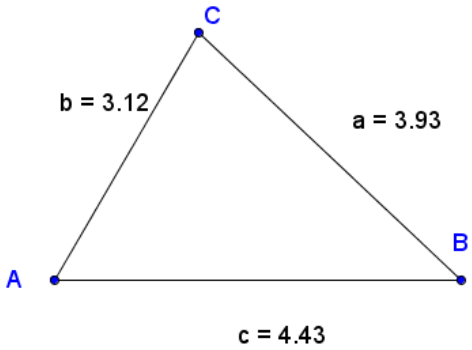
Student Activity Theorem 8

Use in connection with interactive file "Theorem 8" on the Student's CD.

To explore the relationship between any two sides of a triangle and the third side.



1. While viewing the interactive file, find the sum of the lengths of side a and side b and check if this sum is greater than the length of side c. Show calculations.

   _____

   _____

2. While viewing the interactive file, find the sum of the lengths of side b and side c and check if this sum is greater than the length of side a. Show calculations.

   _____

3. While viewing the interactive file, find the sum of the lengths of side a and side c and check if this sum is greater than the length of side b. Show calculations.

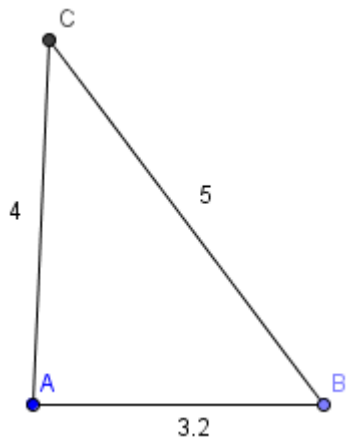
   _____

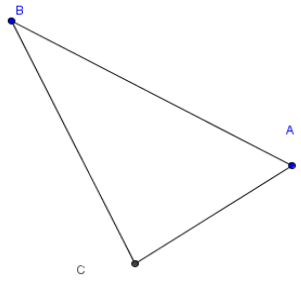
4. Move the points A, B or C and find the sum of the lengths of any two sides in the triangle. Investigate if this sum is greater than the length of the third side. Show calculations.

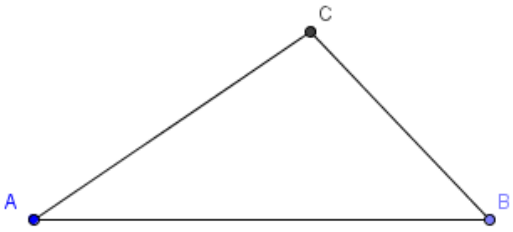
   _____

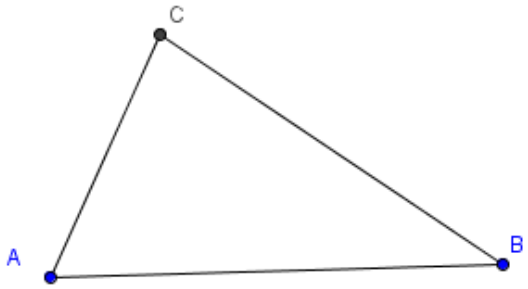
5. Repeat no 4 twice.

6. Measure the lengths of the sides (if not shown) in the following triangles and determine if the sum of the lengths of any two sides is in all cases greater than the length of the third side. Show calculations.









Challenge

7. Two sides of a triangle measure 12 cm and 8 cm respectively. What is the range of values for the third side of the triangle?

8. The mast of a crane (AC) is 100ft in height.
By adjusting the length of the cable, (from A to B)
the operator of the crane can raise and lower the boom.
What is the minimum distance possible from A to B?