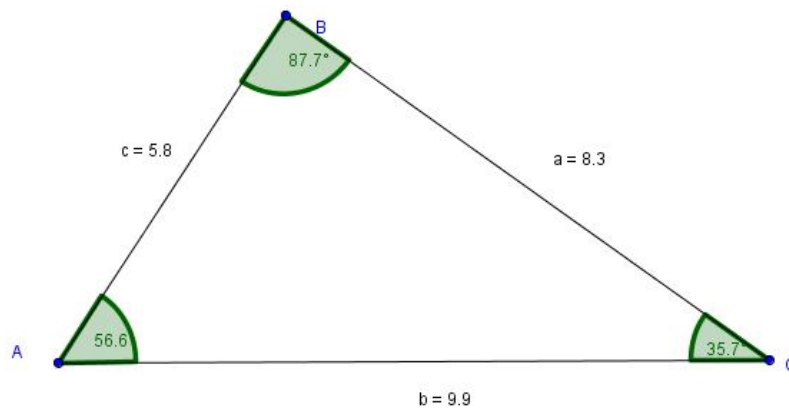


## Student Activity Theorem 7

Use in connection with the interactive file "Theorem 7" on the Student's CD.

To investigate:

- (i) The relationship between the angle opposite the greater of two sides and the angle opposite the lesser of two sides.
- (ii) The side opposite the greater of two angles and the side opposite the lesser of two angles.



1. While viewing the interactive file, compare the length of side a and side b. Which of these two lengths is the greater and is the angle opposite this side greater than or smaller than the angle opposite the other side?

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2. While viewing the interactive file, compare the length side a and side c. Which of these two lengths is the greater and is the angle opposite this side greater than or smaller than the angle opposite the other side?

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3. While viewing the interactive file, compare the length side b and side c. Which of these two lengths is the greater and is the angle opposite this side greater than or smaller than the angle opposite the other side?

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4. Move either of the points A, B or C in the interactive file. Now compare any two of the sides in the new triangle. Which side is the greater and is the angle opposite this side greater than or smaller than the angle opposite the other side? Repeat for different points.


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5. What pattern has emerged in questions 1-4 in connection with the greater of 2 sides and the angle opposite this side?

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6. Click the reset button on the right of the screen , which angle is the biggest in the interactive file and is it opposite the biggest side? Now move the points A, B or C and check if this is always the case. Explain your answer.

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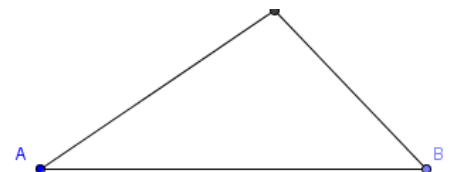
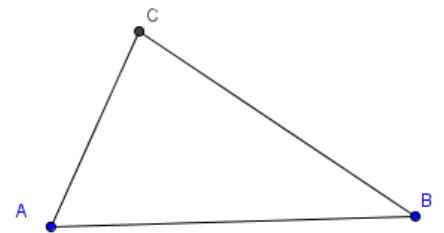
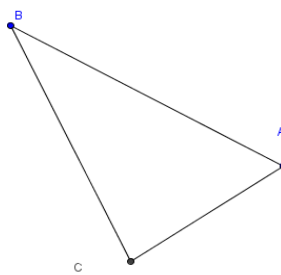
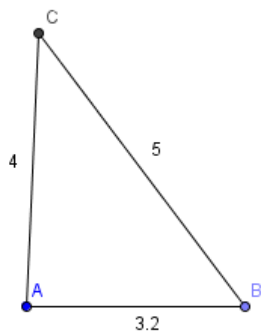


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7. Measure and show the value of all the angles and the lengths of the sides (if not shown) in the following triangles and determine, if the greater angle is opposite the greater side in each case.



### Challenge

8. Which of these chairs is the most stable? Explain why you choose this chair.

