Five Triangle Puzzle

In this puzzle, all five pieces are to be used to form one large triangle. There are three triangles of one size and two of another size. Note that the hypotenuse of the smaller triangle is equal in measure to the longer leg of the larger triangle.  
  
*There are two unique solutions to this puzzle.*

# Questions to consider

The answers to the following questions will help you to solve the 5-triangle puzzle. Write all numbers in simplest radical form.

1. When all of the 5 triangles are combined to make one large triangle, what are the possible angle measures of the new triangle? Think about the different ways to combine the angles .

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1. If the short leg of the smallest triangle is 1 unit, find the measure of each side of the two triangles.
2. Find the area of the two triangles:
3. When we combine all five triangles, what will the area of the complete triangle be?   
   (*Hint: The whole is the sum of its parts.*)
4. Is it possible to make one large triangle?  
   If so, what would have to be below?
5. Is it possible to make one large triangle?  
   If so, what would have to be below?  
   How long is the base?
6. Is it possible to make one large triangle?  
   If so, what would have to be below?  
   How long is the base?