Sums of angles in a triangle

Math 1181H

Autumn 2012

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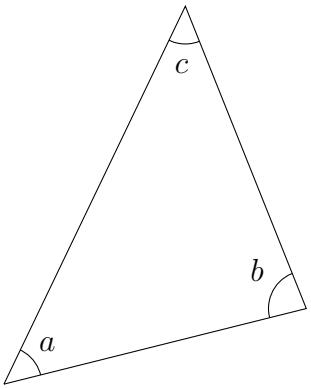
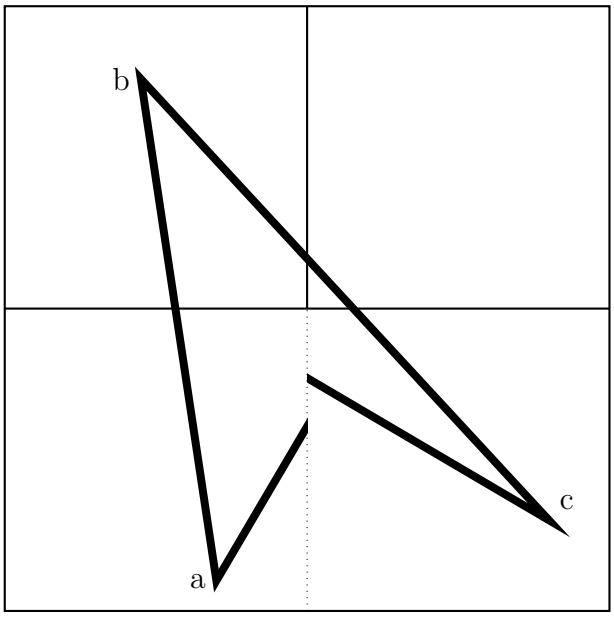
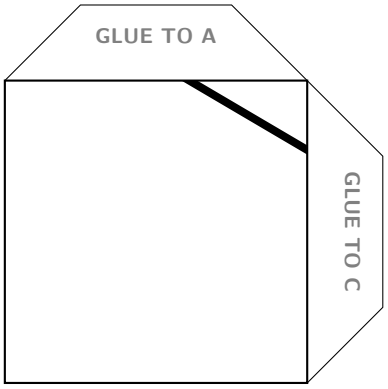
What do the three angles of a triangle sum to? In the Euclidean case, you know the answer.



$$a + b + c = 180^\circ$$

What about in the five-squares-to-a-vertex case? Cut out the following shapes, then cut along the dotted line, attach the tab labeled **GLUE TO A** to the square containing vertex a, and attach the tab labeled **GLUE TO C** to the square containing vertex c.





Here are some questions for you to think about.

- What do the angles in this example add up to?

- What if you wiggle the points a, b, and c slightly: how does the sum of the angles change?

- What if you draw a much bigger triangle?