



Origami+Money =  
**OriMoney**

**Hands-on Geometric  
proofs.**

10-minute lesson

Zachi Baharav

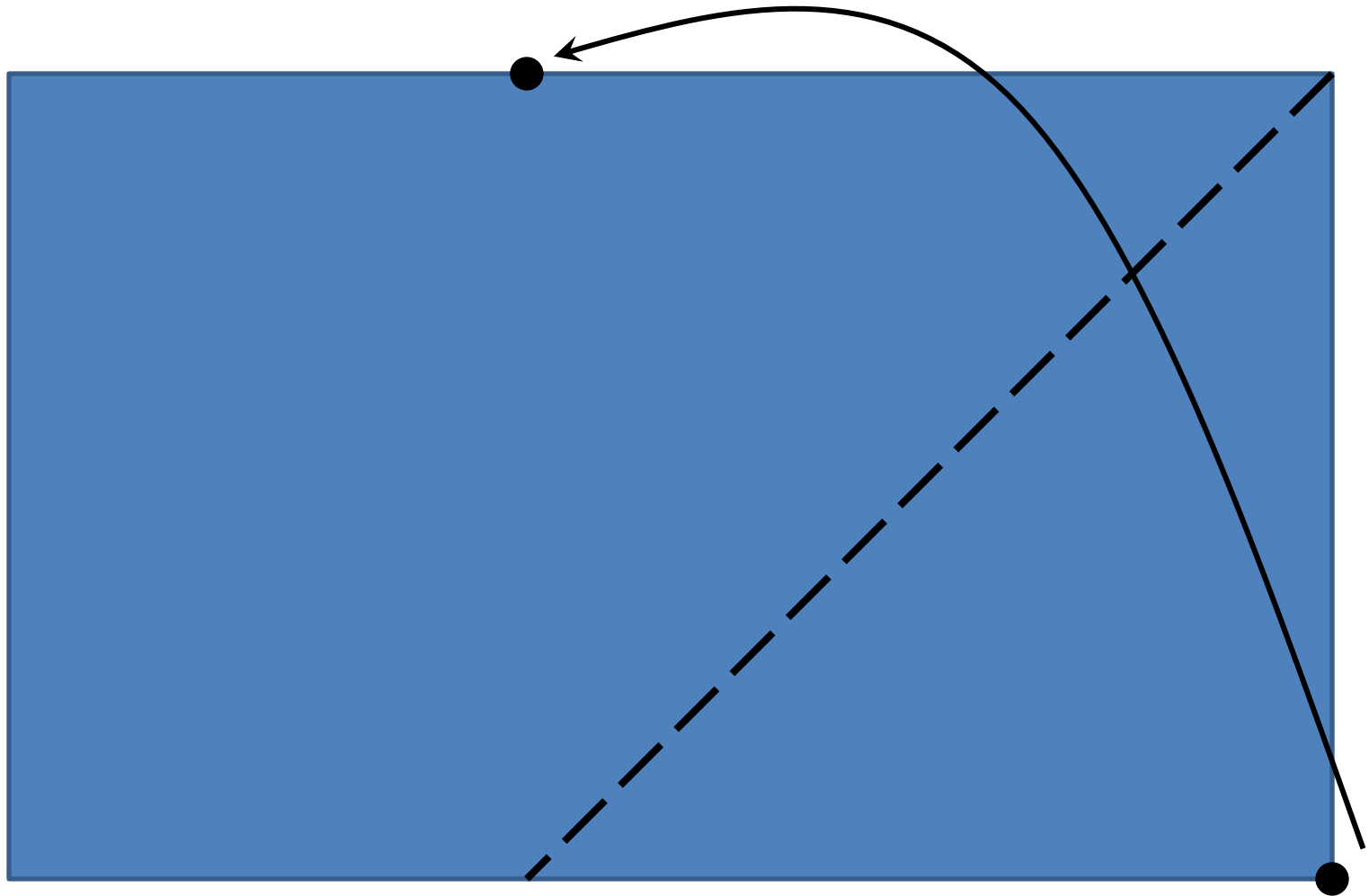
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# Folding a rectangle into a square

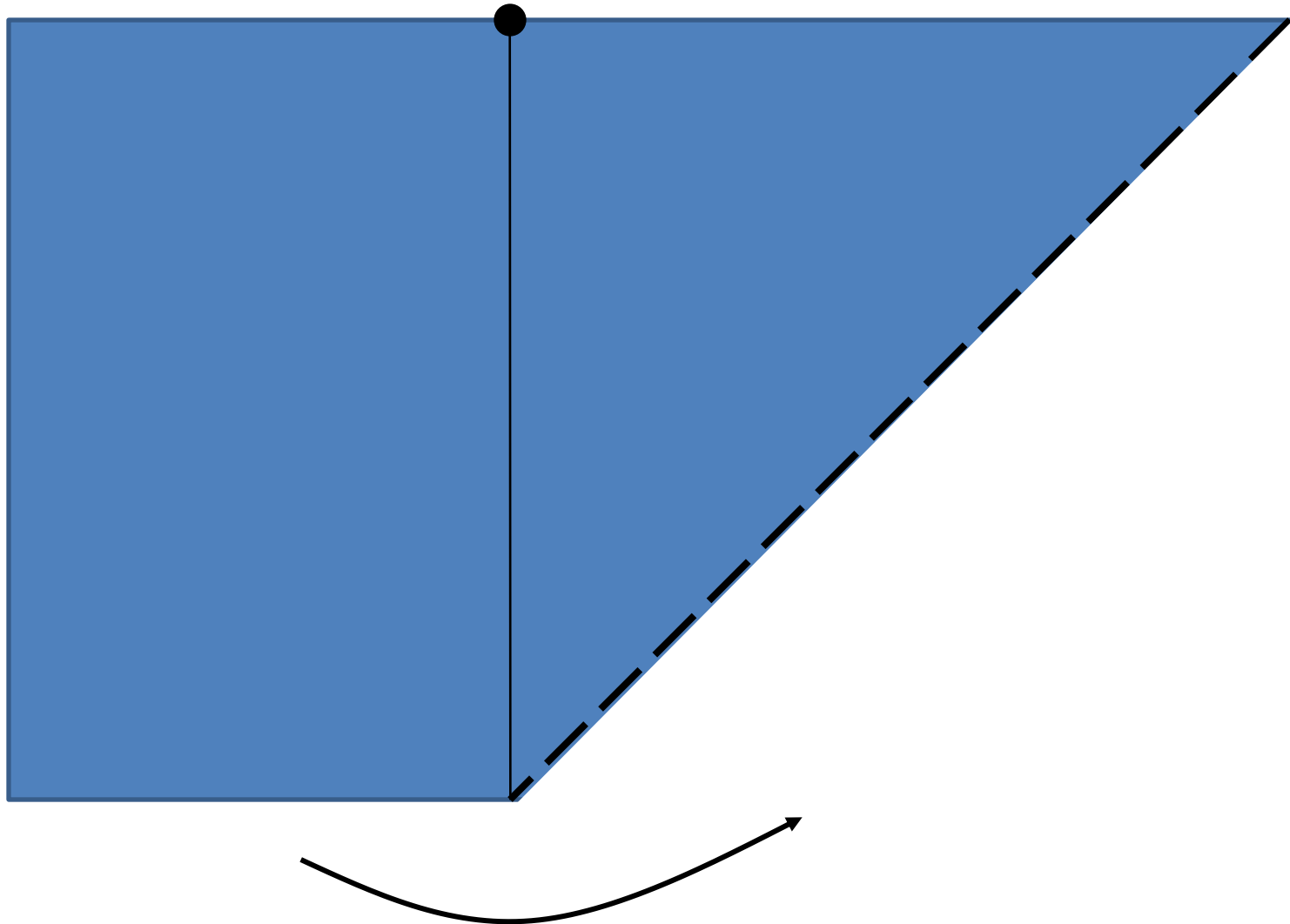


**We know this is a rectangle to start with!**

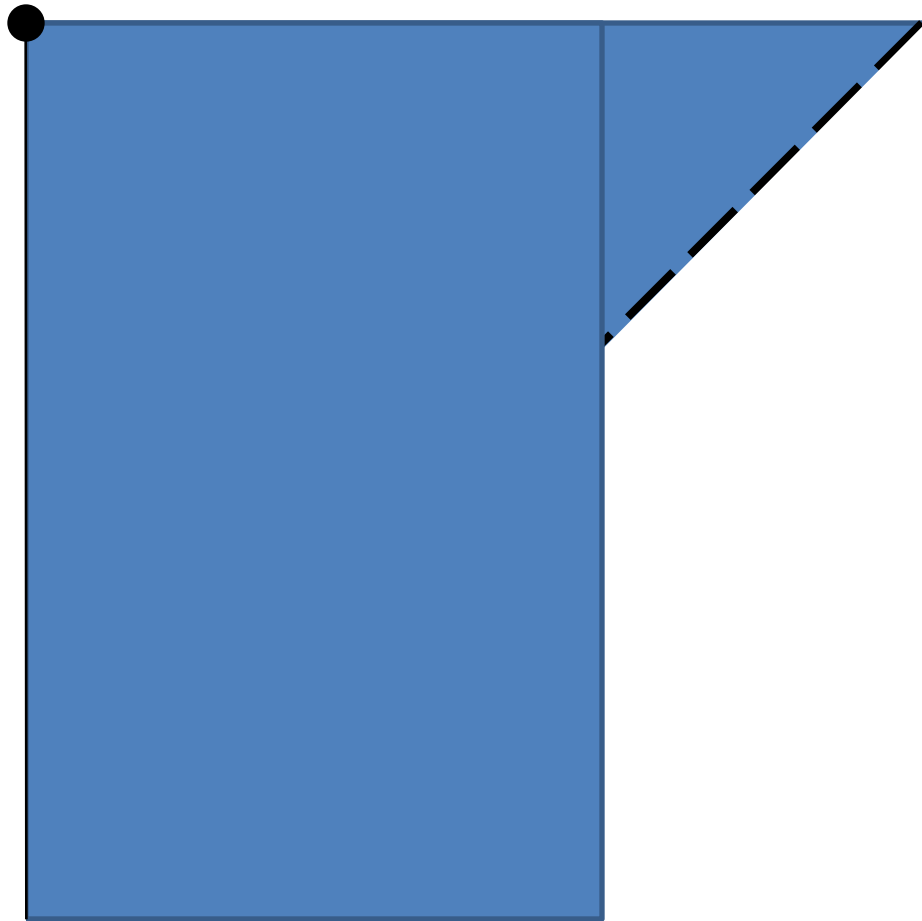
# Folding a rectangle into a square



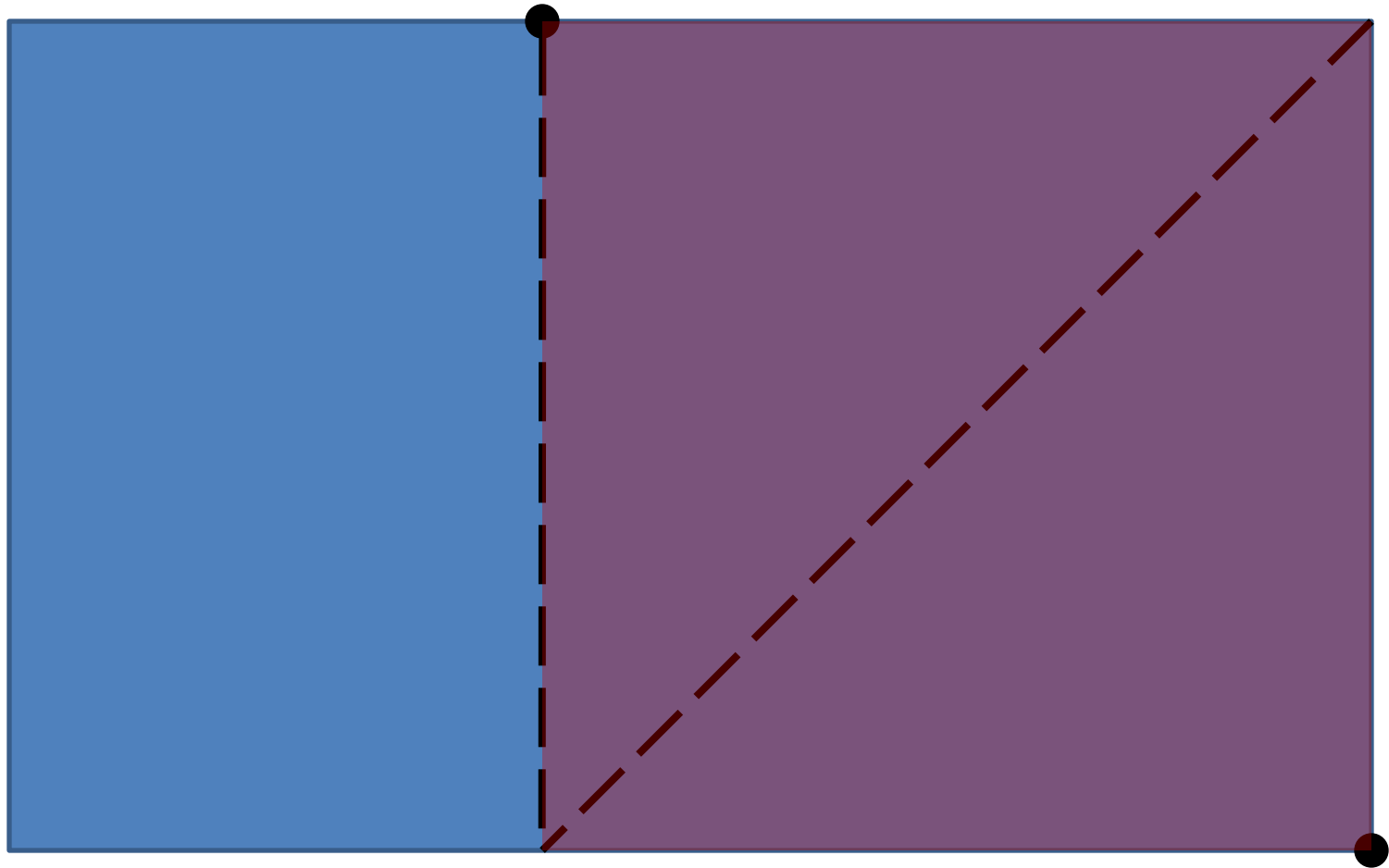
# Folding a rectangle into a square



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# Folding a rectangle into a square



# How can you prove it is a square?

We are looking for origami/folding proof of the following:

- Four angles of 90 degrees?
- Equal sides?

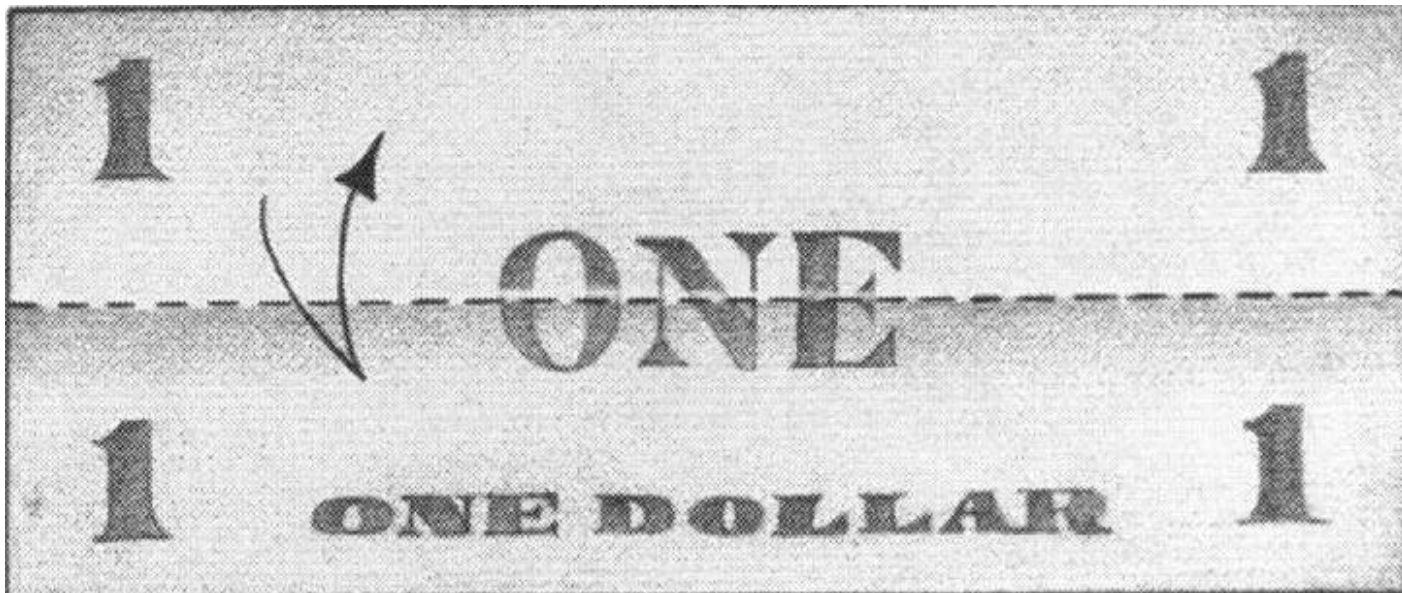
# A trick for waiting times....



ANY OTHER STRENGTHS?



**Step 1:** Fold the \$1 bill into half, and unfold.

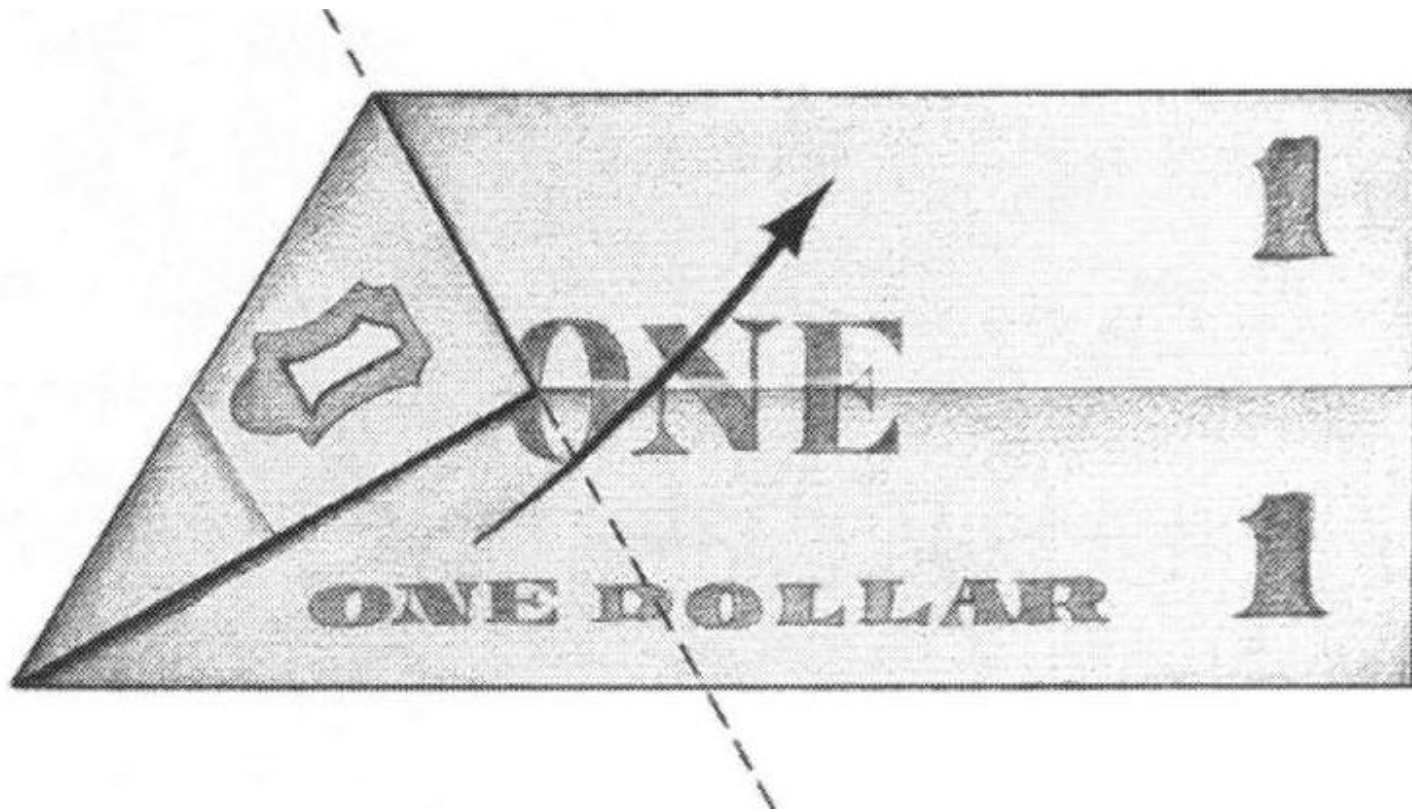


**Step 2: Fold the top-left corner to that A falls on the crease.**

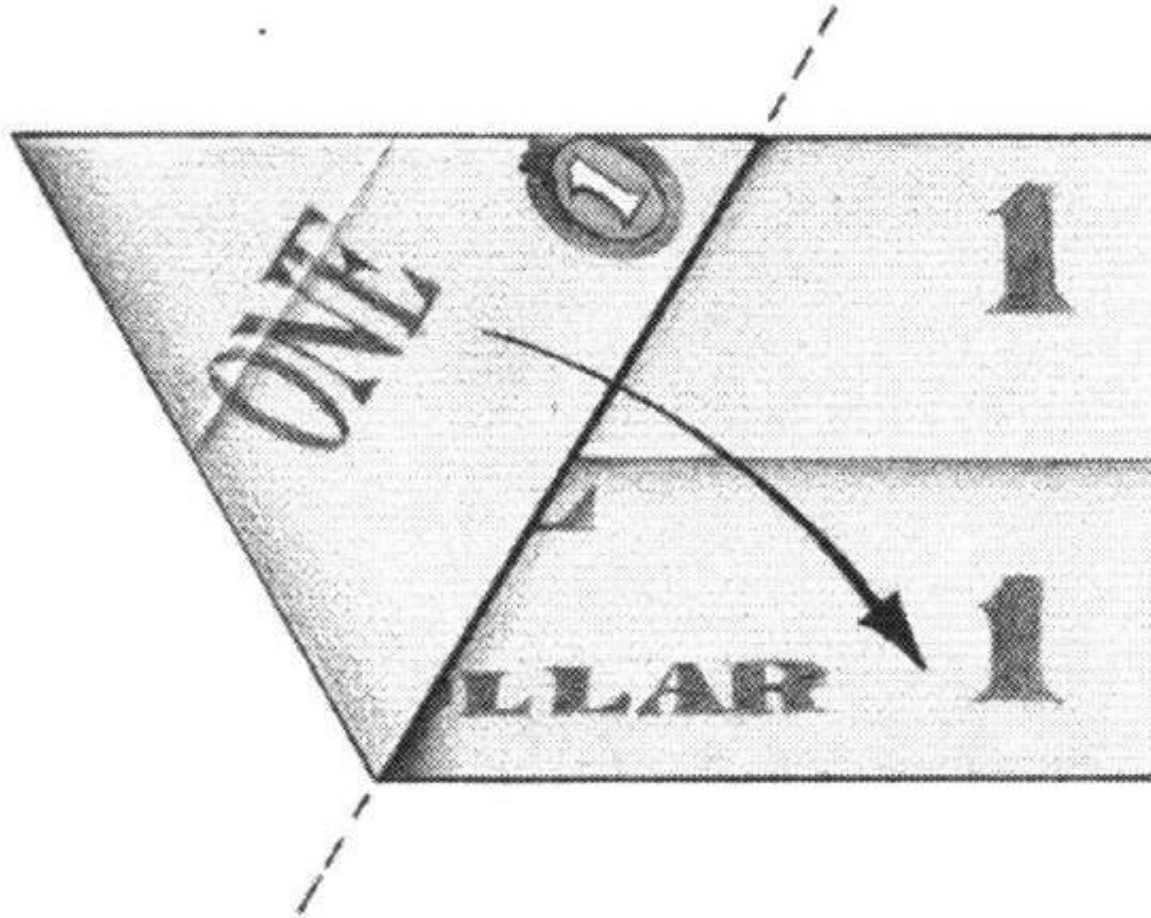
**Also, the fold must go through point D.**



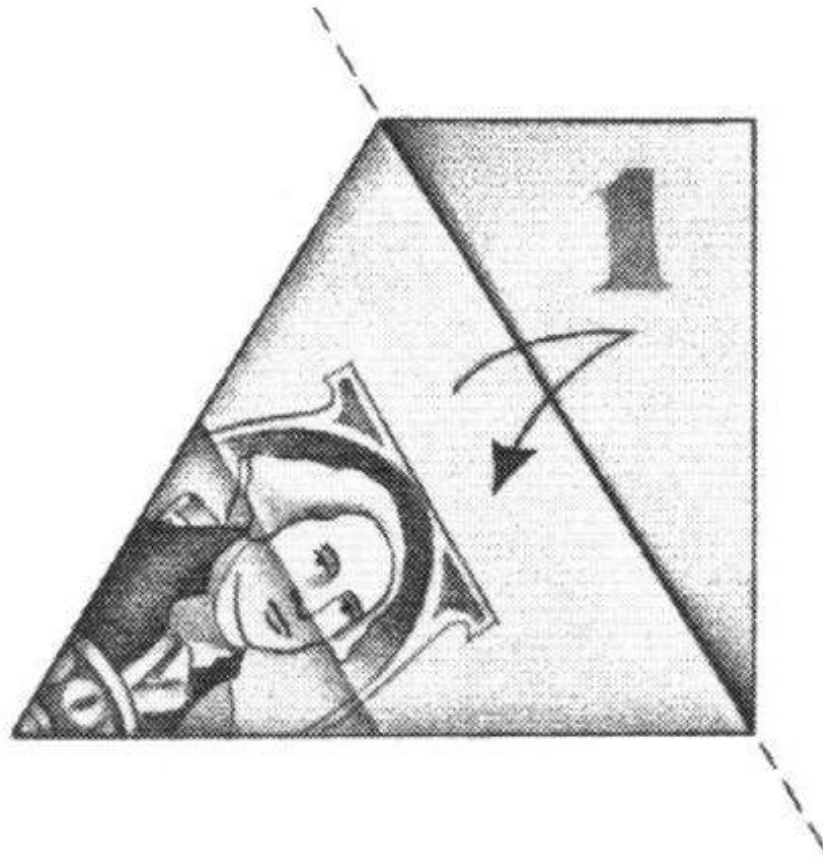
**Step 3: Use one edge of the triangle you made as the new fold line.**



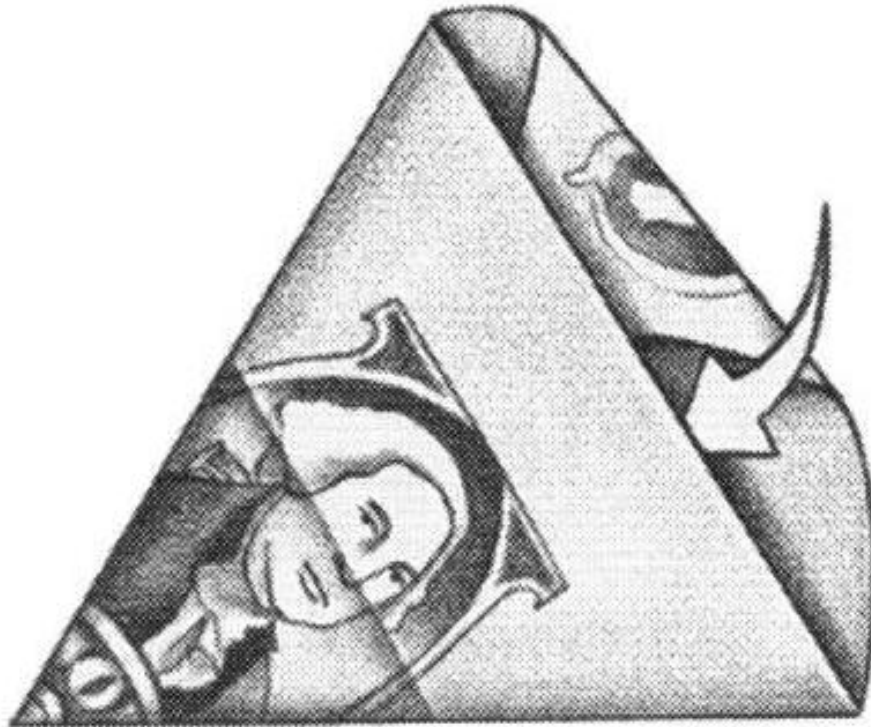
**Step 4: Use the edge of the triangle as your next fold line.**



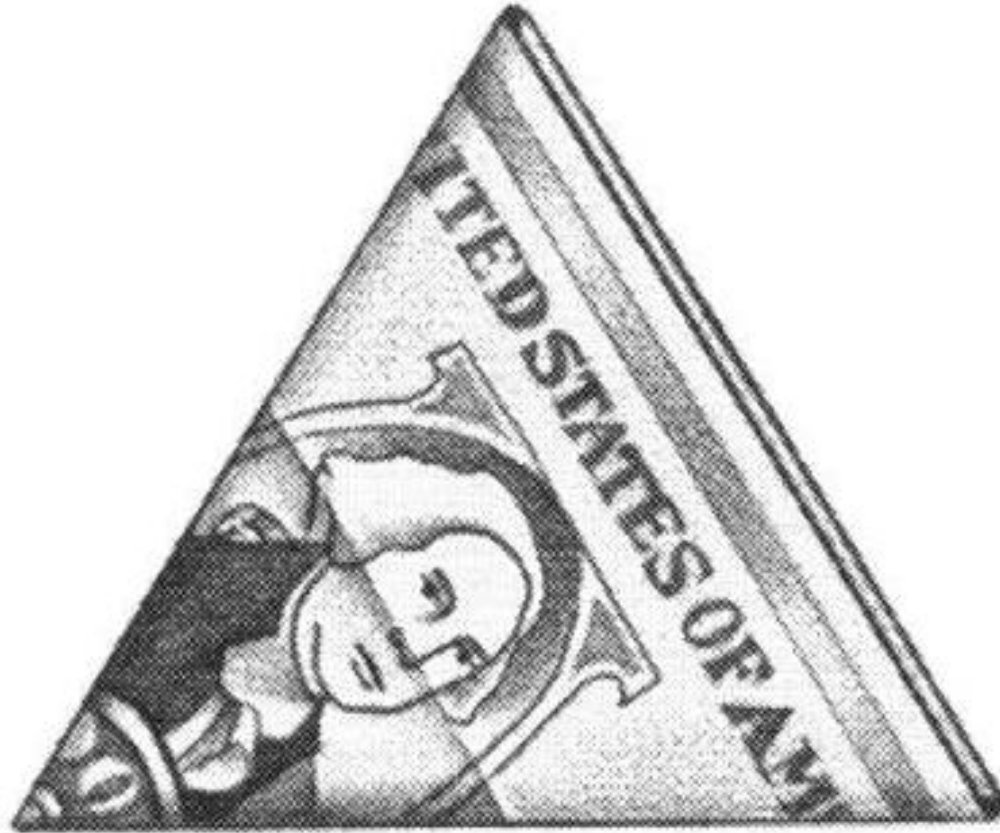
**Step 5: Use the edge of the triangle as your next fold line.**



**Step 6: Unfold the last fold. Tuck the flap into the pocket.**



**Step 7: The complete piece looks like this.**

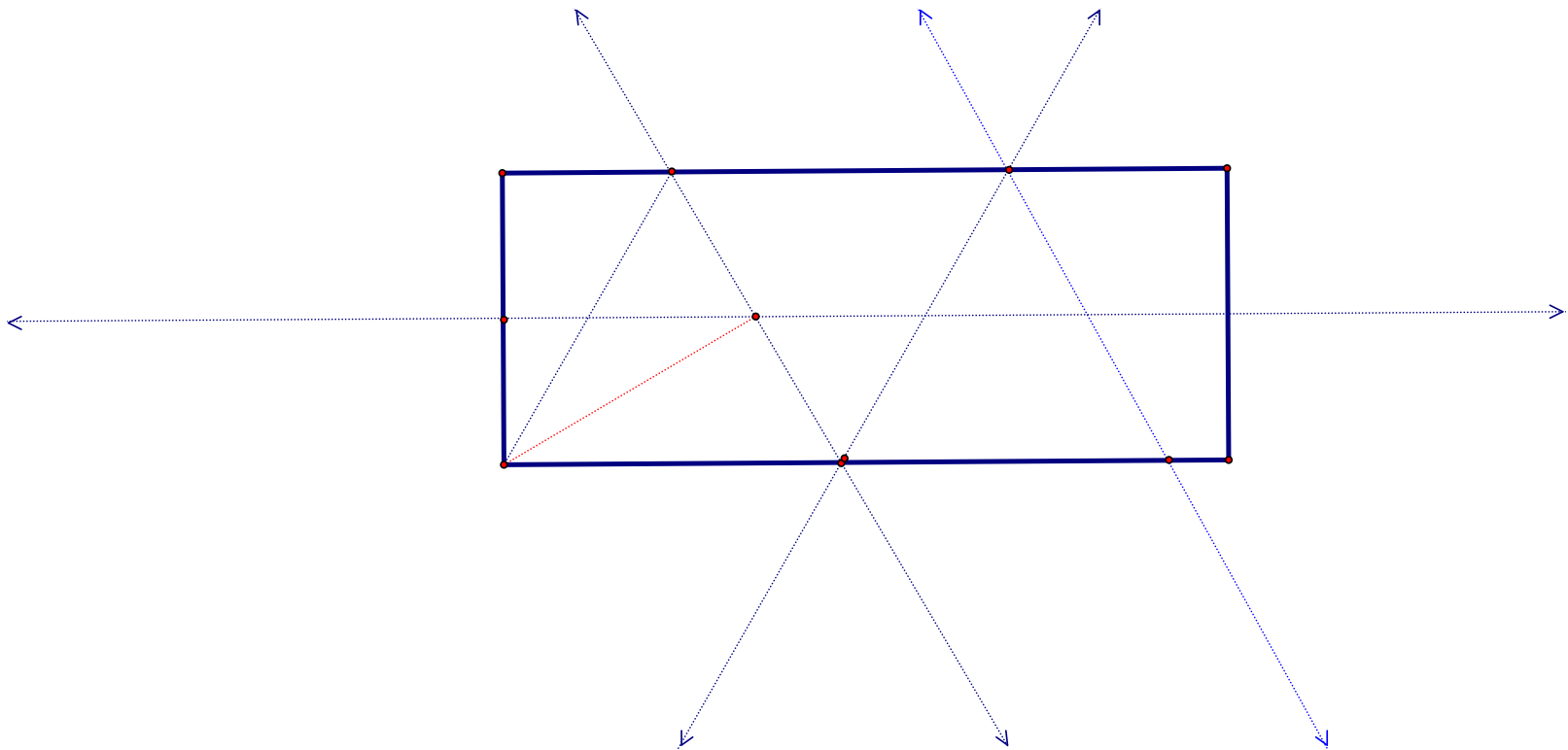


# Questions?

- What does the resulting triangle look like?
- Can you prove it using folding?
- What is each angle then?

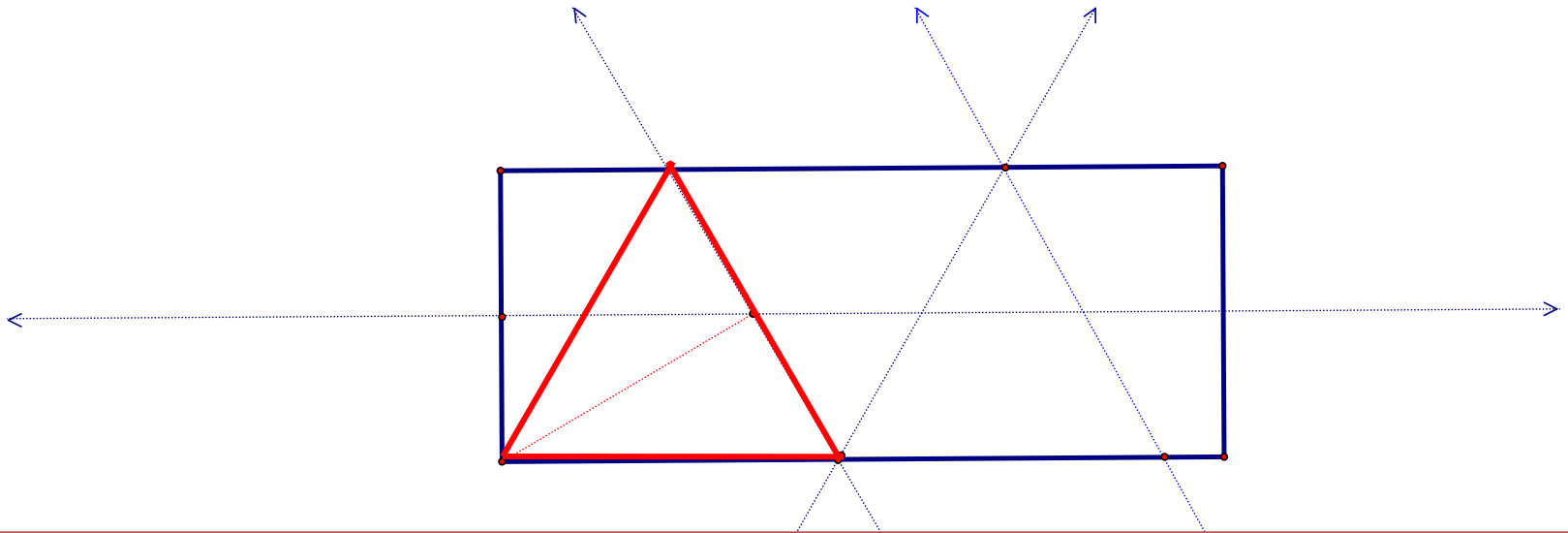


Unfold all the way, and look at the creases.



How many Equilateral triangles do you see?

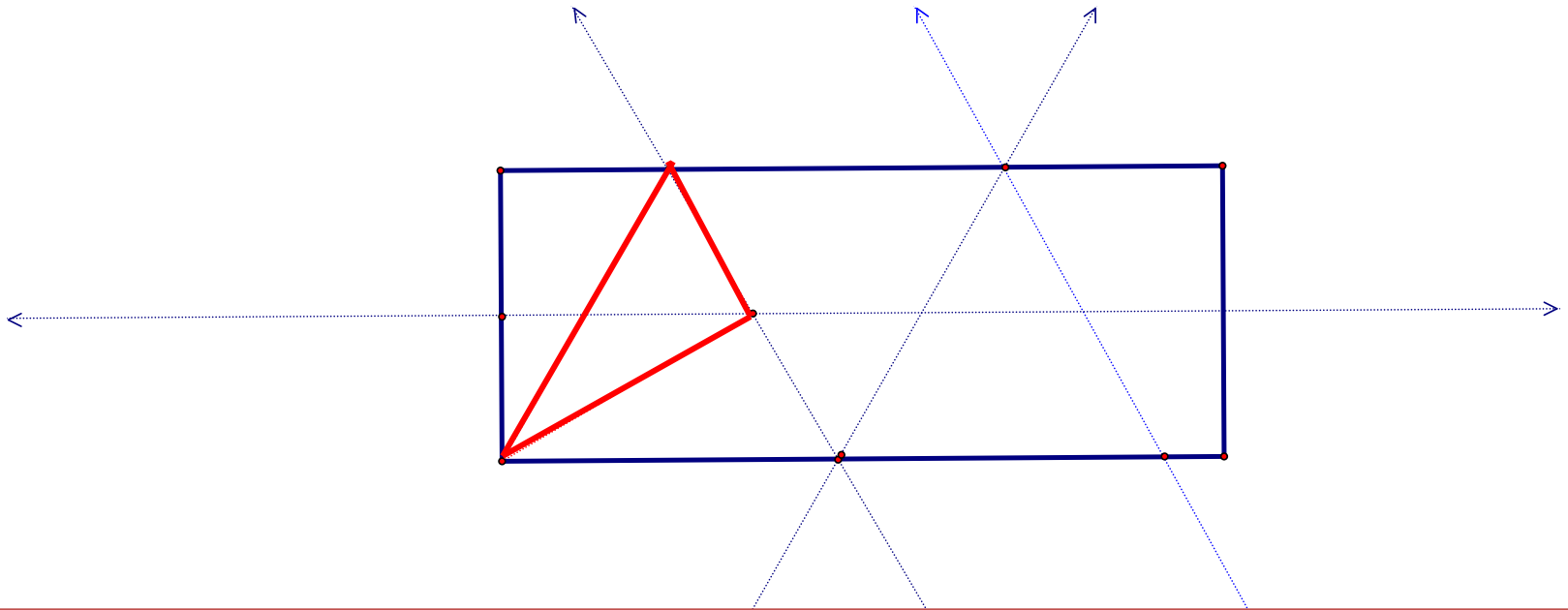
# Can we make a real proof?



Can we prove that the first triangle is equilateral from the construction?

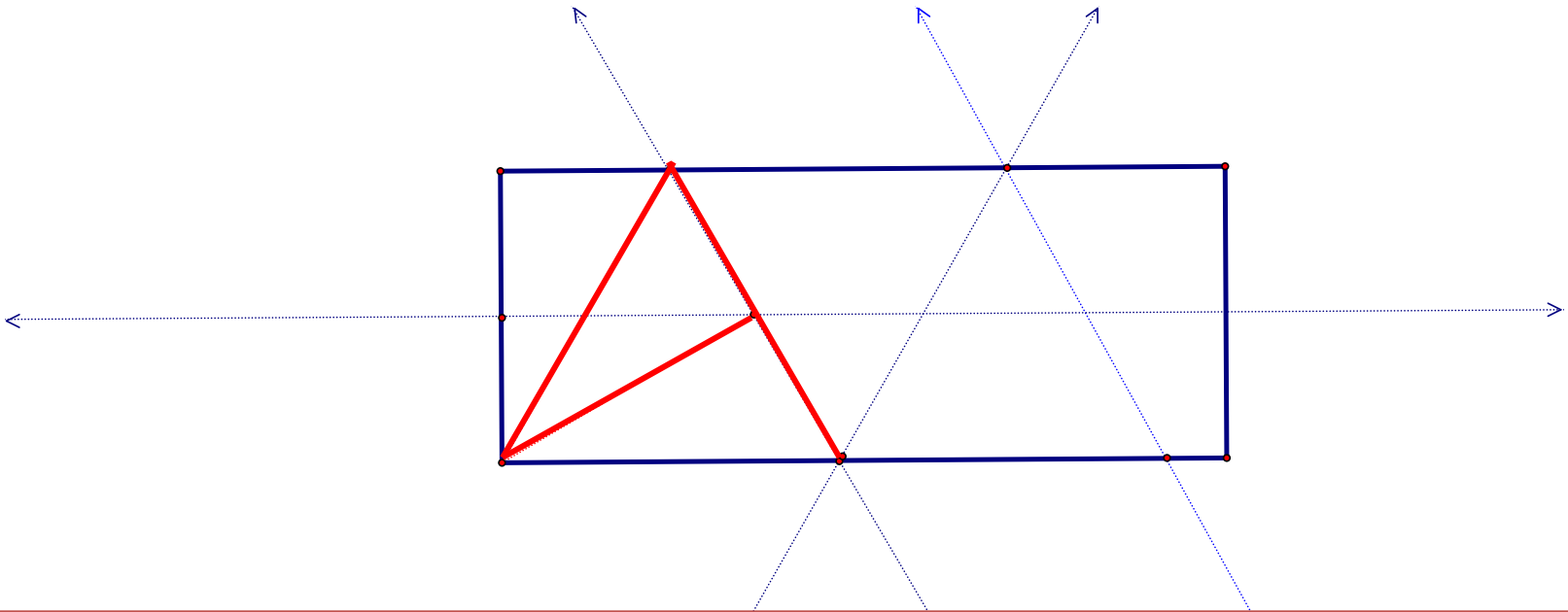
(as contrasted with merely checking that it is)

# Starting from the beginning.



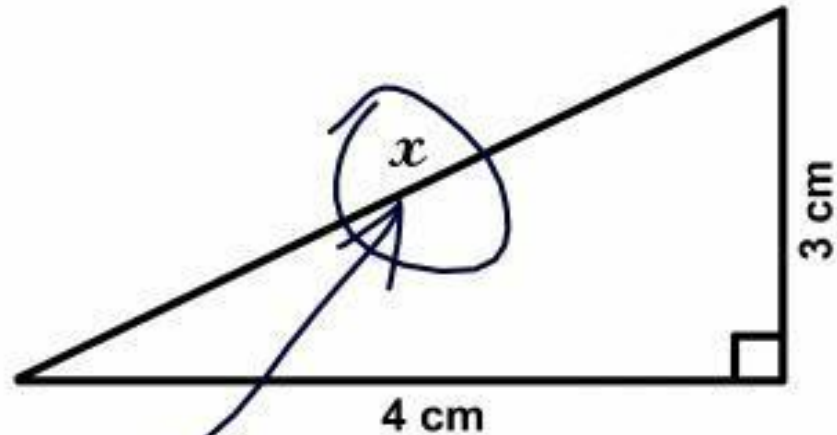
Are the first two small triangles congruent?!?

# One more step.



Is the third one congruent?  
What does it tell us about the angles then?!?

3. Find  $x$ .



*Here it is*

Ocular Trauma - by Wade Clarke ©2005

The End