

# Three Tasks for Three Days

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  - Create your own binomial “dots and boxes” board or crossword puzzle board

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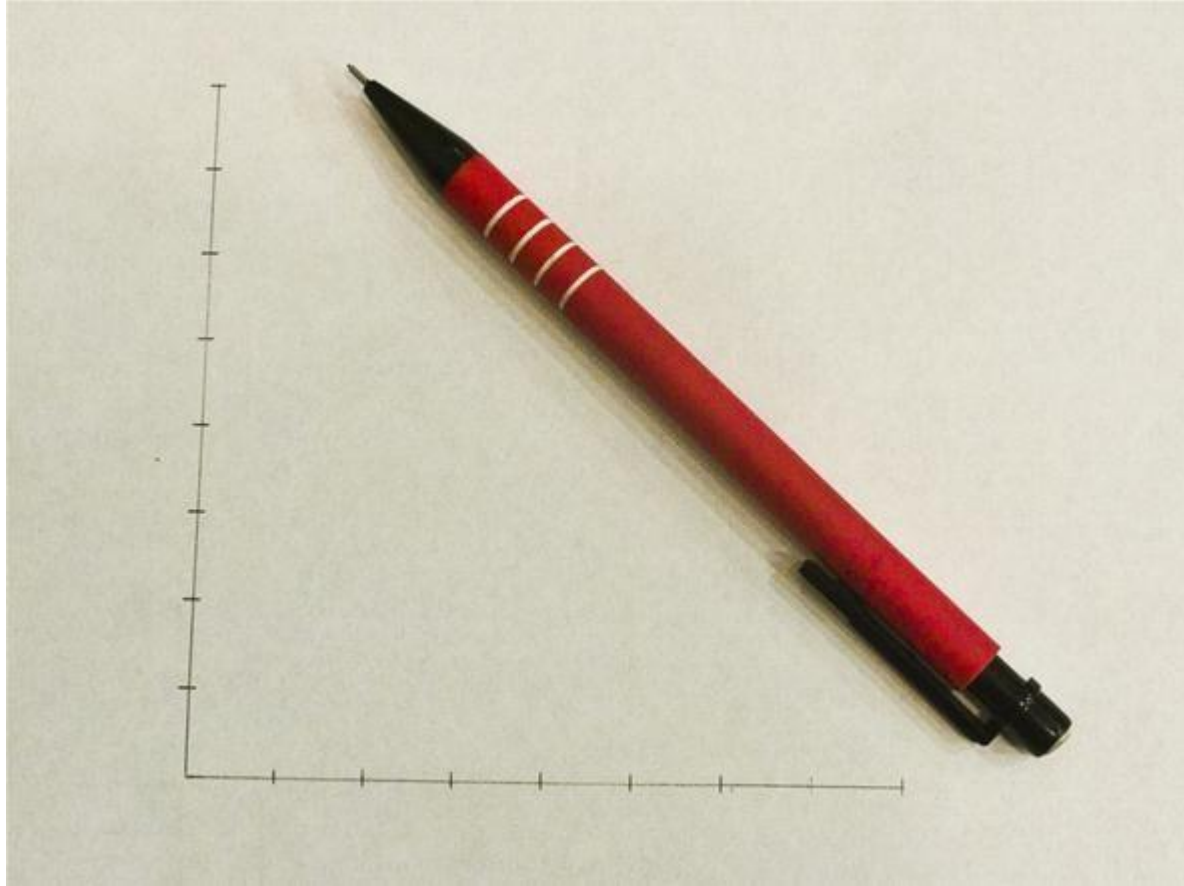
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  - Create your own binomial “dots and boxes” board or crossword puzzle board
- Task 3:
  - Proof challenges. Try your best. It’s ok to struggle with this assignment. If you can’t make any progress, don’t stress about it

# Parabolic Curves

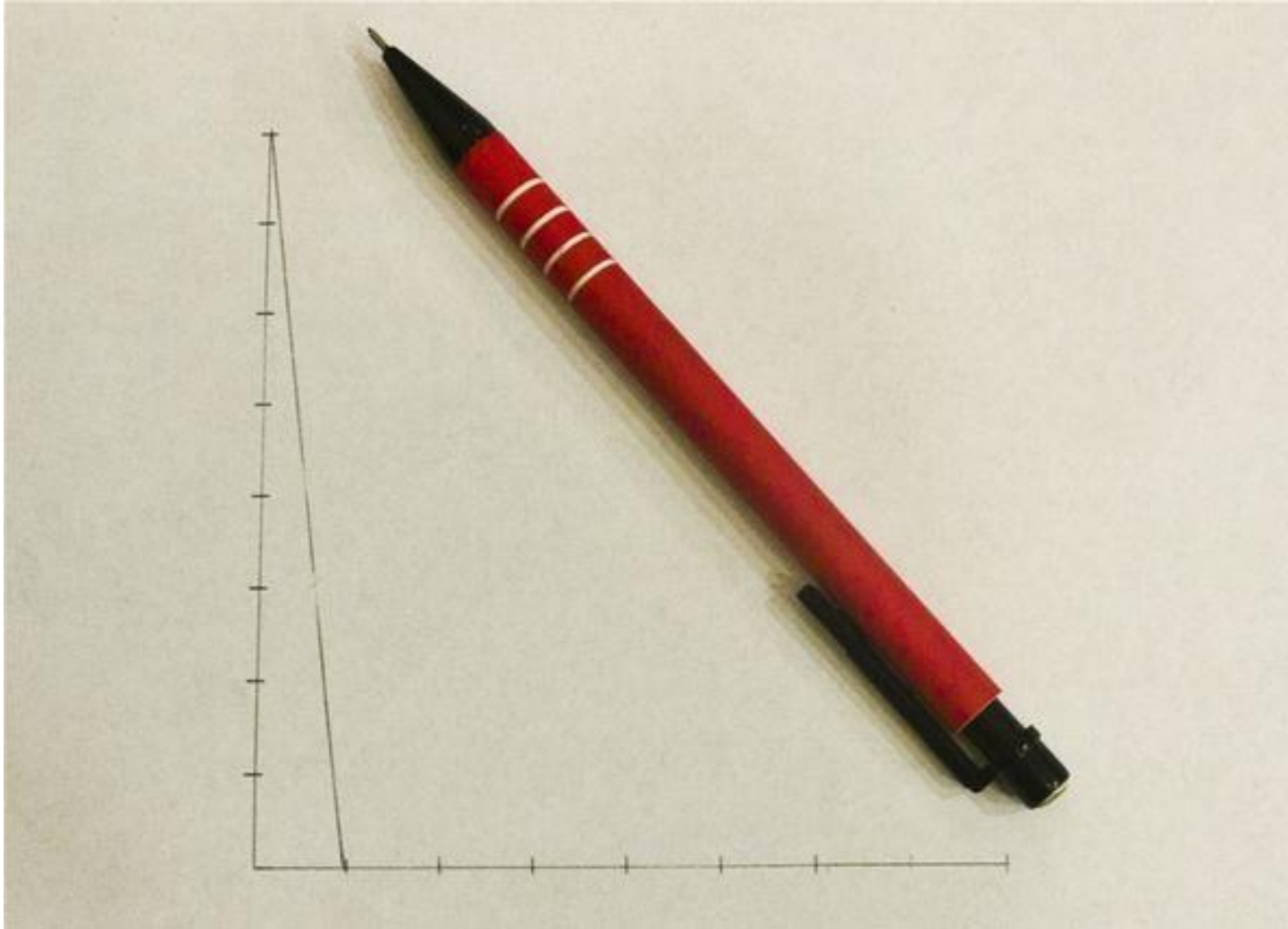
Parabolas are “U” shaped curves. But it’s not just any U. It’s a very specific kind of U.

In this activity, you will create a variety of parabolic curves as part of seeing a connection between math and art.

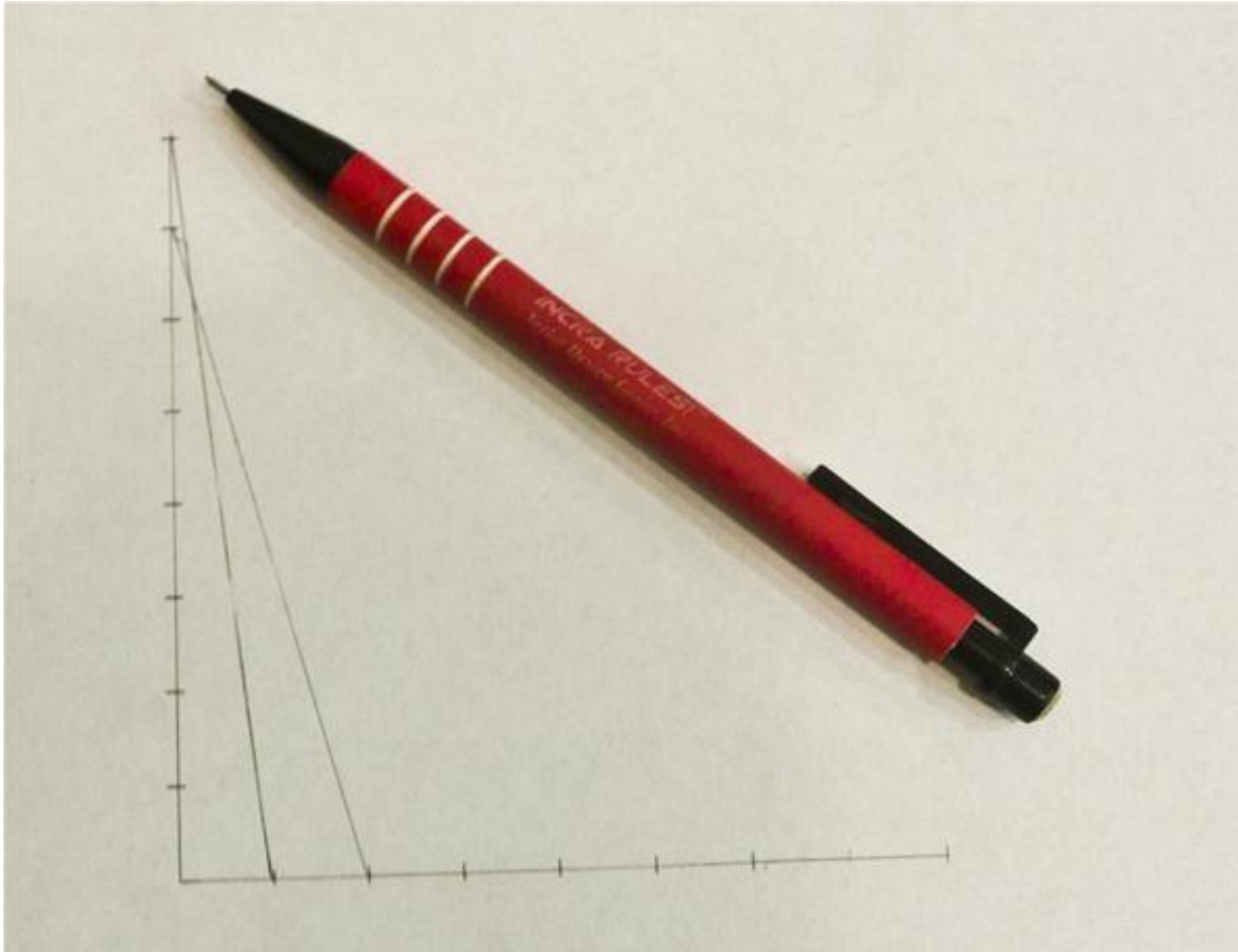
Draw two lines (this one is a right angle). Mark equal intervals.



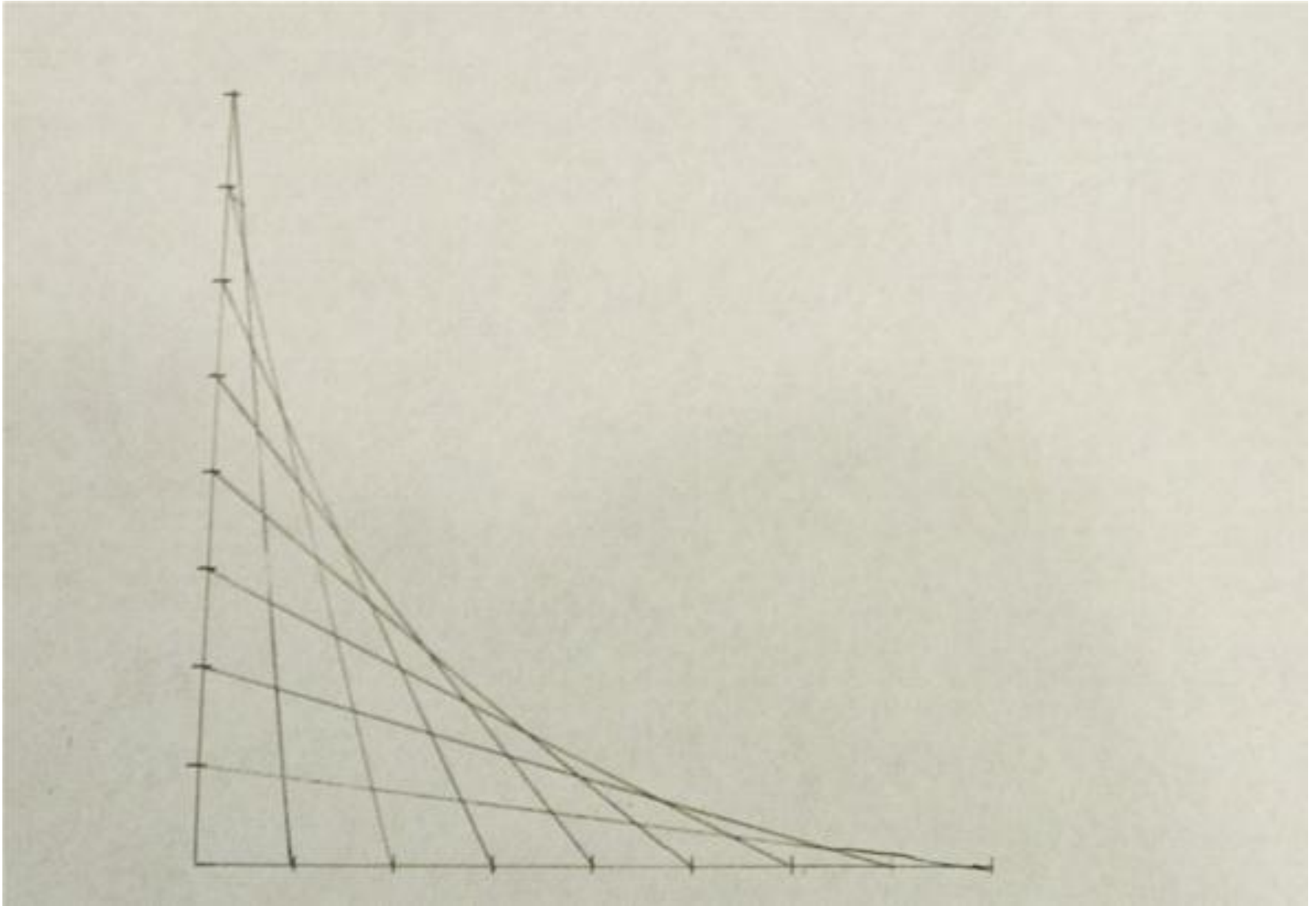
Draw a line from the farthest mark on one line to the closest mark on the other line



Now connect the 2<sup>nd</sup> farthest mark to the 2<sup>nd</sup> closest mark

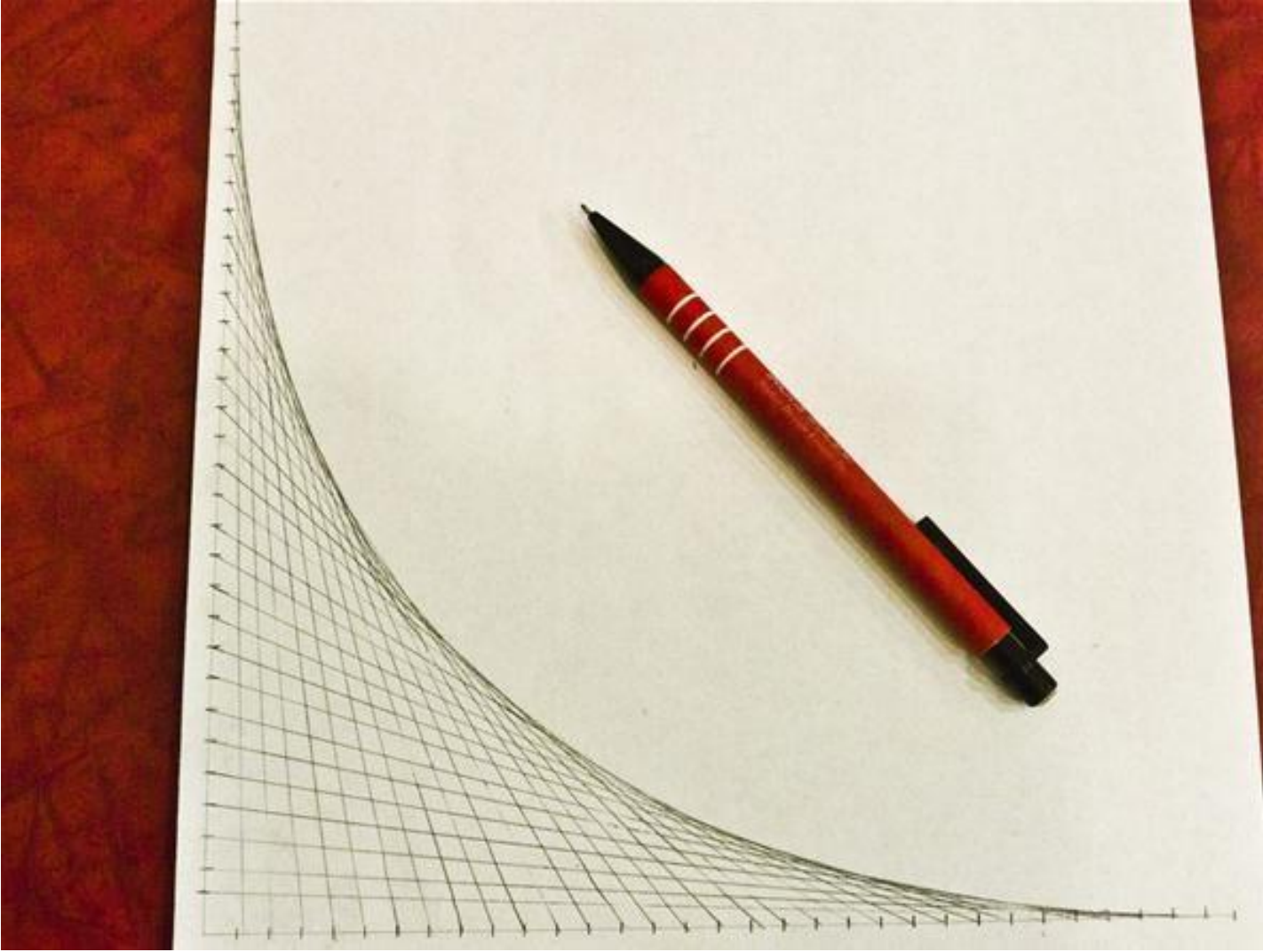


If you continue to connect the lines, you will get a **parabola**

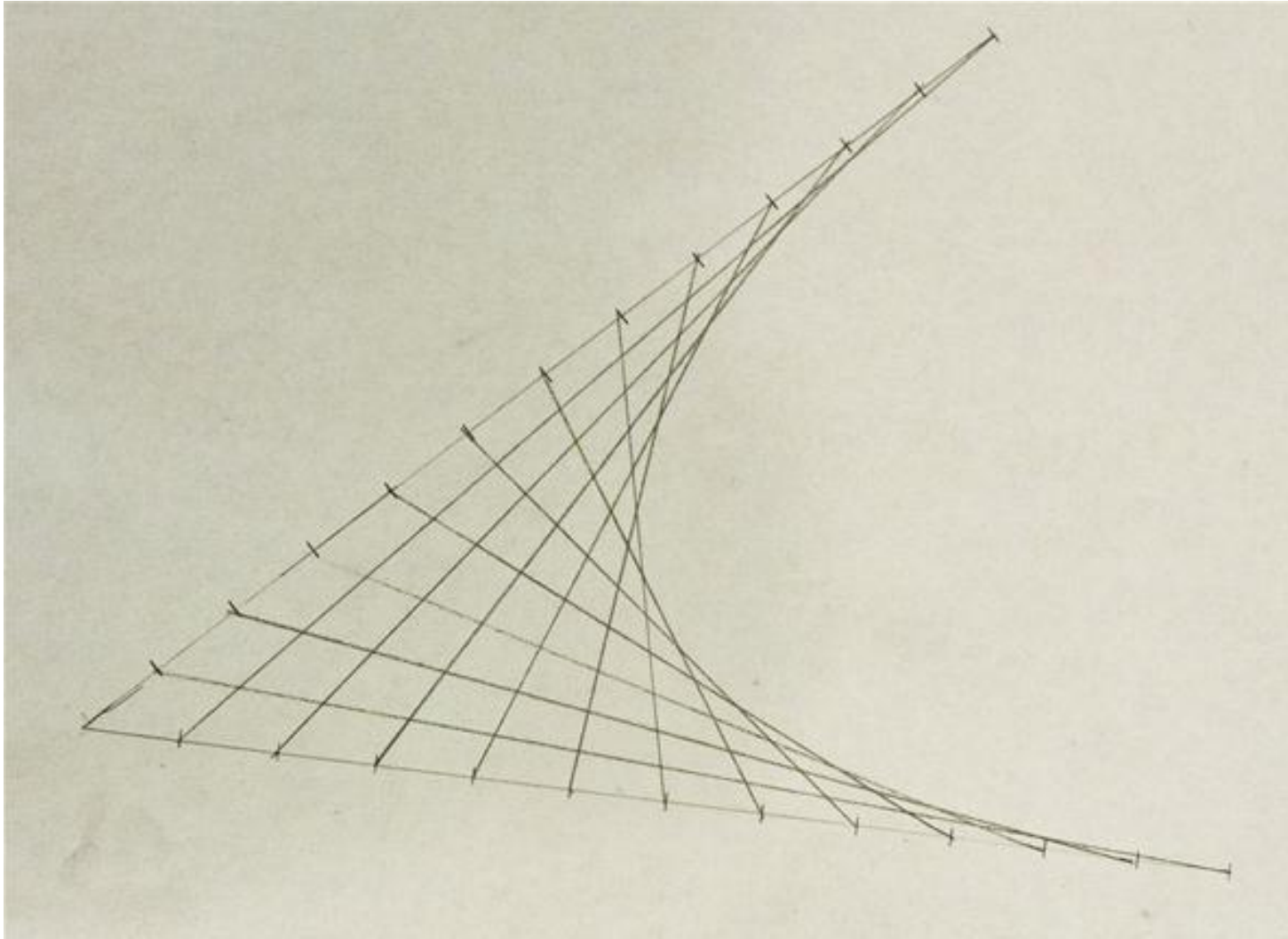




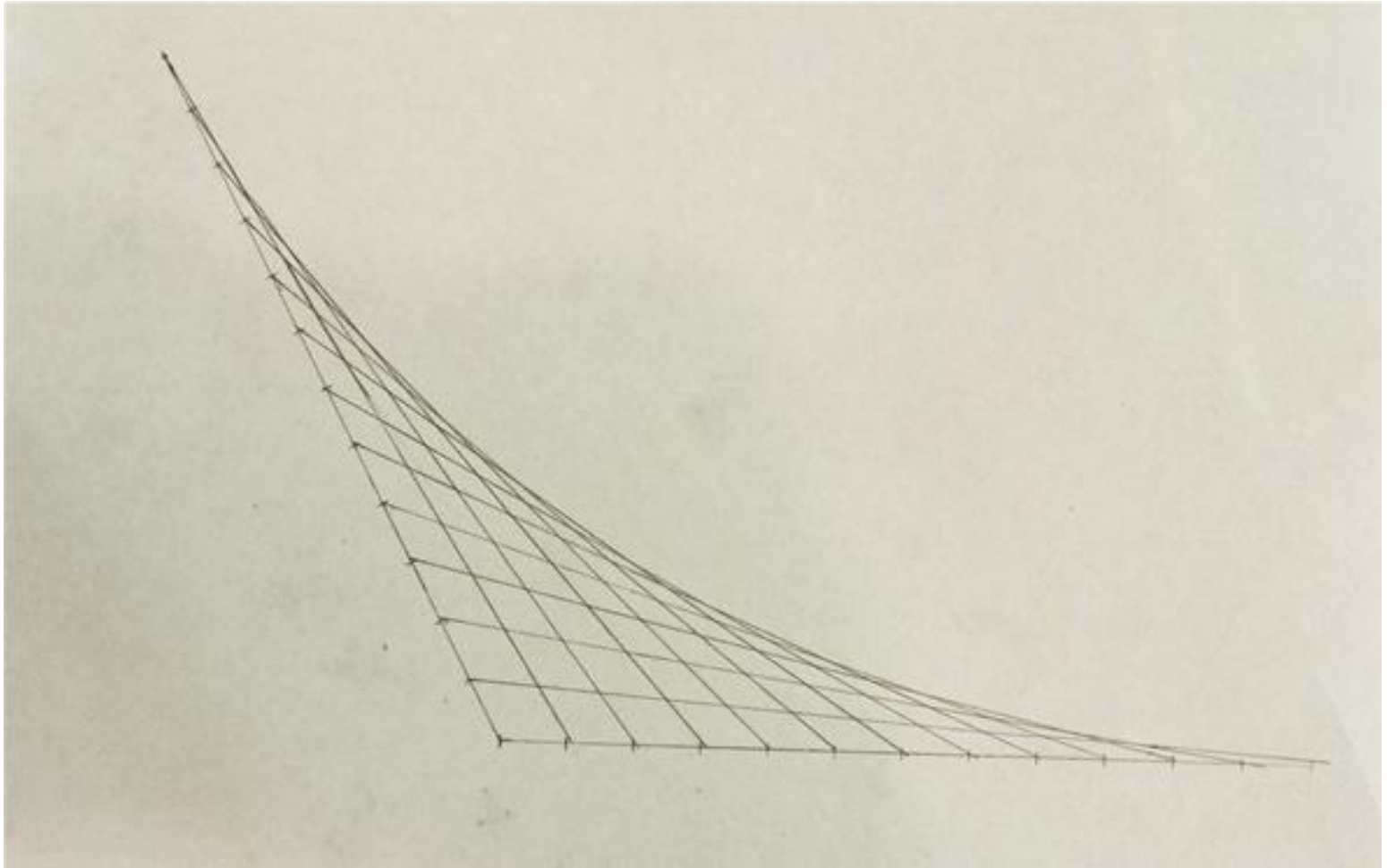
The curve can be made smoother by adding more marks.  
There are 32 in this picture.



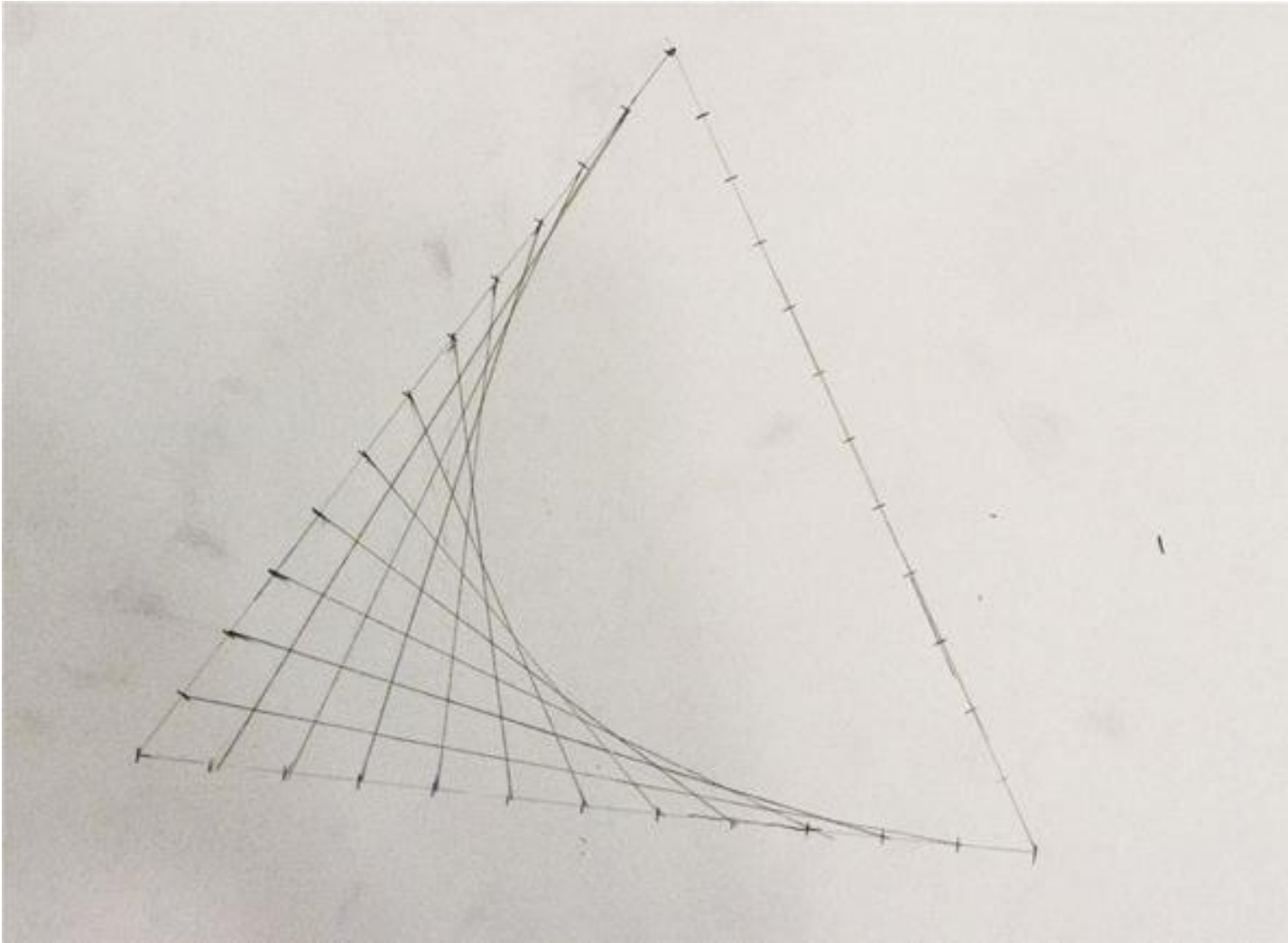
If you want a narrower parabola, use an angle less than 90 degrees.



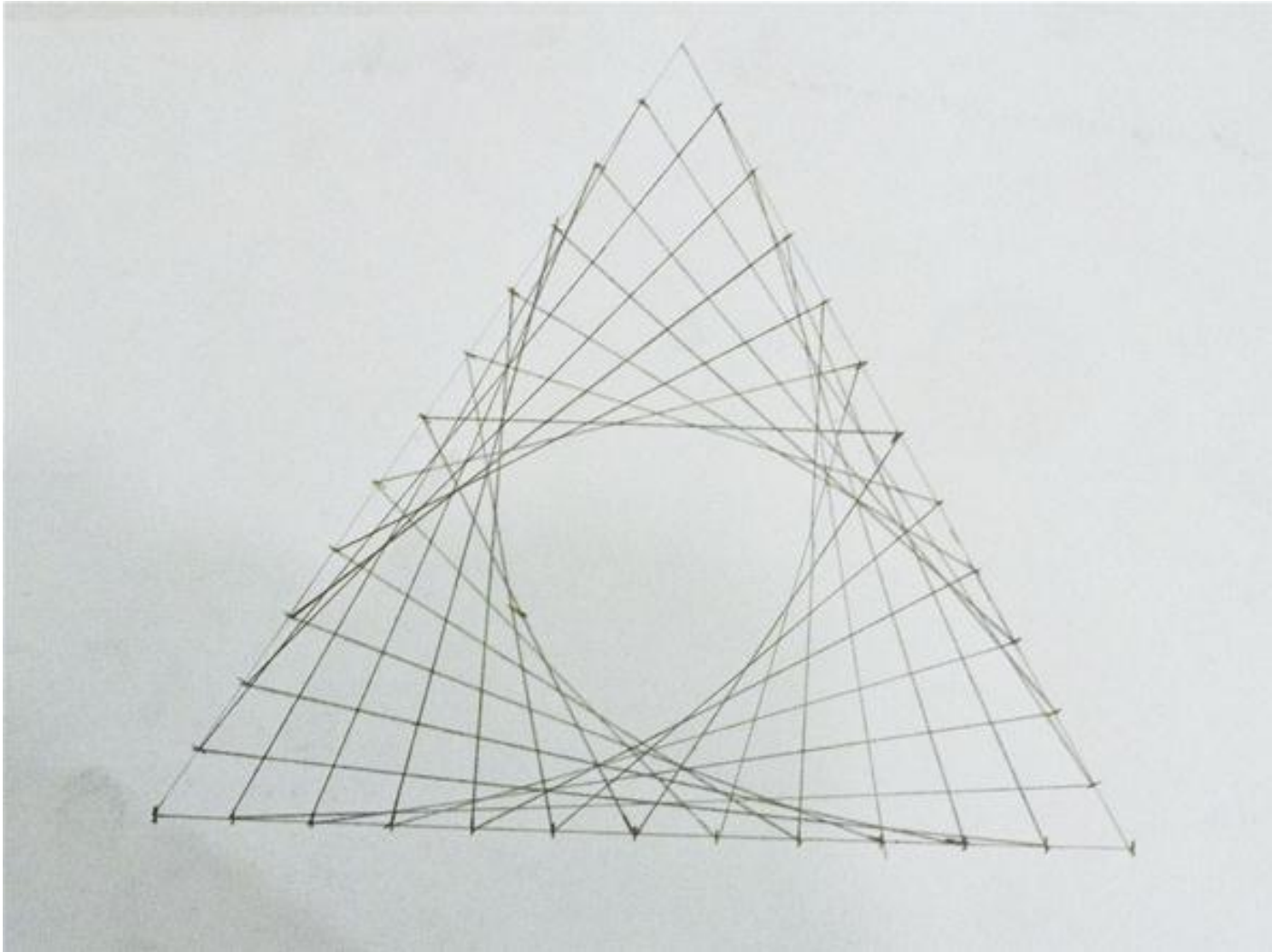
If you want a wider parabola, use an angle larger than 90 degrees.



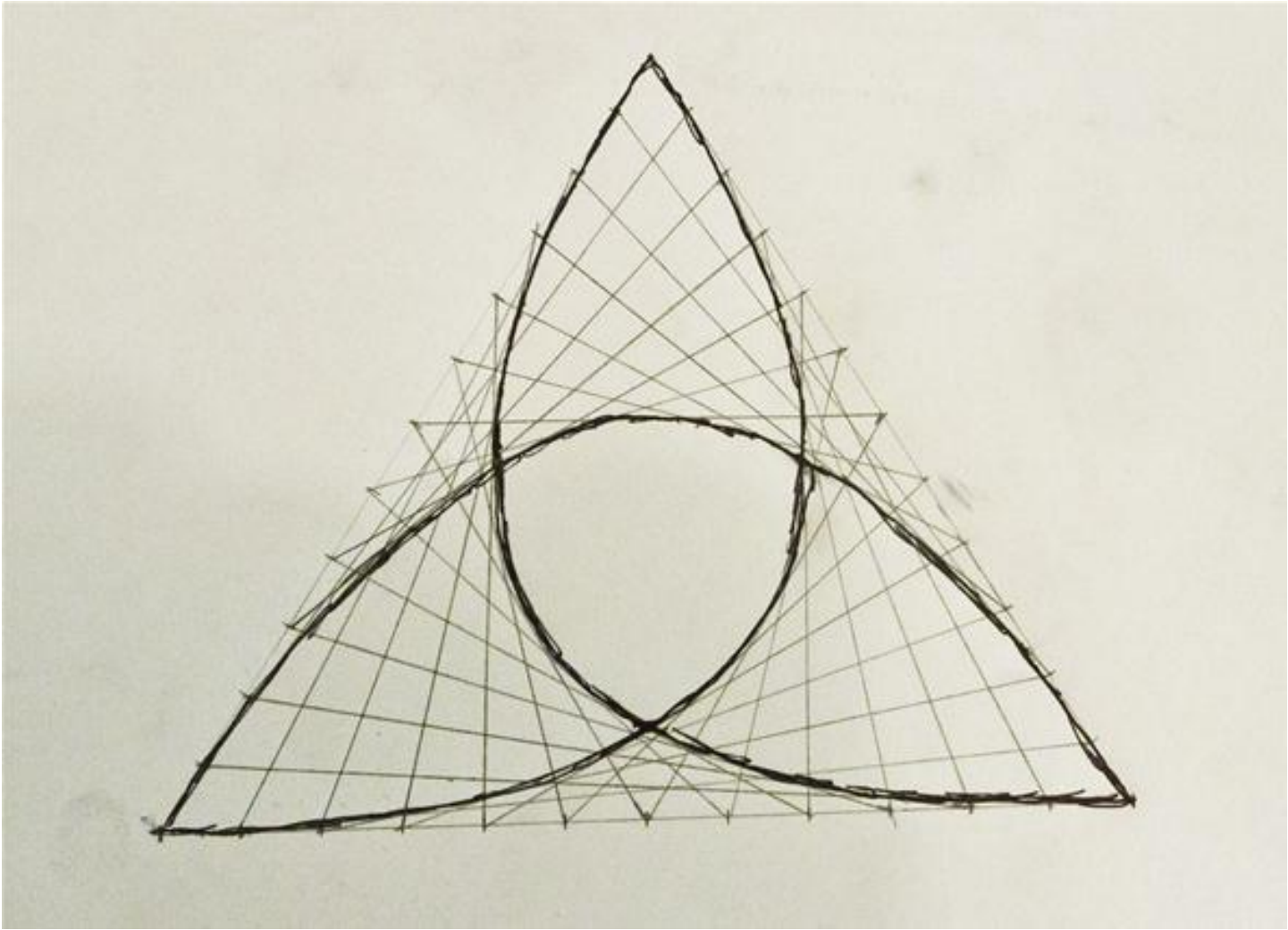
You can use this process with polygons. Here, the process is applied to an equilateral triangle.



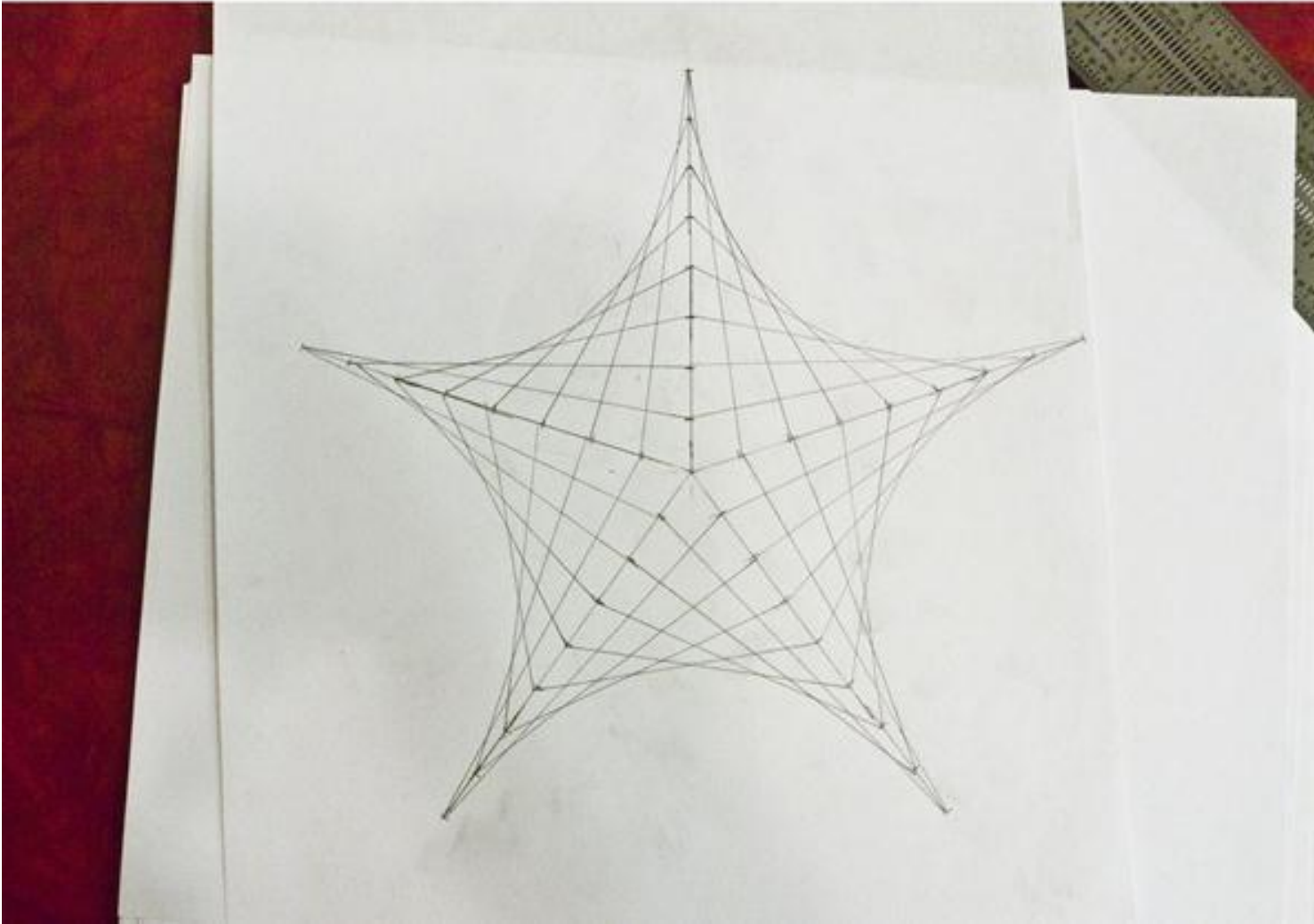
After all three sides have been connected



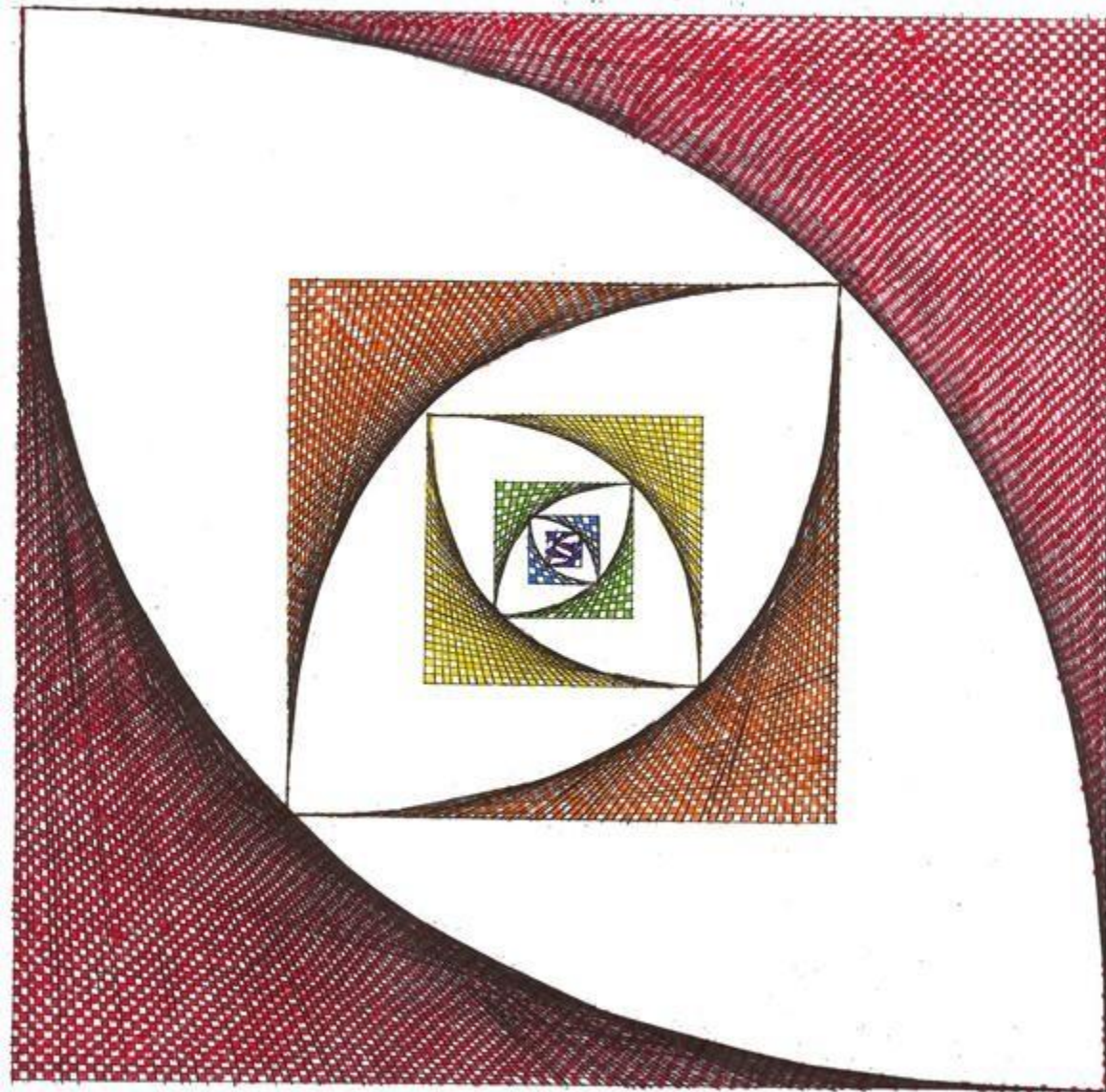
The three parabolas are shown



# Star figures

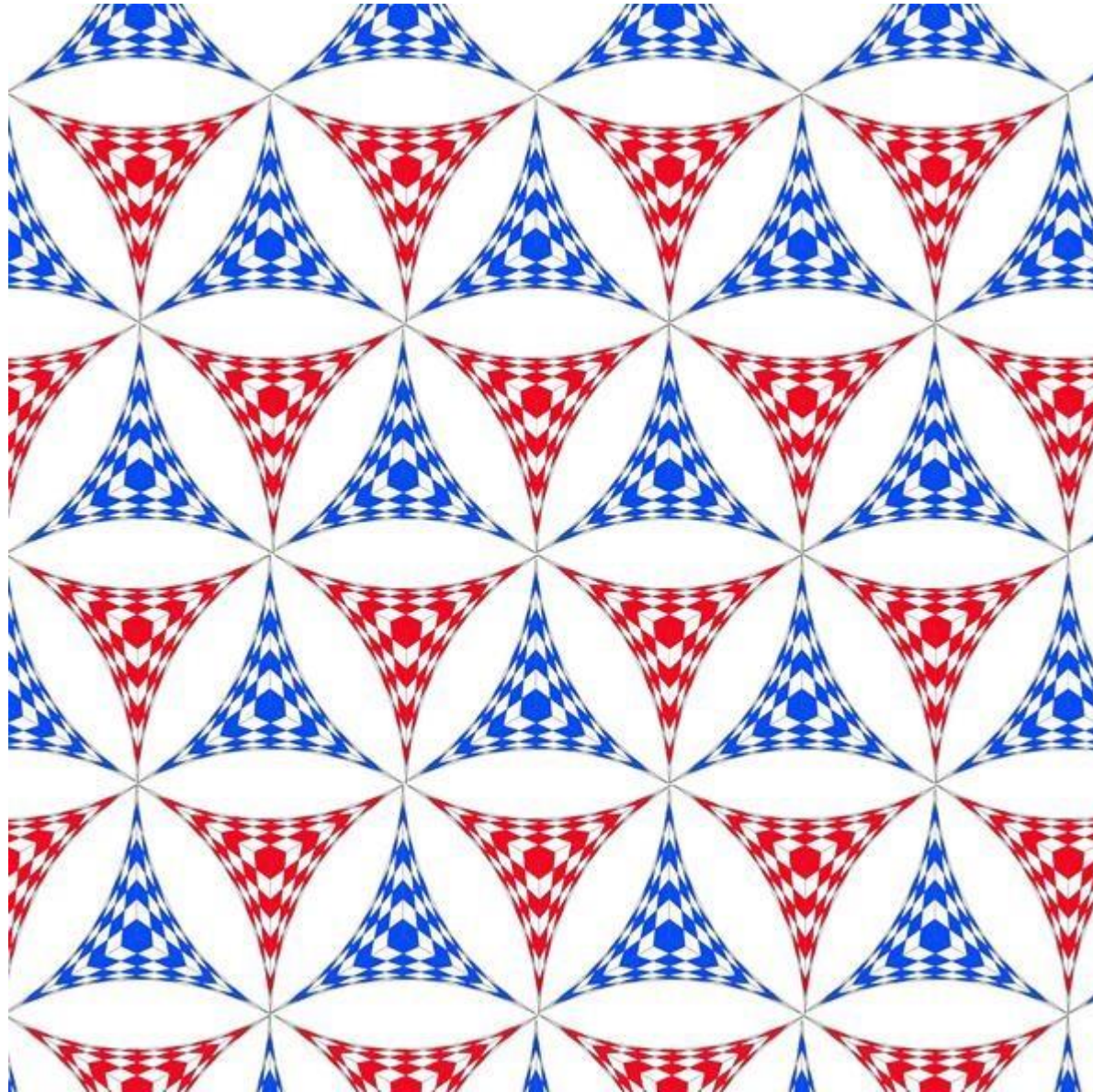


# Combining curves to make new designs

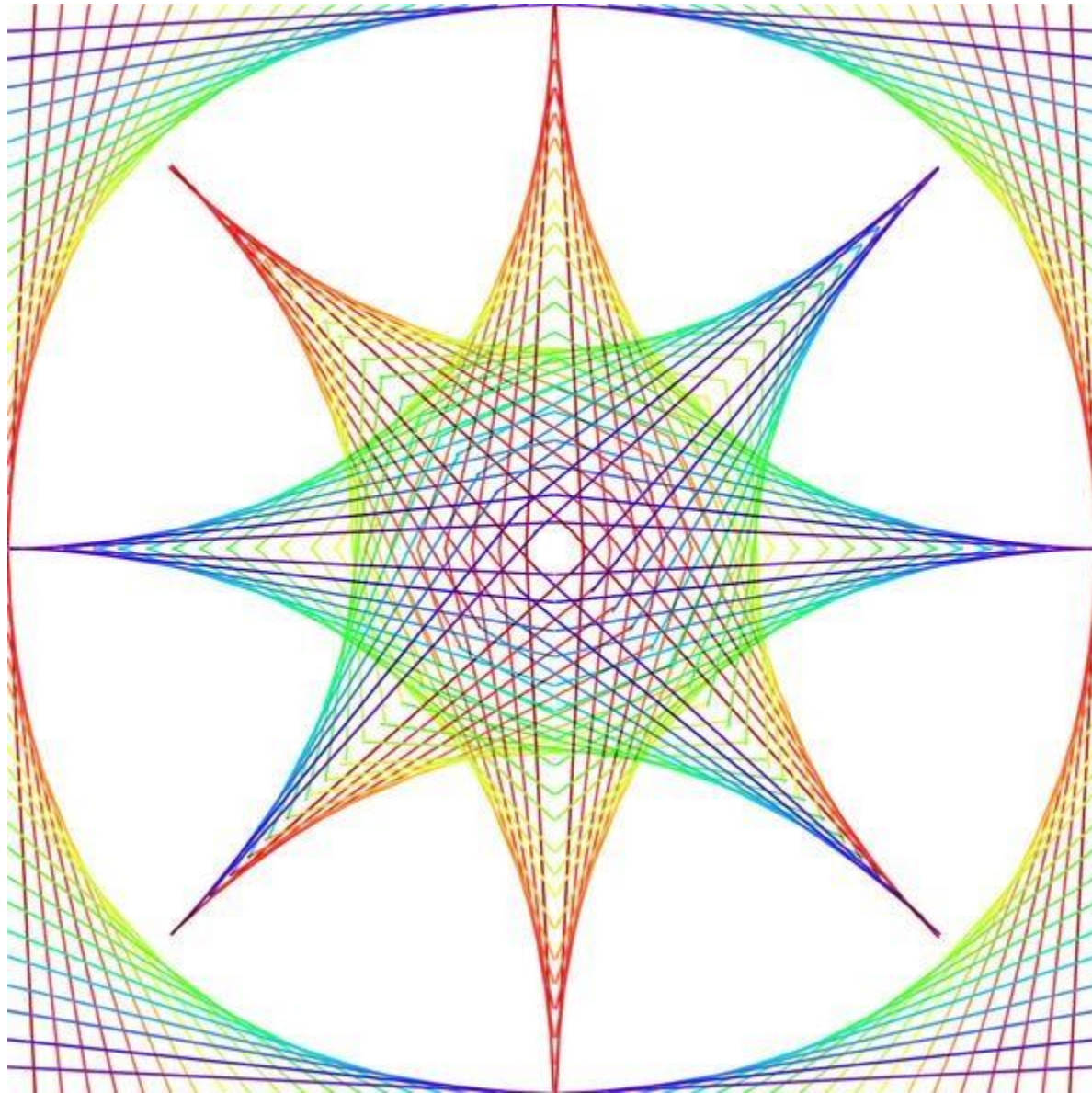




Made from parallelograms



# Combining multiple parabolas with colors



# Directions

- Complete on a blank sheet of white paper
- Because of the variety of different pieces that can be created, no template will be given
- Use rulers to draw straight lines and create equal sized tick marks.
- Use notebook edges to draw right angles.
- I will show you how to create an equilateral triangle with a compass