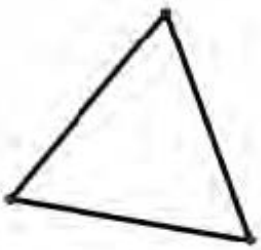
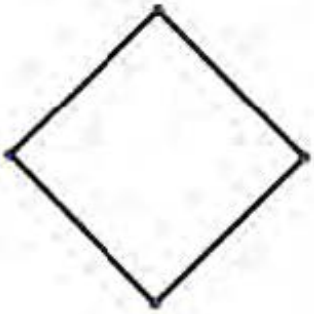
Tulsa Girls Math Circle
Straight-Cut Origami
Prof. Amy Schachle, University of Tulsa

Fold and cut problems. For each shape, find a way to fold the paper so that when you make ONE, STRAIGHT cut, the shape is cut out!

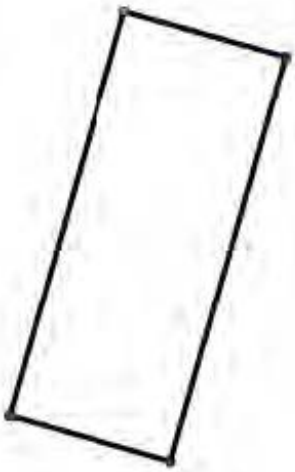
1. Record your results below by examining your folds. Draw dotted lines on the shapes to show the folds needed to solve the problem.

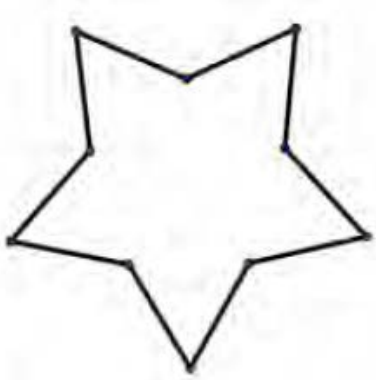


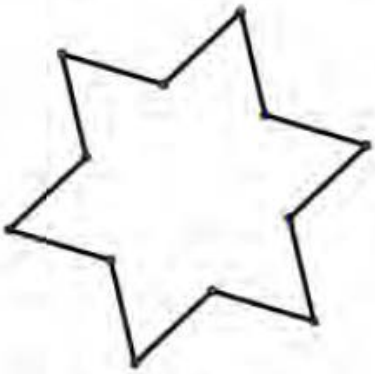
2. Find the patterns. What do you notice about the folds that work?



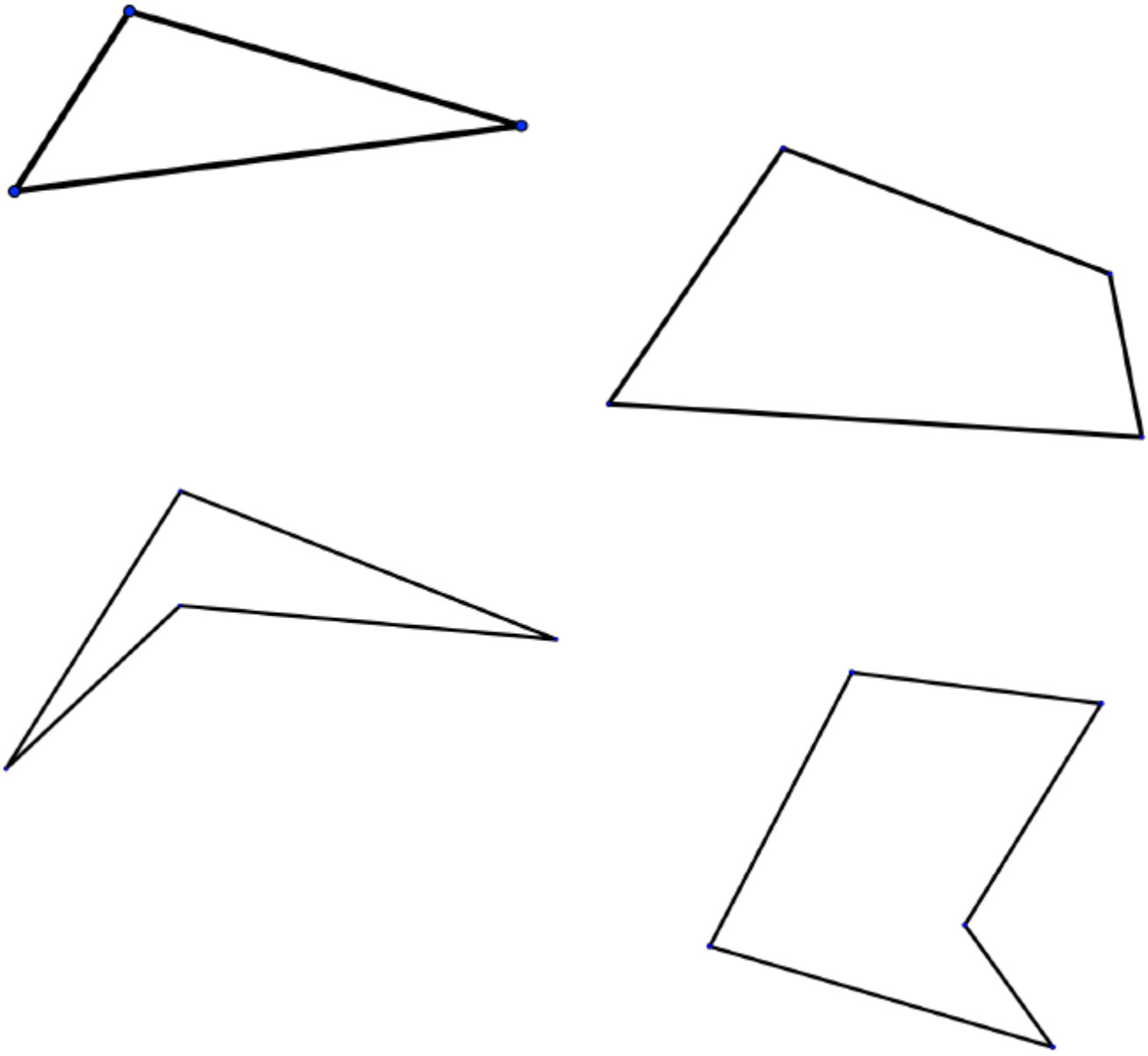
3. Generalize. Can you fold and cut any shape?







4. Challenges. Can you fold and cut (with one, straight cut) the following irregular shapes? Again, record your results by drawing the fold lines you should try.



Want to learn more? Check out the following:

http://erikdemaine.org/foldcut/ - Eric Demaine is the mathematician most famous for Fold and Cut Problems.

Inspiration and resources for this workshop are from *Discovering the Art of Mathematics: Art and Sculpture*. 2015. By Julian F. Fleron, Volker Ecke, and Christine von Renesse with Philip K. Hotchkiss. www.artofmathematics.org.