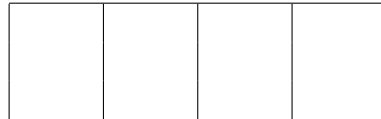(1) Play the L-shape game with a 3×5 and a 4×6 rectangle. In each case, find out if you can cover the board with L-shapes; carefully justify your assertions.

(2) Take a strip of paper and fold it in half. Fold it in half again in the same direction. Now unfold it; there are three creases (fold lines) in the paper.

Suppose you could fold a piece of paper 120 times (always in the same direction). How many creases would be left in the paper when you unfolded it? Explain in detail how you got your answer.

(Hint: You will probably need to see what happens when you fold your paper 1, 2, 3, 4, . . . times. That is, you will need to do some folding and find a pattern. Then you will need to look for a general rule to tell you what happens when you fold the paper 120 times.)

(3) Write a math autobiography, the story of your personal history with math. Please include

   (a) a list of the math courses you took in high school (and if you used group work);
   (b) what's hard and what's easy in math for you;
   (c) positive/negative events;
   (d) your current feelings about math;
   (e) your major, career goals, and how this class could contribute.