

1086-K1-1827      **Margaret E Kepner\*** (renpek1010@gmail.com). *Tiling the Plane with the Z-Pentomino: an Artistic Interpretation*. Preliminary report.

Polyominoes were formally introduced by Solomon Golomb in the mid-1950s. There are many examples of problems involving polyominoes including packing them in rectangles and other shapes, dissecting them into smaller copies of themselves (rep-tiles), and using them to tile the plane. The polyominoes of orders 2, 3, and 4 all tile the plane, and each can be shown to do so in an infinite number of ways. The situation with higher order polyominoes becomes more interesting. For example, directly congruent copies of the Z-pentomino will tile the plane in six, and only six, ways. These patterns are reminiscent of traditional Japanese textile pieces called sashiko. In this presentation, I will explain how I developed a design called “The Zen of the Z-Pentomino” employing these six tiling patterns in a style suggesting sashiko work. (Received September 24, 2012)