1086-K1-2788   **Charlene Morrow*** (`cmorrow@mtholyoke.edu`). *Pascal's Palette: Artworks Inspired by the Numbers 70 and 84.*

In a paper written for the 2012 Bridges Math/Art Conference, I describe and discuss the use of combinatorial mathematics as a tool for coloring an origami quilt with 70 units. This challenge arose from my desire to create a subtle and interesting, mathematically based birthday gift for a friend who was turning 70. In this presentation I will describe how the ideas I used to create the origami quilt inspired by 70 led me to create a completely different piece of art centered around 84 — the next birthday gift I needed. The "70" quilt used non-regular pentagonal pieces of paper to fold into the triangular-shaped quilt pieces. I observed that the unfolded pentagons tessellate, and that 4 pentagons could be combined into non-regular hexagons (which also tessellate, of course). Thus 21 hexagons use 84 pentagons. Since 84 appears in Pascal's triangle, I was able to devise an interesting combinatorial coloring scheme for the "84" piece. I will summarize the mathematics used and design steps leading to the final print on paper, a result that was produced through the interplay between mathematical ideas and artistic goals. (Received September 25, 2012)