

1086-K1-2214      **Reza Sarhangi\*** (rsarhangi@towson.edu), Department of Mathematics, Towson University, Towson, MD 21252. *The Art and Mathematics of Tiling and Tazhib for the Interior of Some Special Star Polygons*. Preliminary report.

This presentation is about possible approaches for tiling inside of some star polygons, such as a pentagram and a decagram, which have been constructed using  $(n, k)$  star polygons, where  $n$  and  $k$  are relatively prime. This presentation also includes the unconstructible heptagon and an ancient approximation for its construction. The talk then analyzes an actual heptagram tiling on the wall of an existing structure. Moreover, some topics in the art of Tazhib and the use of spirals will be presented, which include the use of pentagonal spirals in the heptagram. During this talk some related mathematical artworks will be shown. (Received September 25, 2012)