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B Lynn Bodner* (bodner@monmouth.edu), 623 Fawn Drive, Toms River, NJ 08753. *Recreating a Decagonal Star Polygon Design.*

How did artisans centuries ago create the beautiful geometric designs still found today on historic buildings and monuments throughout the Islamic world? There are few written records to definitively answer our question and it is quite likely that several different methods requiring practical geometrical knowledge were actually employed, including the use of traditional tools of the medieval period – the compass with a fixed opening (a "rusty compass"), straightedge, and set square – and there is also evidence that polygonal grids were used. In this presentation, we will illustrate E. H. Hankin's "polygons in contact" grid method for recreating a beautiful 10-pointed star polygon design. (Received September 03, 2008)