Mohammad K. Azarian* (azarian@evansville.edu), Department of Mathematics, University of Evansville, 1800 Lincoln Avenue, Evansville, IN 47722. A Medieval Calculation of Sine of One Degree by Ghiyath al-Din Jamshid Mas'ud al-Kashani (d. 1429). Preliminary report.

Al-Kashi (also known as Jamshid Kashi) discussed the calculation of sine of one degree in his non-extant treatise Risala al-watar wa'l jaib ("The Treatise on the Chord and Sine"). Our discussion in this paper will be based on Sharh-i Za'ij-i Ulugh Beg ("Commentaries on the Za'ij-i Ulugh Beg"), by Niz'am al-Din 'Abd al-'Ali ibn Muhammad ibn Husain al-Birjandi (d. 1528). In Chapter II of Book II of the above Za'ij, Birjandi commented on Kasani’s aforementioned treatise, and he presented the calculation of sine of one degree based on Kasani’s iterative method from Risala al-watar wa’l jaib. (Received September 10, 2014)