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Shing So (so@cmsu.edu), WCM 205A, CMSU, Warrensburg, MO 64093, Mahmoud Yousef (yousef@cmsu.edu), WCM 217, CMSU, Warrensburg, MO 64093, and Dale Bachman\* (dbachman@cmsu.edu), WCM 211, CMSU, Warrensburg, MO 64093. Existence and Uniqueness of Ellipses in the Taxicab Geometry.

In contrast to the Euclidean case, three noncollinear points in two dimensions may not lie on any circle in the Taxicab geometry, and when they do the circle may not be unique. This paper extends the question to ellipses, determining when n points in two dimensions lie on a Taxicab ellipse and when that ellipse is unique. (Received September 27, 2005)