

1046-37-582

Mohammad Javaheri* (mohammad.javaheri@trincoll.edu), 300 Summit St, Department of Mathematics, Trinity College, Hartford, CT 06106. *On a property of plane curves.* Preliminary report.

Let $\gamma : [0, 1] \rightarrow [0, 1]^2$ be a continuous curve such that $\gamma(0) = (0, 0)$, $\gamma(1) = (1, 1)$, and $\gamma(t) \in (0, 1)^2$ for all $t \in (0, 1)$. We prove that, for each $n \in \mathbb{N}$, there exists a sequence of points A_i , $0 \leq i \leq n + 1$, on γ such that $A_0 = (0, 0)$, $A_{n+1} = (1, 1)$, and the sequences $\pi_1(\overrightarrow{A_i A_{i+1}})$ and $\pi_2(\overrightarrow{A_i A_{i+1}})$, $0 \leq i \leq n$, are positive and the same up to order, where π_1, π_2 are projections on the axes. Generalizations to higher dimensions and connections to discrete dynamical systems are also given. (Received September 08, 2008)