1035-41-843 **Mohammed A. Qazi*** (qazima@aol.com), Department of Mathematics, Tuskegee University, Tuskegee, AL 36088. *An L^p Inequality for Polynomials.*

Let $\mathcal{P}_n$ be the class of all polynomials of degree at most n, and let $\mathcal{M}_p(g\,;\,\rho)$ denote the L^p mean of g on the circle of radius ρ centered at the origin. We specify a number $\rho^* \in (0\,,\,1)$, depending on n and k, such that for any $f \in \mathcal{P}_n$, the ratio $\mathcal{M}_p(f^{(k)}\,;\,\rho)/\mathcal{M}_p(f\,;\,1)$ is maximized by $f(z) := z^n$ for all $\rho \in [\rho^*\,,\,\infty)$ and $p \geq 1$. Here, $f^{(k)}$ denotes the k-th derivative of f. The interest of the result lies in the fact that ρ^* is strictly less than 1. (Received September 16, 2007)