

1046-41-1318      **Alfred S. Cavaretta\*** (cavarett@math.kent.edu), Department of Mathematics, Kent State University, Kent, OH 44240, and **Terence Hanchin**. *A context for Sylvester's theorem on sums of shifted monomial powers*. Preliminary report.

Commenting on a 1914 paper of G. Pólya in 1974, I. J. Schoenberg claimed that this particular theorem of Sylvester was an "interesting but isolated result." In 1958 Schoenberg and Pólya used the theorem to establish the cyclic variation diminishing property of the de la Vallée Poussin means. While studying this property for a wider class of means, we have found that Sylvester's theorem is itself just one instance of a wider class of such results. (Received September 15, 2008)