1056-01-278

David R Bellhouse* (bellhouse@stats.uwo.ca), Dept. of Statistical and Actuarial Sciences, Western Science Centre, University of Western Ontario, London, Ontario N6A 5B7, Canada. *The Genesis of Generating Functions in Abraham De Moivre's Work.*

In the Macclesfield Collection at Cambridge University Library, there are two manuscripts of identical material entitled "Combinations", one a rough copy and the other a copy in a very fine hand. The central result given in the manuscripts is a generating function used to find the number of outcomes in the sum of the faces that show in the throw of several dice. The same generating function finds its way into print in Abraham De Moivre's *Miscellanea Analytica* published in 1730. It is argued that the results in the manuscript are due to De Moivre and that they predate De Moivre's first work on probability, *De Mensura Sortis*. (Received August 24, 2009)