1053-62-73   **B. M. Golam Kibria*** (`kibriag@fiu.edu`), Florida International University, Department of Mathematics and Statistics, University Park, Miami, FL 33199, and **M. Shakil**, Hialeah, FL 33012. *ON THE PRODUCT AND RATIO DISTRIBUTIONS OF TWO RANDOM VARIABLES WHEN THEY BELONG TO DIFFERENT FAMILIES.*

The distributions of the product and ratio of two independent random variables, when they belong to the same family have been studied by many researchers. In recent years, there has been a great interest in the study of the above kind when the two independent random variables belong to different families. In this paper, the exact distributions of the product and ratio of Maxwell and Rayleigh random variables have been investigated when they are distributed independently of each other. The associated cdfs, pdfs, moments, entropies, etc., have been derived. To describe the possible shapes of the associated pdfs and entropies, the respective plots are provided. The percentage points associated with the cdfs of the product and ratio have been tabulated. It is hoped that the findings of the paper will be useful for researchers in various fields (Received August 11, 2009)