with the approximate values, which are found by solving (1) for F by considering it as a quadratic equation in $F^{\frac{1}{2}}$. In these tables $P = \int_F^\infty \varphi(F)\, dF$, where $\varphi(F)$ is the probability distribution of F. The case $n_1 = 1$ is of special interest, since here $F = t^2$, where t has Student's distribution, and is shown separately.

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NOTE ON THE DISTRIBUTION OF ROOTS OF A POLYNOMIAL WITH RANDOM COMPLEX COEFFICIENTS

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In order to obtain the distribution of roots of a polynomial with random complex coefficients, it was found convenient to employ a rather well known theorem on complex Jacobians. Since proofs of this theorem are not very plentiful in the literature, a brief and simple proof of it is presented in this note.

Theorem: *Let n analytic functions be defined by*

$$w_p = u_p + iv_p = f_p(z_1, z_2, \cdots, z_n), \quad (p = 1, 2, \cdots, n), \tag{1}$$

where $z_p = x_p + iy_p$, $i = \sqrt{-1}$. Let j denote the Jacobian of the transformation of the n complex variables defined by (1). *That is*

$$j = \begin{vmatrix} \frac{\partial w_1}{\partial z_1} & \cdots & \frac{\partial w_1}{\partial z_n} \\ \cdots & \cdots & \cdots \\ \frac{\partial w_n}{\partial z_1} & \cdots & \frac{\partial w_n}{\partial z_n} \end{vmatrix}. \tag{2}$$

Let furthermore J denote the Jacobian of the transformation of the $2n$ real variables defined by the equations $u_p = u_p(x_1, x_2, \cdots, x_n; y_1, y_2, \cdots, y_n)$ and $v_p = v_p(x_1, x_2, \cdots, x_n; y_1, y_2, \cdots, y_n)$, $(p = 1, 2, \cdots, n)$. That is

$$J = \begin{vmatrix} U_x & U_y \\ V_x & V_y \end{vmatrix}, \tag{3}$$