three-dimensional projective space which satisfy the condition $\beta\psi^3 - \gamma\phi^3 = 0$. The subclass of these surfaces which also satisfy the condition $\phi\psi k^2 = 9\beta\gamma$ with a constant k plays an important role. Applications are made to conjugal quadrics, D_k quadrics and curves, asymptotic section quadrics, chord section quadrics, the Segre-Darboux conjugate nets, deformable curves, projective curves, axial quadrics, and other projective differential concepts. (Received September 29, 1944.)

Logic and Foundations

282. A. E. Meder and Elizabeth Hallett: *The equipollence of two systems of axioms.*

It is proved that axioms 1–5 of the set given by Weisner (Trans. Amer. Math. Soc. vol. 38 (1935) pp. 474–484) for a "hierarchy" and the set of axioms given by Klein-Barmen (Math. Ann. vol. 111 (1935) pp. 596–621) for a "Verband" are equipollent, and that Weisner's axiom 6 is not derivable from Klein's axioms. (Received September 30, 1944.)

Statistics and Probability

283. L. A. Aroian: *The frequency function of the product of two normally distributed variables.*

Let $z = xy/\sigma_1\sigma_2$, x and y normally distributed, the means be denoted by $\overline{X}$, $\overline{Y}$, standard deviations by σ_1, σ_2, coefficient of correlation by r_{xy}, and $\rho_1 = \overline{X}/\sigma_1$, $\rho_2 = \overline{Y}/\sigma_2$. C. C. Craig (Annals of Mathematical Statistics vol. 7 (1936) pp. 1–15) has obtained the probability function of the product as the difference of two integrals and also as the sum of an infinite series of Bessel functions of the second kind. The author proves that as ρ_1 and ρ_2 approach infinity in any manner the distribution of z approaches normality, $-1 \leqq r \leqq 1$. The theorem holds in addition under the circumstances $\rho_1 \to \infty$, $\rho_2 \to -\infty$; $\rho_1 \to -\infty$, $\rho_2 \to -\infty$; $\rho_1 \to -\infty$, $\rho_2 \to \infty$; with $-1 < r < 1$. The distribution of z approaches normality, further, if ρ_1 is constant, $\rho_2 \to \infty$, $-1 \leqq r \leqq 1$; and the same variations in ρ_1 and ρ_2 apply as in the previous theorem. The special case $r = 0$ is discussed in some detail. When ρ_1 and ρ_2 are small, the Gram-Charlier Type A series and the Pearson Type III function are excellent approximations in the proper regions. To determine the numerical values of the exact probability function of z, the author uses mechanical quadrature to evaluate the two integrals, since the series development converges very slowly even for values of ρ_1 and ρ_2 as small as 2. (Received September 25, 1944.)

Topology

284. R. F. Arens: *Topologies for the class of continuous functionals on a completely regular space.*

Among the topologies that can be introduced into a class C of continuous mappings of one topological space A into another, B, those which are "admissible" are of especial interest. A topology for C is admissible if the expression $f(x)$, where f is an element of C and x is a point in A, depends continuously on f and x simultaneously (cf. abstract 49-1-89). The paper contains a proof that a weakest admissible topology for C always exists when A is completely regular and locally bicompact. (One topology is weaker than another if the open sets of the former are included among the open sets of the latter.) On the other hand, if A is completely regular and B contains a simple arc (in particular, if B is a real interval) and C is known to have a weakest admissible