sits next to his wife. By elementary methods, the author obtains the answer $4n\ n!\sum_{k=1}^{n}(-1)^k C_k^{2n-k}(n-k)!/(2n-k)$. (Received June 1, 1943.)

ANALYSIS

182. E. F. Beckenbach and R. H. Bing: *Conformal minimal varieties.*

A set of m real functions of n real variables, $m \geqq n \geqq 2$, defined in a domain D, has been called (for $m=n$ by N. Cioranesco, Bull. Sci. Math. vol. 56 (1932) pp. 55–64) a set of conjugate harmonic functions provided the functions are harmonic and together satisfy the usual conditions for conformality. Such a set of m functions gives a conformal map on Euclidean n-space of a minimal variety V_n immersed in Euclidean m-space. But according to Haantjes, for $n \geqq 4$ the class of conformally flat spaces is quite narrow. It is now shown directly that for $n \geqq 3$ the only sets of conjugate harmonic functions necessarily are constants or linear functions, so that either the V_n is a point or it can be obtained from D by rigid motions, transformations of similitude, and reflections in hyperplanes. (Received May 7, 1943.)

183. R. P. Boas: *Almost periodic functions of exponential type.*

As an extension of a well known result on entire functions of exponential type which are periodic on the real axis, it is shown that an entire function of exponential type which is almost periodic on the real axis has its Fourier exponents bounded. Almost periodicity as general as Besicovitch (order 1) is admissible; in fact, the mere existence of the mean value of $|f(x)|$ implies the existence and vanishing of the mean value of $f(x)e^{i\lambda x}$ when $|\lambda|$ exceeds the type of the function $f(z)$. For the proof, one rotates the line of integration in $\int_0^T e^{i\lambda x}f(x)dx$ through an angle of $\pi/2$, and applies theorems which connect the growth of $|f(x+iy)|$ with that of $|f(x)|$. The estimate $f(x)=o(|x|)$ as $|x|\to\infty$ is a consequence of the existence of the mean value of $|f(x)|$. (Received May 11, 1943.)

184. Vincent Cowling and Walter Leighton: *On convergence regions for continued fractions.*

Let k be any real number greater than 1 and ϵ any number such that $0<\epsilon<k$. If the complex numbers a_{2n} and $a_{2n+1}=r_n e^{i\theta_n}$ satisfy the conditions (1) $|a_{2n}| \leqq k-\epsilon$, $a_{2n}\neq -1$, (2) $r_n \geqq 2[k-\cos\theta_n]$, $0\leqq\theta_n\leqq 2\pi$, then the continued fraction $1+K[a_n/1]$ converges. It follows as a corollary that the continued fraction will converge if conditions (1) and $|a_{2n+1}|\geqq 2(k+1)$ hold. (Received April 28, 1943.)

185. Nelson Dunford: *Spectral theory.* I. *Convergence to projections.*

By a systematic use of an operational calculus suggested by the formula $f(T) = (2\pi i)^{-1}\int_C f(\lambda)(\lambda I - T)^{-1}d\lambda$ conditions are derived which are necessary and sufficient for the convergence of a given sequence $P_n(T)$ of polynomials in a linear operator T (on a complex Banach space X) to a projection on a manifold of the form $\mathrm{M}[P] = E_x[x\in X, P(T)x=0]$. (Received April 24, 1943.)

186. M. R. Hestenes: *On the condition of Weierstrass in the calculus of variations.*

The present paper is devoted to the study of properties of the Weierstrass E-func-