19. **The Nonexistence of Difference Sets for Group Designs.** S. S. SHRIKHANDE, Nagpur College of Science, India.

The following theorem is proved. *Let $v = mn$, where n is a prime congruent to* 3 *(mod.* 4*). Let nonnegative integers λ_1 and λ_2 satisfy the relation $k(k-1) = (m-1)\lambda_1 + (n-1)m\lambda_2$. Define $\theta = k + \lambda_1(m-1) - \lambda_2 m$ and let ϕ be a prime factor of θ occurring in it to an odd degree. Then if $(-n/\phi) = -1$, where (q/p) stands for the Legendre symbol, there does not exist a difference set of k integers which gives rise to a group design* (K. R. NAIR AND C. R. RAO, "A note on partially balanced incomplete block designs," *Science and Culture*, Vol. 7 (1942), pp. 615–616) *with parameters $v = b = mn$, $r = k$, λ_1, λ_2, where there are n groups of m treatments each, in b blocks of size k, such that each pair of varieties from the same group occurs in λ_1 blocks while each pair of varieties coming from different groups occurs in λ_2 blocks.* This generalizes a result of Chowla ("On difference sets," *Proc. Nat. Acad. Sci.*, Vol. 35 (1949), pp. 92–94), the proof following along the lines of his paper.

20. **Concerning Large-Sample Tests and Confidence Intervals for Mortality Rates.** JOHN E. WALSH, Bureau of the Census.

This is an extension of the paper "Large-sample tests and confidence intervals for mortality rates" which appeared in the June, 1950 issue of the *Journal of the American Statistical Association*. The results of this other article are placed on an axiomatic basis and the validity of these axioms is discussed. The basic underlying concepts are explained and some numerical examples of applications are worked out. Also additional significance tests and confidence intervals are presented.

NEWS AND NOTICES

Readers are invited to submit to the Secretary of the Institute news items of interest

Personal Items

The Shewhart Medal for outstanding service and leadership in the field of quality control was awarded to Dr. Martin A. Brumbaugh, Director of Statistics at Bristol Laboratories, Inc., Syracuse, New York, at the convention of the American Society for Quality Control in Cleveland May 23 and 24. Dr. Brumbaugh is a founder of the American Society for Quality Control and at this time is first vice-president of the group.

Dr. W. Edwards Deming visited Japan in July, 1950, and delivered a number of lectures and conducted two 8-day courses in quality control in Tokyo and Fukuoka. Considerable interest in statistical methods and quality control among Japanese engineers and industrialists has arisen, largely as result of this visit.

Mr. John C. Hintermaier, formerly Superintendent of Development, Standards Testing Laboratories, Cluett Peabody & Co., Research Division, Troy, New York, is now with the Textile Materials Engineering Laboratory, Philadelphia Quartermaster Depot, Philadelphia 45, Pennsylvania.

Mr. Roy R. Kuebler, Jr. is returning to his position of Associate Professor of Mathematics at Dickinson College, Carlisle, Pennsylvania, after a year's leave.

Mr. Marvin Masel has resigned his position as Engineering Statistician with the