ABSTRACTS

NONSTANDARD SOLUTIONS TO PROBLEMS IN LIFE CONTINGENCY EXAMINATIONS

Murray Silver

Many life contingency instructors teach their actuarial examination students "exam techniques" which defeat the purpose of the examination and give their students an unfair advantage. This paper discusses many such methods and openly makes them available to all.

INCREASING INSURANCES UNDER THE UNIFORM DISTRIBUTION OF DEATHS ASSUMPTION

Mark D. J. Evans and Calvin D. Cherry

The student of actuarial science frequently is called upon to justify interest or life contingency formulas by "general reasoning." This helps to prepare the student for Society examinations. One may invite trouble, however, when using general reasoning rather than using mathematical proofs. A case in point is the derivation of the approximation for increasing insurances under the uniform distribution of deaths assumption.

SOME CONSEQUENCES OF MORTALITY FUNCTION

Farrokh Guiahi

The notion of mortality function is given a special emphasis. Concepts such as "Distance Function" and "Confidence Regions" are utilized. These concepts are applied to the problem of margin determination for a mortality function.

A STATISTICAL APPROACH TO GRADUATION BY MATHEMATICAL FORMULA

L. K. Chan and H. H. Panjer

Graduation by mathematical formula is recast as problem of statistical estimation. The method of maximum liklihood is used to determine the estimates of the parameters. Theory is developed to allow for estimation without resorting to the usual "exposure" formulas. Both single and multiple decrement models are considered. Theoretical results are obtained for some specific mortality models. Numerical procedures to obtain the estimates are considered.

SOME INSIGHTS INTO ALLOCATING THE FEDERAL INCOME TAXES

Charles E. Johnson

The purpose of this paper is to look at some approaches to allocating the Federal Income Taxes among various lines of business. For this purpose, the Federal Income Taxes for a company is broken down into a Separate Company Tax for each line of business and a Marriage Tax for the company as a whole.

THE COMPARISON OF GROUP LIFE BENEFIT SCHEDULES

Phelim P. Boyle

A method is suggested for analyzing group life insurance benefit schedules with respect to certain criteria. The procedure is illustrated by means of simple numerical examples.

A PRACTICAL METHOD FOR DETERMINING RETENTION LIMITS FOR INDIVIDUAL DISABILITY INCOME INSURANCE

Clayton A. Cardinal

This essay sets forth some of the considerations necessary to a

practical determination of retention limits appropriate for disability income insurance.

ULPIAN'S TABLE

Walter J. Mays

The paper exhibits a relationship, which does not seem to have been noticed before, indicating that Ulpian's Table is a refinement of another table described by Ulpian's contemporary, Aemilius Macer, and to this extent, at least, the values are not arbitrary.

ADJUSTED PREMIUM FORMULAS

Lee-Man Tang and Karl, K. S., Lee

The student of actuarial science has been struggling with the adjusted premium method of determining nonforfeiture values for many years. The problem mainly lies in the complexity of the adjusted premium formula. The purpose of this paper is to simplify the adjusted premium formula and give an explicit solution to the general adjusted premium formulas. The ordinary life adjusted premiums are discussed in detail. An application of AP-equations to the determination of gross premiums is presented in the final portion of the paper.

THE TABLE OF ISOLATED MORTALITY

Basil Xavier

Many will agree that the impact of the computer revolution on the actuarial profession has forced us to seek new ways to do our old things, quite often with results that surprise us, because it never occurred to us

to look at the problem from any but the 'traditional' perspective. The classical methods of approximating an annuity value are predicated on the assumption that the interest element of the immediate annuity function is mathematically so inextricably entangled with the mortality element that it is not possible to separate the two, hence the necessity for approximation. This premise, if not false, at least should be qualified. The mortality element can be partially isolated in a particular manner, allowing an exact annuity value to be readily obtained at any interest rate.