CORRESPONDENCE

Annuities-certain at linearly decreasing rates of interest

The Editor,
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13 *May* 1948

Sir,

With reference to the article appearing under my name headed 'Annuities-certain at linearly decreasing rates of interest' in Vol. VII (1948), p. 253, an error has unfortunately been introduced into the heading of the second annuity column. This is not $a_{\overline{n}|}$ but $a_{\overline{n}|}$ divided by the appropriate value of $[1 + \cdot 08175\,(n^2 - 1)\,h]$.

It may be of interest to members to observe that since this note went into print a similar investigation has been carried out for $s'_{\overline{n+1}|} - 1$, and I find that exactly the same empirical formula gives equally good results for that function.

With v'^n obtained by differencing the values of $a'_{\overline{n}|}$ we therefore have available a fairly simple method of (*a*) calculating Sinking Fund premiums based on a combination of an interest rate i and a form of probability that such rate will be realized in year t; and (*b*) carrying out a prospective valuation of Sinking Fund business on the same basis, allowing in successive valuations automatically for the rate i having actually been realized in the intervaluation periods.

Finally, I would add that it is recognized that the best results for different values of i and h are given by varying slightly the factor ·08175. This value, however, was selected as it appeared on a broad basis to give the most satisfactory general results, and the extent of the percentage error introduced over a period of even 100 years is such that variation of ·08175 is not likely to be really worth while.

Yours faithfully,

E. M. THOMAS