

CORRESPONDENCE

The Joint Editors
*The Journal of the Institute of
 Actuaries Students' Society*

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Building Society mortgages

Sirs,

G. J. Knapman developed in an interesting letter (*J.S.S.* **10**, 159-60) a formula for calculating the net single premium at rate of interest i for an assurance to cover the amount outstanding under a Building Society mortgage subject to a rate of interest j , referring to a valuable paper of H. A. Gosden (*J.S.S.* **7**, 174-6) and proposing to construct three columns C'_x , M'_x , D'_x for the range of ages over which these policies extend. In a previous paper 'Amortización y Seguro de Vida' published in the *Revista del Colegio de Ingenieros de Venezuela*, no. 151-2, Caracas, 1944, assuming $x+n \leq 75$, I developed a formula which needs only the construction of two columns

$$G_x = C_x^i a_{75-x}^j; \quad H_x = \sum_{t=0}^{75-x} G_{x+t}.$$

The net single premium then becomes

$$H_{x:\overline{n}|} = \frac{H_x - H_{x+n} - (M_x - M_{x+n}) a_{75-x-n}^j}{D_x^i (a_{75-x+1}^j - a_{75-x-n+1}^j)}$$

Yours faithfully,

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Annuities with a guaranteed term

Sirs,

The value of the guarantee part of the Guaranteed Term Life Annuity is discussed by Hymans (*J.S.S.* **10**, 231) and he derives