



PWLB lending facility

Calculation of PWLB loans annuity factors

Annuity factors are used to calculate the half yearly payment on new annuity loans or to calculate the revised half yearly payment following a partial premature repayment.

The factor is calculated from the following formula –

$$\text{Factor} = \frac{i}{1-(1+i)^{-n}}$$

where i = half yearly interest rate
 n = number of half years (or parts thereof)

Example: for a loan at 2.54 for 10 years –

$$\text{Factor} = \frac{0.0127}{1-(1.0127)^{-20}} = \frac{0.0127}{1-0.776933415} = \frac{0.0127}{0.223066585} = 0.056933673$$

To arrive at the half yearly payment simply multiply the annuity factor by the balance outstanding on the loan and round the result to the nearest penny.

Example: for a loan of **£1,000,000.00** using the annuity factor above the half yearly payment would be **£56,933.67**.