

Example: A fully discrete n -year endowment insurance on (x) provides, in case of death within n years, a payment of 1 plus the benefit reserve. Obtain formulas for the level benefit premium and the benefit reserve at the end of k years, given that the maturity value is 1.

Example: For a special fully discrete 2-year endowment insurance on (x) :

(i) The pure endowment is 2000.

(ii) The death benefit for year k is $(1000k)$ plus the benefit reserve at the end of year k , $k = 1, 2$.

(iii) π is the level annual benefit premium.

(iv) $i = 0.08$.

(v) $p_{x+k-1} = 0.9$, $k = 1, 2$.

Calculate π .