

110. For a special fully discrete 20-year endowment insurance on (55):

- (i) Death benefits in year k are given by $b_k = (21 - k)$, $k = 1, 2, \dots, 20$.
- (ii) The maturity benefit is 1.
- (iii) Annual benefit premiums are level.
- (iv) ${}_kV$ denotes the benefit reserve at the end of year k , $k = 1, 2, \dots, 20$.
- (v) ${}_{10}V = 5.0$
- (vi) ${}_{19}V = 0.6$
- (vii) $q_{65} = 0.10$
- (viii) $i = 0.08$

Calculate ${}_{11}V$.

- (A) 4.5
- (B) 4.6
- (C) 4.8
- (D) 5.1
- (E) 5.3