

244. For a fully discrete whole life insurance of 1000 on (x) , you are given:

- (i) $G = 30$ is the gross premium
- (ii) $e_k = 5$, $k = 1, 2, 3, \dots$ is the per policy expense at the start of year k .
- (iii) $c_k = 0.02$, $k = 1, 2, 3, \dots$ is the fraction of premium expense at the start of year k .
- (iv) $i = 0.05$
- (v) ${}_4CV = 75$ is the cash value payable upon withdrawal at the end of year 4.
- (vi) $q_{x+3}^{(d)} = 0.013$
- (vii) $q_{x+3}^{(w)} = 0.05$; withdrawals occur at the end of the year.
- (viii) ${}_3AS = 25.22$ is the asset share at the end of year 3.

If the probability of withdrawal and all expenses for year 4 are each 120% of the values shown above, by how much does the asset share at the end of year 4 decrease?

- (A) 1.59
- (B) 1.64
- (C) 1.67
- (D) 1.93
- (E) 2.03