

42. For a double-decrement table where cause 1 is death and cause 2 is withdrawal, you are given:

(i) Deaths are uniformly distributed over each year of age in the single-decrement table.

(ii) Withdrawals occur only at the end of each year of age.

(iii) $l_x^{(\tau)} = 1000$

(iv) $q_x^{(2)} = 0.40$

(v) $d_x^{(1)} = 0.45 d_x^{(2)}$

Calculate $p_x^{(2)}$.

(A) 0.51

(B) 0.53

(C) 0.55

(D) 0.57

(E) 0.59