

160. A fully discrete 3-year term insurance of 10,000 on (40) is based on a double-decrement model, death and withdrawal:

(i) Decrement 1 is death.

(ii) $\mu_{40+t}^{(1)} = 0.02, \quad t \geq 0$

(iii) Decrement 2 is withdrawal, which occurs at the end of the year.

(iv) $q_{40+k}^{(2)} = 0.04, \quad k = 0, 1, 2$

(v) $v = 0.95$

Calculate the actuarial present value of the death benefits for this insurance.

(A) 487

(B) 497

(C) 507

(D) 517

(E) 527