

**167.** (50) is an employee of XYZ Corporation. Future employment with XYZ follows a double decrement model:

(i) Decrement 1 is retirement.

$$(ii) \quad \mu_{50+t}^{(1)} = \begin{cases} 0.00 & 0 \leq t < 5 \\ 0.02 & 5 \leq t \end{cases}$$

(iii) Decrement 2 is leaving employment with XYZ for all other causes.

$$(iv) \quad \mu_{50+t}^{(2)} = \begin{cases} 0.05 & 0 \leq t < 5 \\ 0.03 & 5 \leq t \end{cases}$$

(v) If (50) leaves employment with XYZ, he will never rejoin XYZ.

Calculate the probability that (50) will retire from XYZ before age 60.

(A) 0.069

(B) 0.074

(C) 0.079

(D) 0.084

(E) 0.089