

17. For a whole life insurance of 1 on (41) with death benefit payable at the end of year of death, you are given:

(i) $i = 0.05$

(ii) $p_{40} = 0.9972$

(iii) $A_{41} - A_{40} = 0.00822$

(iv) ${}^2A_{41} - {}^2A_{40} = 0.00433$

(v) Z is the present-value random variable for this insurance.

Calculate $\text{Var}(Z)$.

(A) 0.023

(B) 0.024

(C) 0.025

(D) 0.026

(E) 0.027