

11. For a group of individuals all age x , of which 30% are smokers and 70% are non-smokers, you are given:

(i) $\delta = 0.10$

(ii) $\bar{A}_x^{\text{smoker}} = 0.444$

(iii) $\bar{A}_x^{\text{non-smoker}} = 0.286$

(iv) T is the future lifetime of (x) .

(v) $\text{Var}\left[\bar{a}_{\overline{T}|}^{\text{smoker}}\right] = 8.818$

(vi) $\text{Var}\left[\bar{a}_{\overline{T}|}^{\text{non-smoker}}\right] = 8.503$

Calculate $\text{Var}\left[\bar{a}_{\overline{T}|}\right]$ for an individual chosen at random from this group.

(A) 8.5

(B) 8.6

(C) 8.8

(D) 9.0

(E) 9.1