

- 130.** A person age 40 wins 10,000 in the actuarial lottery. Rather than receiving the money at once, the winner is offered the actuarially equivalent option of receiving an annual payment of  $K$  (at the beginning of each year) guaranteed for 10 years and continuing thereafter for life.

You are given:

(i)  $i = 0.04$

(ii)  $A_{40} = 0.30$

(iii)  $A_{50} = 0.35$

(iv)  $A_{40:\overline{10}|}^1 = 0.09$

Calculate  $K$ .

(A) 538

(B) 541

(C) 545

(D) 548

(E) 551