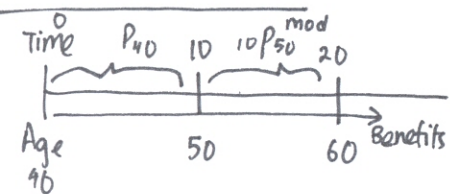


MLC Question 41.



$${}_{10}V_{40} = \frac{1000P_{40} \ddot{a}_{40:\overline{10}|}}{{}_{10}E_{40}} - \frac{1000A'_{40:\overline{10}|}}{{}_{10}E_{40}}$$

$$= 1000A_{50} - 1000{}_{10}P_{50}^{\text{mod}} \ddot{a}_{50:\overline{10}|}$$

$i = .06$

ILT: ${}_{10}E_{40} = .53667$ $\ddot{a}_{40:\overline{10}|} = 7.70$
 $A_{50} = .24905$ $\ddot{a}_{50:\overline{10}|} = 7.57$
 $1000A'_{40:\overline{20}|} = 60.00$

$1000{}_{10}P_{50}^{\text{mod}}$

$$P_{40} = \frac{A_{40}}{\ddot{a}_{40}} = \frac{.16132}{14.8166} = .0108878$$

$$A'_{40:\overline{10}|} = A_{40} - {}_{10}E_{40}A_{50}$$

$$= .16132 - .53667(.24905)$$

$$= .02766$$

$${}_{10}V_{40} = \frac{1000(.0108878)(7.70)}{.53667} - \frac{1000(.02766)}{.53667}$$

$$= 1000(.24905) - 1000{}_{10}P_{50}^{\text{mod}}(7.57)$$

${}_{10}P_{50}^{\text{mod}} = 19.07$

(D)