

MLC #86

Given:

i) $A_x = 0.28$

ii) $A_{x+20} = 0.40$

$$d = \frac{i}{1+i}$$

iii) $A_{x:\overline{20}|} = 0.25 = {}_{20}E_x = v^{20} \cdot {}_{20}p_x$

iv) $i = 0.05$

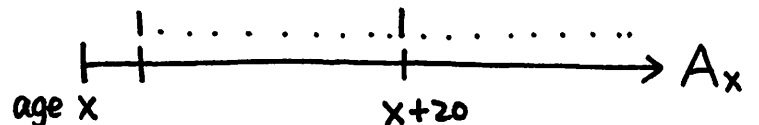
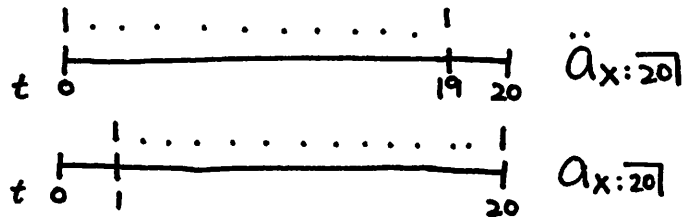
$a_{x:\overline{20}|}$?

① $a_{x:\overline{20}|} = \ddot{a}_{x:\overline{20}|} - 1 + {}_{20}E_x$

② $\ddot{a}_{x:\overline{20}|} = \frac{1 - A_{x:\overline{20}|}}{d}$

③ $A_{x:\overline{20}|} = A'_{x:\overline{20}|} + A_{x:\overline{1}|}$

④ $A_x = A'_{x:\overline{20}|} + {}_{20}E_x \cdot A_{x+20}$



$$0.28 = A'_{x:\overline{20}|} + 0.25(0.40)$$

$$A'_{x:\overline{20}|} = 0.18$$

$$A_{x:\overline{20}|} = 0.18 + 0.25 = 0.43$$

$$\ddot{a}_{x:\overline{20}|} = \frac{1 - 0.43}{0.05/1.05} = 11.97$$

$$a_{x:\overline{20}|} = 11.97 - 1 + 0.25 = 11.22 \text{ (B)}$$