

Question #177

Answer: C

From $A_x = 1 - d\ddot{a}_x$ we have $A_x = 1 - \frac{0.1}{1.1}(8) = \frac{3}{11}$

$$A_{x+10} = 1 - \frac{0.1}{1.1}(6) = \frac{5}{11}$$

$$\bar{A}_x = A_x \times \frac{i}{\delta}$$

$$\bar{A}_x = \frac{3}{11} \times \frac{0.1}{\ln(1.1)} = 0.2861$$

$$\bar{A}_{x+10} = \frac{5}{11} \times \frac{0.1}{\ln(1.1)} = 0.4769$$

$$\begin{aligned} {}_{10}V &= \bar{A}_{x+10} - P(\bar{A}_x) \times \ddot{a}_{x+10} \\ &= 0.4769 - \left(\frac{0.2861}{8} \right) 6 \\ &= 0.2623 \end{aligned}$$

There are many other equivalent formulas that could be used.