

Question #47

Answer: A

Equivalence Principle, where π is annual benefit premium, gives

$$1000(A_{35} + (IA)_{35} \times \pi) = \ddot{a}_x \pi$$

$$\begin{aligned}\pi &= \frac{1000A_{35}}{(\ddot{a}_{35} - (IA)_{35})} = \frac{1000 \times 0.42898}{(11.99143 - 6.16761)} \\ &= \frac{428.98}{5.82382} \\ &= 73.66\end{aligned}$$

We obtained \ddot{a}_{35} from

$$\ddot{a}_{35} = \frac{1 - A_{35}}{d} = \frac{1 - 0.42898}{0.047619} = 11.99143$$