

Question #92

Answer: B

$$\bar{A}_x = \frac{\mu}{\mu + \delta} = \frac{1}{3}$$

$${}^2\bar{A}_x = \frac{\mu}{\mu + 2\delta} = \frac{1}{5}$$

$$\bar{P}(\bar{A}_x) = \mu = 0.04$$

$$\begin{aligned}\text{Var}(L) &= \left(1 + \frac{\bar{P}(\bar{A}_x)}{\delta}\right)^2 \left({}^2\bar{A}_x - \bar{A}_x^2\right) \\ &= \left(1 + \frac{0.04}{0.08}\right)^2 \left(\frac{1}{5} - \left(\frac{1}{3}\right)^2\right) \\ &= \left(\frac{3}{2}\right)^2 \left(\frac{4}{45}\right) \\ &= \frac{1}{5}\end{aligned}$$