

Question #171

Answer: A

$${}_4P_{50} = e^{-(0.05)(4)} = 0.8187$$

$${}_{10}P_{50} = e^{-(0.05)(10)} = 0.6065$$

$${}_8P_{60} = e^{-(0.04)(8)} = 0.7261$$

$$\begin{aligned} {}_{18}P_{50} &= ({}_{10}P_{50})({}_8P_{60}) = 0.6065 \times 0.7261 \\ &= 0.4404 \end{aligned}$$

$${}_{4|14}q_{50} = {}_4P_{50} - {}_{18}P_{50} = 0.8187 - 0.4404 = 0.3783$$