The automobile is worth 15, the deductible 1.

Finding the expected payment for this insurance:

\[ \text{Pr (partial damage)} = 0.04 \]
\[ \text{Pr (total loss)} = 0.02 \]

3 circumstances

1. Loss of total car  prob = 0.02
   Total payment = 15 - 1 = 14

2. Partial damage  prob = 0.04
   \[ f(x) = \begin{cases} 0.5003e^{-\frac{x}{2}} & \text{for } 0 < x < 15 \\ 0 & \text{otherwise} \end{cases} \]
   Total payment = max(0, x - 1)

3. No loss or damage
   prob = 1 - 0.04 - 0.02 = 0.94
   Total payment = 0

\[ Y = \begin{cases} 14 & \text{prob = 0.02} \\ \text{max}(0, x - 1) & \text{prob = 0.04} \\ 0 & \text{prob. = 0.94} \end{cases} \]

\[ E(Y) = \sum Y_i \cdot \text{Pr}(Y_i) \]
\[ E(Y) = (0.94)(0) + (0.02)(14) + (0.04)\left( \int_0^{15} 0.5003(x-1)e^{-\frac{x}{2}} \, dx \right) \]
\[ = 0.28 + 0.020012\left[ -30e^{-7.5} + 2e^{-0.5} + \int_1^{15} e^{-\frac{x}{2}} \, dx \right] \]
\[ = 0.28 + 0.020012(2.908) \]
\[ = 0.328 \]

For payment, multiply by 1000:
\[ 0.328 \times 1000 = 328 \]

B