54. An auto insurance company insures an automobile worth 15,000 for one year under a policy with a 1,000 deductible. During the policy year there is a 0.04 chance of partial damage to the car and a 0.02 chance of a total loss of the car. If there is partial damage to the car, the amount \(X\) of damage (in thousands) follows a distribution with density function

\[
f(x) = \begin{cases} 
0.5003 \ e^{-x/2} & \text{for } 0 < x < 15 \\
0 & \text{otherwise.}
\end{cases}
\]

What is the expected claim payment?

(A) 320  
(B) 328  
(C) 352  
(D) 380  
(E) 540

55. An insurance company’s monthly claims are modeled by a continuous, positive random variable \(X\), whose probability density function is proportional to \((1 + x)^{-4}\), where \(0 < x < \infty\).

Determine the company’s expected monthly claims.

(A) \(\frac{1}{6}\)  
(B) \(\frac{1}{3}\)  
(C) \(\frac{1}{2}\)  
(D) 1  
(E) 3