51. A manufacturer’s annual losses follow a distribution with density function

\[ f(x) = \begin{cases} \frac{2.5(0.6)^2}{x^{3.5}} & \text{for } x > 0.6 \\ 0 & \text{otherwise.} \end{cases} \]

To cover its losses, the manufacturer purchases an insurance policy with an annual deductible of 2.

What is the mean of the manufacturer’s annual losses not paid by the insurance policy?

(A) 0.84  
(B) 0.88  
(C) 0.93  
(D) 0.95  
(E) 1.00

52. An insurance company sells a one-year automobile policy with a deductible of 2.

The probability that the insured will incur a loss is 0.05. If there is a loss, the probability of a loss of amount \(N\) is \(K/N\), for \(N = 1, \ldots, 5\) and \(K\) a constant. These are the only possible loss amounts and no more than one loss can occur.

Determine the net premium for this policy.