

Question #220

Key: D

From the Poisson(4) distribution the probabilities at 0, 1, and 2 are 0.0183, 0.0733, and 0.1463. The cumulative probabilities are 0.0183, 0.0916, and 0.2381. Because $0.0916 < 0.13 < 0.2381$ the simulated number of claims is 2. Claim amounts are simulated from solving

$u = 1 - e^{-x/1000}$ for $x = -1000 \ln(1 - u)$. The two simulated amounts are 51.29 and 2995.73 for a total of 3047.02