

Question #202

Key: A

To simulate a lognormal variate, first convert the uniform random number to a standard normal. This can be done by using the table of normal distribution values. For the six values given, the corresponding standard normal values are 0.3, -0.1, 1.6, -1.4, 0.8, and -0.2. Next, multiply each number by the standard deviation of 0.75 and add the mean of 5.6. This produces random observations from the normal $5.6, 0.75^2$ distribution. These values are 5.825, 5.525, 6.8, 4.55, 6.2, and 5.45. To create lognormal observations, exponentiate these values. The results are 339, 251, 898, 95, 493, and 233. After imposing the policy limit of 400, the mean is $(339 + 251 + 400 + 95 + 400 + 233)/6 = 286$.