

Question #109

Key: B

By the memoryless property, the distribution of amounts paid in excess of 100 is still exponential with mean 200.

With the deductible, the probability that the amount paid is 0 is

$$F(100) = 1 - e^{-100/200} = 0.393.$$

Thus the average amount paid per loss is $(0.393)(0) + (0.607)(200) = 121.4$

The expected number of losses is $(20)(0.8) = 16$.

The expected amount paid is $(16)(121.4) = 1942$.