

Question #208

Key: E

By Theorem 4.51 (on page 93 of the second edition of Loss Models), probability of zero claims = pgf of negative binomial applied to the probability that Poisson equals 0.

For the Poisson, $f(0) = e^{-\lambda}$

$$\text{So } 0.067 = \left[1 - \beta(e^{-\lambda} - 1)\right]^{-r} = \left[1 - 3(e^{-\lambda} - 1)\right]^{-2}$$

Solving gives $\lambda = 3$