

Question #132

Key: C

To get number of claims, set up cdf for Poisson:

x	$f(x)$	$F(x)$
0	0.135	0.135
1	0.271	0.406
2	0.271	0.677
3	0.180	0.857

0.80 simulates 3 claims.

$$F(x) = 1 - \left(500 / (x + 500)\right)^2 = u, \text{ so } x = (1 - u)^{-1/2} 500 - 500$$

0.6 simulates 290.57

0.25 simulates 77.35

0.7 simulates 412.87

So total losses equals 780.79

Insurer pays $(0.80)(750) + (780.79 - 750) = 631$