

Question #119

Key: C

$$E[X] = 2000(1!) / (1!) = 2000$$

$$E[X \wedge 3000] = \left(\frac{2000}{1}\right) \times \left[1 - \frac{2000}{(3000 + 2000)}\right] = 2000 \times \left(1 - \frac{2}{5}\right) = 2000 \times \frac{3}{5} = 1200$$

So the fraction of the losses expected to be covered by the reinsurance

is $\frac{2000 - 1200}{2000} = 0.4$.

The expected ceded losses are 4,000,000 \Rightarrow the ceded premium is 4,400,000.