

247. An insurance company sells three types of policies with the following characteristics:

Type of Policy	Proportion of Total Policies	Annual Claim Frequency
I	5%	Poisson with $\lambda = 0.25$
II	20%	Poisson with $\lambda = 0.50$
III	75%	Poisson with $\lambda = 1.00$

A randomly selected policyholder is observed to have a total of one claim for Year 1 through Year 4.

For the same policyholder, determine the Bayesian estimate of the expected number of claims in Year 5.

- (A) Less than 0.4
- (B) At least 0.4, but less than 0.5
- (C) At least 0.5, but less than 0.6
- (D) At least 0.6, but less than 0.7
- (E) At least 0.7