

203. You are given:

- (i) The annual number of claims on a given policy has the geometric distribution with parameter β .
- (ii) One-third of the policies have $\beta = 2$, and the remaining two-thirds have $\beta = 5$.

A randomly selected policy had two claims in Year 1.

Calculate the Bayesian expected number of claims for the selected policy in Year 2.

- (A) 3.4
- (B) 3.6
- (C) 3.8
- (D) 4.0
- (E) 4.2