

21. You are given:

- (i) The number of claims incurred in a month by any insured has a Poisson distribution with mean λ .
- (ii) The claim frequencies of different insureds are independent.
- (iii) The prior distribution is gamma with probability density function:

$$f(\lambda) = \frac{(100\lambda)^6 e^{-100\lambda}}{120\lambda}$$

(iv)

Month	Number of Insureds	Number of Claims
1	100	6
2	150	8
3	200	11
4	300	?

Determine the Bühlmann-Straub credibility estimate of the number of claims in Month 4.

- (A) 16.7
- (B) 16.9
- (C) 17.3
- (D) 17.6
- (E) 18.0