

58. You are given:

- (i) The number of claims per auto insured follows a Poisson distribution with mean λ .
- (ii) The prior distribution for λ has the following probability density function:

$$f(\lambda) = \frac{(500\lambda)^{50} e^{-500\lambda}}{\lambda\Gamma(50)}$$

- (iii) A company observes the following claims experience:

	Year 1	Year 2
Number of claims	75	210
Number of autos insured	600	900

The company expects to insure 1100 autos in Year 3.
Determine the expected number of claims in Year 3.

- (A) 178
- (B) 184
- (C) 193
- (D) 209
- (E) 224