

**39.** You are given:

- (i) The frequency distribution for the number of losses for a policy with no deductible is negative binomial with  $r = 3$  and  $\beta = 5$ .
- (ii) Loss amounts for this policy follow the Weibull distribution with  $\theta = 1000$  and  $\tau = 0.3$ .

Determine the expected number of payments when a deductible of 200 is applied.

- (A) Less than 5
- (B) At least 5, but less than 7
- (C) At least 7, but less than 9
- (D) At least 9, but less than 11
- (E) At least 11

**86.** Aggregate losses for a portfolio of policies are modeled as follows:

- (i) The number of losses before any coverage modifications follows a Poisson distribution with mean  $\lambda$ .
- (ii) The severity of each loss before any coverage modifications is uniformly distributed between 0 and  $b$ .

The insurer would like to model the effect of imposing an ordinary deductible,  $d$  ( $0 < d < b$ ), on each loss and reimbursing only a percentage,  $c$  ( $0 < c \leq 1$ ), of each loss in excess of the deductible.

It is assumed that the coverage modifications will not affect the loss distribution.

The insurer models its claims with modified frequency and severity distributions. The modified claim amount is uniformly distributed on the interval  $[0, c(b - d)]$ .

Determine the mean of the modified frequency distribution.

- (A)  $\lambda$
- (B)  $\lambda c$
- (C)  $\lambda \frac{d}{b}$
- (D)  $\lambda \frac{b-d}{b}$
- (E)  $\lambda c \frac{b-d}{b}$