39. You are given:

(i) A sample of losses is:

600 700 900

(ii) No information is available about losses of 500 or less.

(iii) Losses are assumed to follow an exponential distribution with mean θ.

Calculate the maximum likelihood estimate of θ.

(A) 233

(B) 400

(C) 500

(D) 733

(E) 1233

40. You are given:

(i) The number of claims follows a Poisson distribution with mean λ.

(ii) Observations other than 0 and 1 have been deleted from the data.

(iii) The data contain an equal number of observations of 0 and 1.

Calculate the maximum likelihood estimate of λ.

(A) 0.50

(B) 0.75

(C) 1.00

(D) 1.25

(E) 1.50

90. You are given the following observations on 185 small business policies:

Number of Claims	Number of Policies
0	80
1 or more	105

The number of claims per policy follows a Poisson distribution with parameter λ.

Using the maximum likelihood estimate of λ, determine the estimated probability of a policy having fewer than two claims.

(A) 0.79

(B) 0.84

(C) 0.89

(D) 0.95

(E) 0.98