

**256.** You are given:

- (i) The distribution of the number of claims per policy during a one-year period for 10,000 insurance policies is:

Number of Claims per Policy	Number of Policies
0	5000
1	5000
2 or more	0

- (ii) You fit a binomial model with parameters  $m$  and  $q$  using the method of maximum likelihood.

Determine the maximum value of the loglikelihood function when  $m = 2$ .

- (A)  $-10,397$   
(B)  $-7,781$   
(C)  $-7,750$   
(D)  $-6,931$   
(E)  $-6,730$