

210. Each life within a group medical expense policy has loss amounts which follow a compound Poisson process with $\lambda = 0.16$. Given a loss, the probability that it is for Disease 1 is $\frac{1}{16}$.

Loss amount distributions have the following parameters:

	Mean per loss	Standard Deviation per loss
Disease 1	5	50
Other diseases	10	20

Premiums for a group of 100 independent lives are set at a level such that the probability (using the normal approximation to the distribution for aggregate losses) that aggregate losses for the group will exceed aggregate premiums for the group is 0.24.

A vaccine which will eliminate Disease 1 and costs 0.15 per person has been discovered.

Define:

A = the aggregate premium assuming that no one obtains the vaccine, and

B = the aggregate premium assuming that everyone obtains the vaccine and the cost of the vaccine is a covered loss.

Calculate A/B.

(A) 0.94

(B) 0.97

(C) 1.00

(D) 1.03

(E) 1.06