

149. A motorist makes three driving errors, each independently resulting in an accident with probability 0.25.

Each accident results in a loss that is exponentially distributed with mean 0.80. Losses are mutually independent and independent of the number of accidents.

The motorist's insurer reimburses 70% of each loss due to an accident.

Calculate the variance of the total unreimbursed loss the motorist experiences due to accidents resulting from these driving errors.

(A) 0.0432

(B) 0.0756

(C) 0.1782

(D) 0.2520

(E) 0.4116