

89. You are given:

- (i) Losses follow an exponential distribution with the same mean in all years.
- (ii) The loss elimination ratio this year is 70%.
- (iii) The ordinary deductible for the coming year is $\frac{4}{3}$ of the current deductible.

Calculate the loss elimination ratio for the coming year.

- (A) 70%
- (B) 75%
- (C) 80%
- (D) 85%
- (E) 90%

90. Actuaries have modeled auto windshield claim frequencies. They have concluded that the number of windshield claims filed per year per driver follows the Poisson distribution with parameter λ , where λ follows the gamma distribution with mean 3 and variance 3.

Calculate the probability that a driver selected at random will file no more than 1 windshield claim next year.

- (A) 0.15
- (B) 0.19
- (C) 0.20
- (D) 0.24
- (E) 0.31

- 126.** The number of annual losses has a Poisson distribution with a mean of 5. The size of each loss has a two-parameter Pareto distribution with $\theta = 10$ and $\alpha = 2.5$. An insurance for the losses has an ordinary deductible of 5 per loss.

Calculate the expected value of the aggregate annual payments for this insurance.

- (A) 8
- (B) 13
- (C) 18
- (D) 23
- (E) 28

- 127.** Losses in 2003 follow a two-parameter Pareto distribution with $\alpha = 2$ and $\theta = 5$. Losses in 2004 are uniformly 20% higher than in 2003. An insurance covers each loss subject to an ordinary deductible of 10.

Calculate the Loss Elimination Ratio in 2004.

- (A) 5/9
- (B) 5/8
- (C) 2/3
- (D) 3/4
- (E) 4/5

128. DELETED

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