

126. Under an insurance policy, a maximum of five claims may be filed per year by a policyholder. Let p_n be the probability that a policyholder files n claims during a given year, where $n = 0, 1, 2, 3, 4, 5$. An actuary makes the following observations:

- i) $p_n \geq p_{n+1}$ for $n = 0, 1, 2, 3, 4$.
- ii) The difference between p_n and p_{n+1} is the same for $n = 0, 1, 2, 3, 4$.
- iii) Exactly 40% of policyholders file fewer than two claims during a given year.

Calculate the probability that a random policyholder will file more than three claims during a given year.

- (A) 0.14
- (B) 0.16
- (C) 0.27
- (D) 0.29
- (E) 0.33