

30. Solution: D

Let N be the number of claims filed. We are given $P[N = 2] = \frac{e^{-\lambda} \lambda^2}{2!} = 3 \frac{e^{-\lambda} \lambda^4}{4!} = 3 \cdot P[N$

$$= 4] \Rightarrow 24 \lambda^2 = 6 \lambda^4$$

$$\lambda^2 = 4 \Rightarrow \lambda = 2$$

Therefore, $\text{Var}[N] = \lambda = 2$.