Homework 1

2026-02-06

Homework 1 is due 2/15/2026 at 11:59 PM. Submit your homework on Canvas as one PDF document.

1. $X \sim Bin(n, p)$, show that the variance of Binomial distribution is $np(1-p)$.
2. $X \sim Pois(\lambda)$, show that the expected value of a Poisson distribution is λ.
3. $X \sim Pois(\lambda)$, show that the variance of a Poisson distribution is λ.
4. $X \sim N(\mu, \sigma^2)$, show that the variance is σ^2.