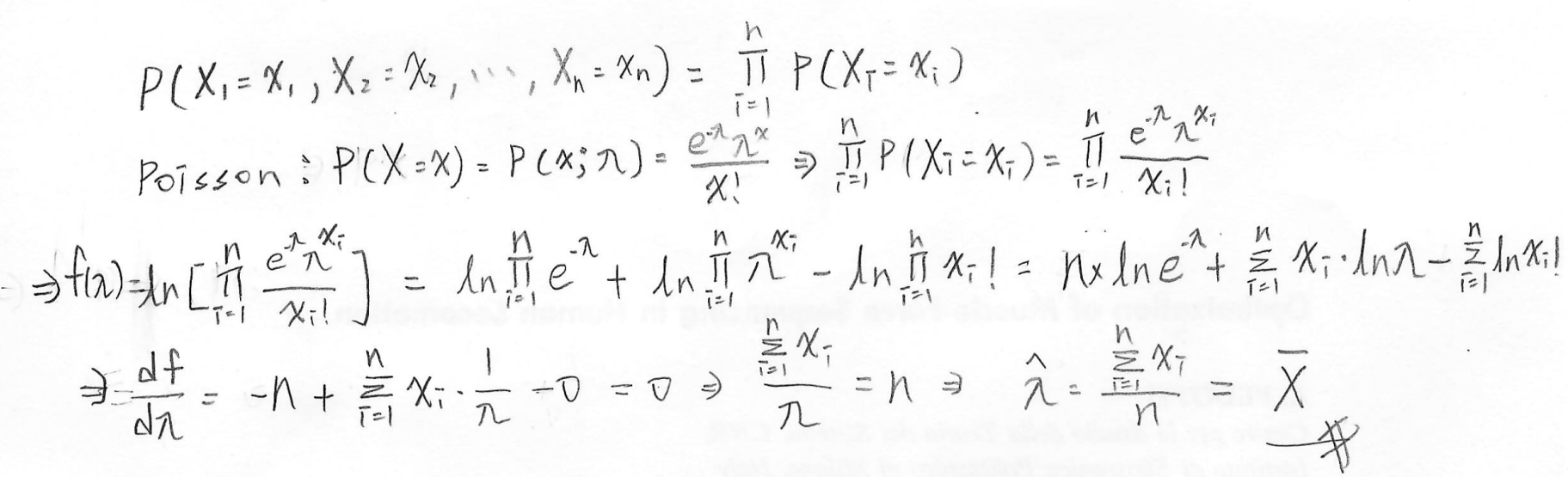
機械所設計組 R12522615 王邑安 HW\_ID:2

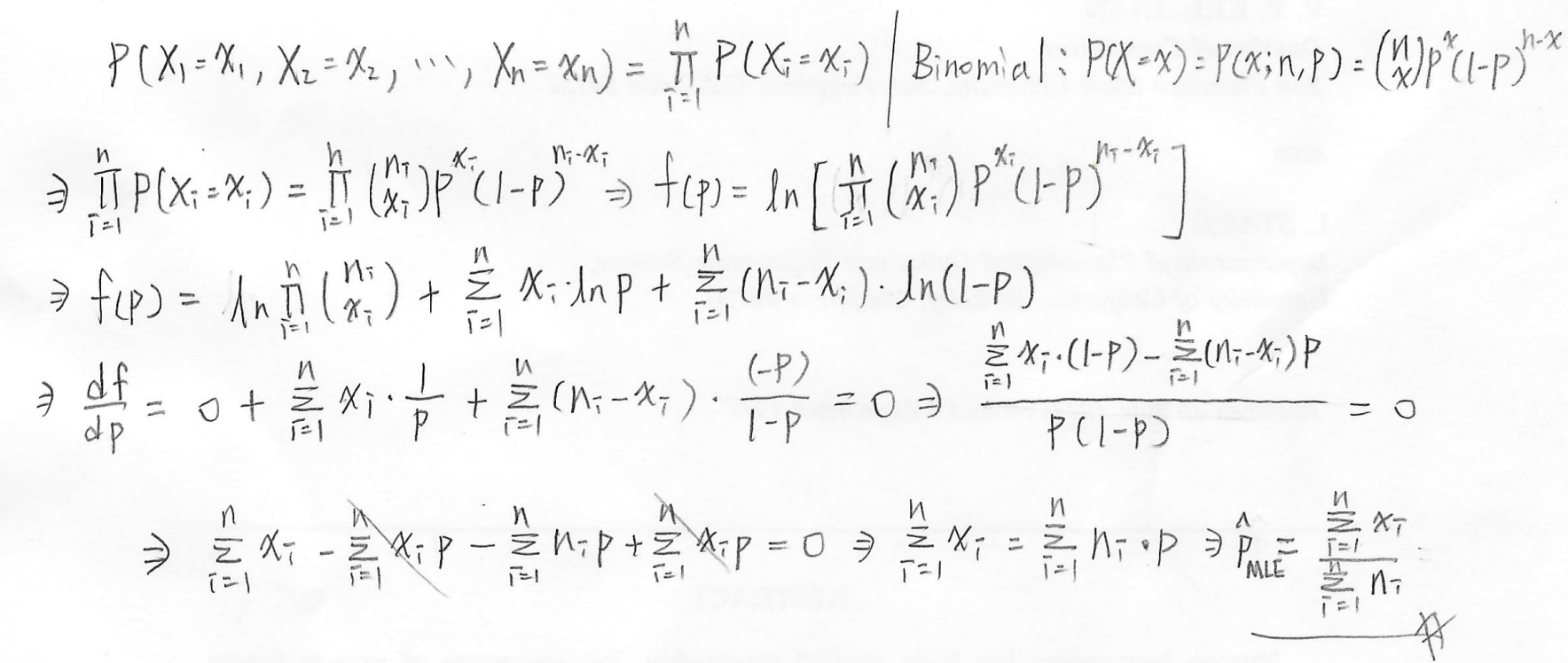
**Introduction to statistical control and optimization**

Homework 4

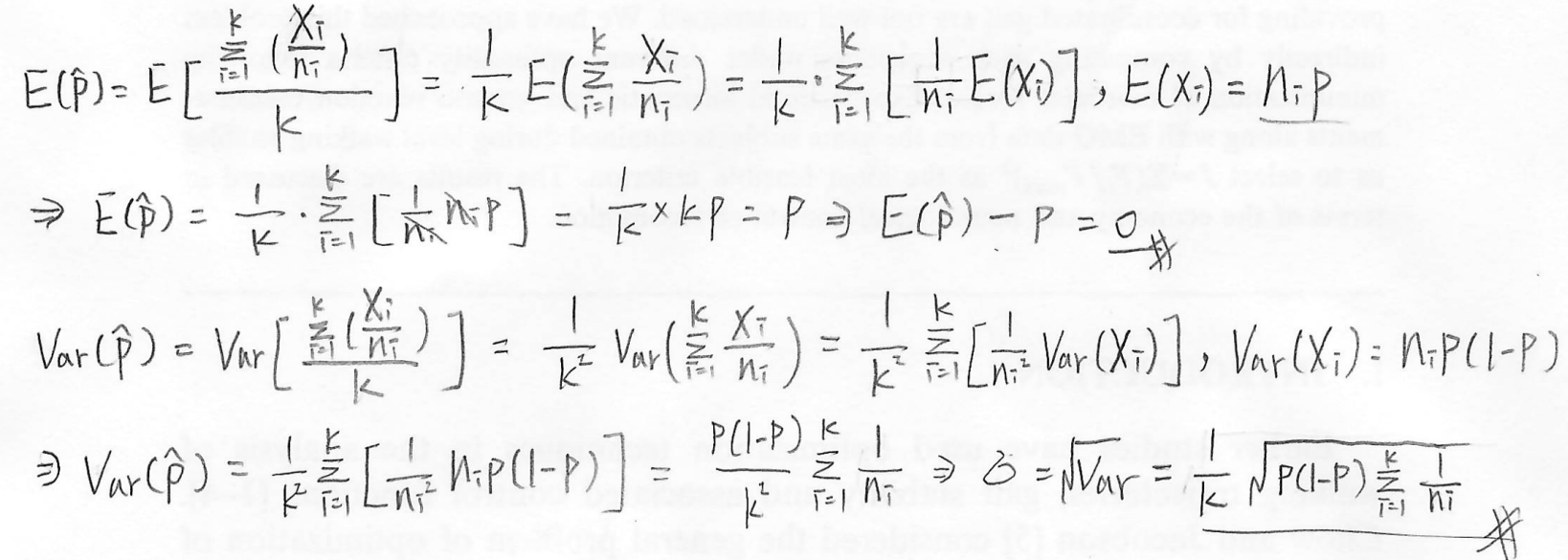


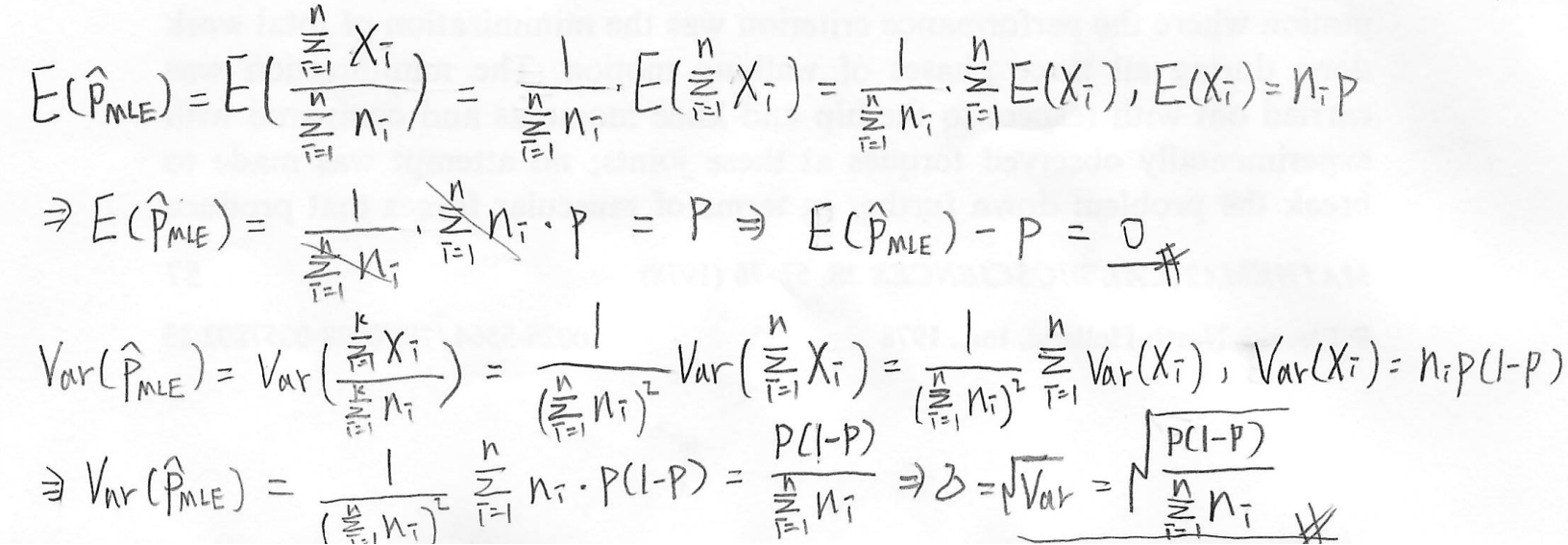




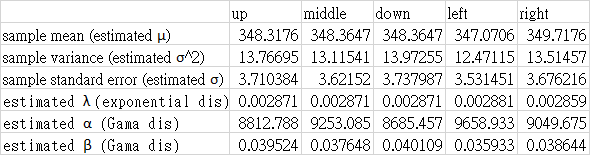














Both the (Q-Q) plots of the thickness, whether dependent on Normal distribution or Gamma distribution, exhibit a strong tendency to align with the 45-degree line. I believe both models effectively capture the random nature of thickness at different positions.







Overall, the P-P plot of the Negative Binomial distribution model closely aligns with the 45-degree line. Therefore, I believe that the Negative Binomial distribution is the most appropriate model to describe the accident deaths in these five regions.











In the t-distribution of the left side in the central zone, the upper bound of the 90% confidence interval remains below the target (350). I suspect that the thickness mean is indeed deviating from the target.

The 90% confidence intervals of the left side and right side do not overlap with each other. I am confident in asserting that the means of the two thicknesses are different.