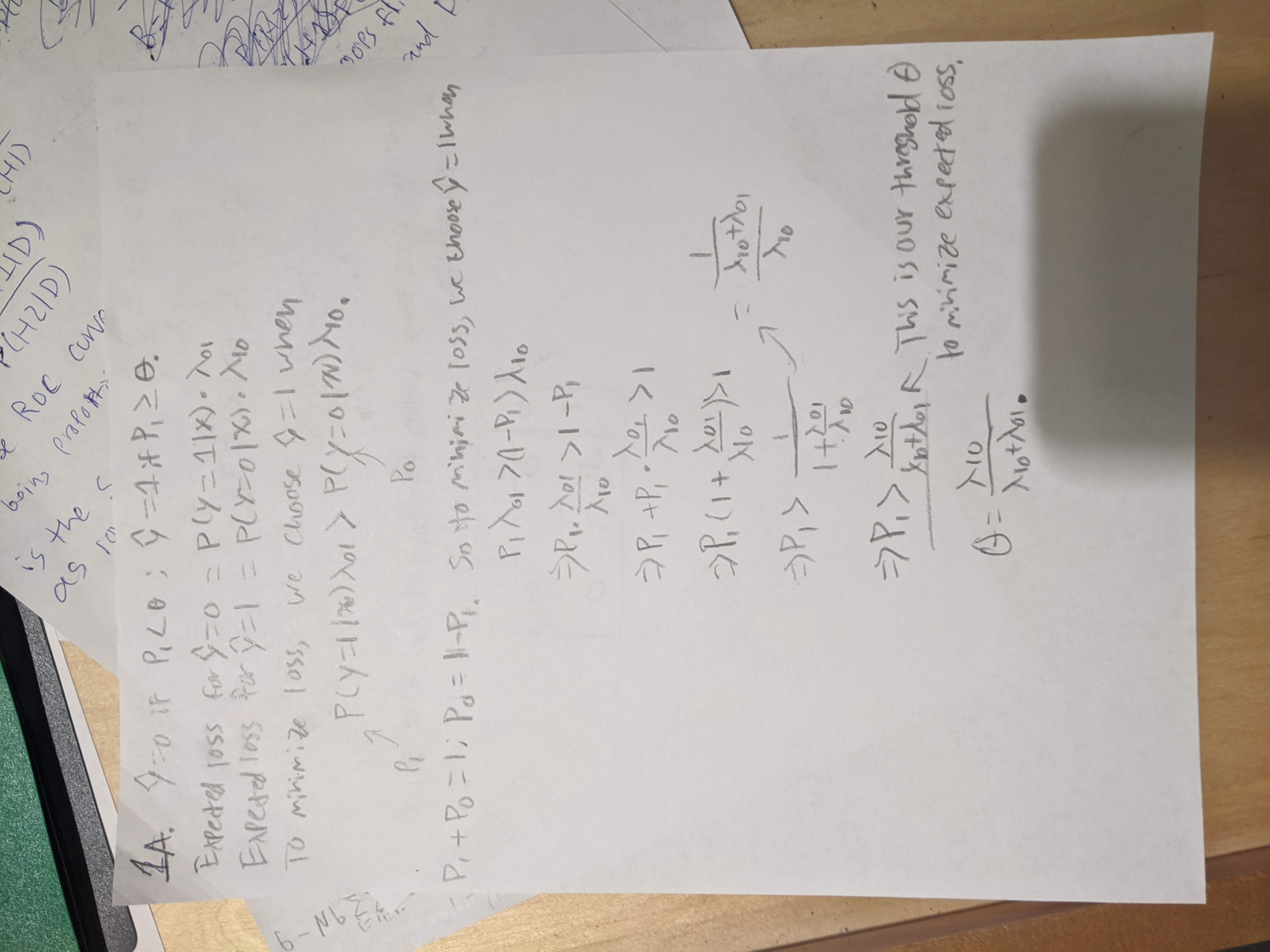
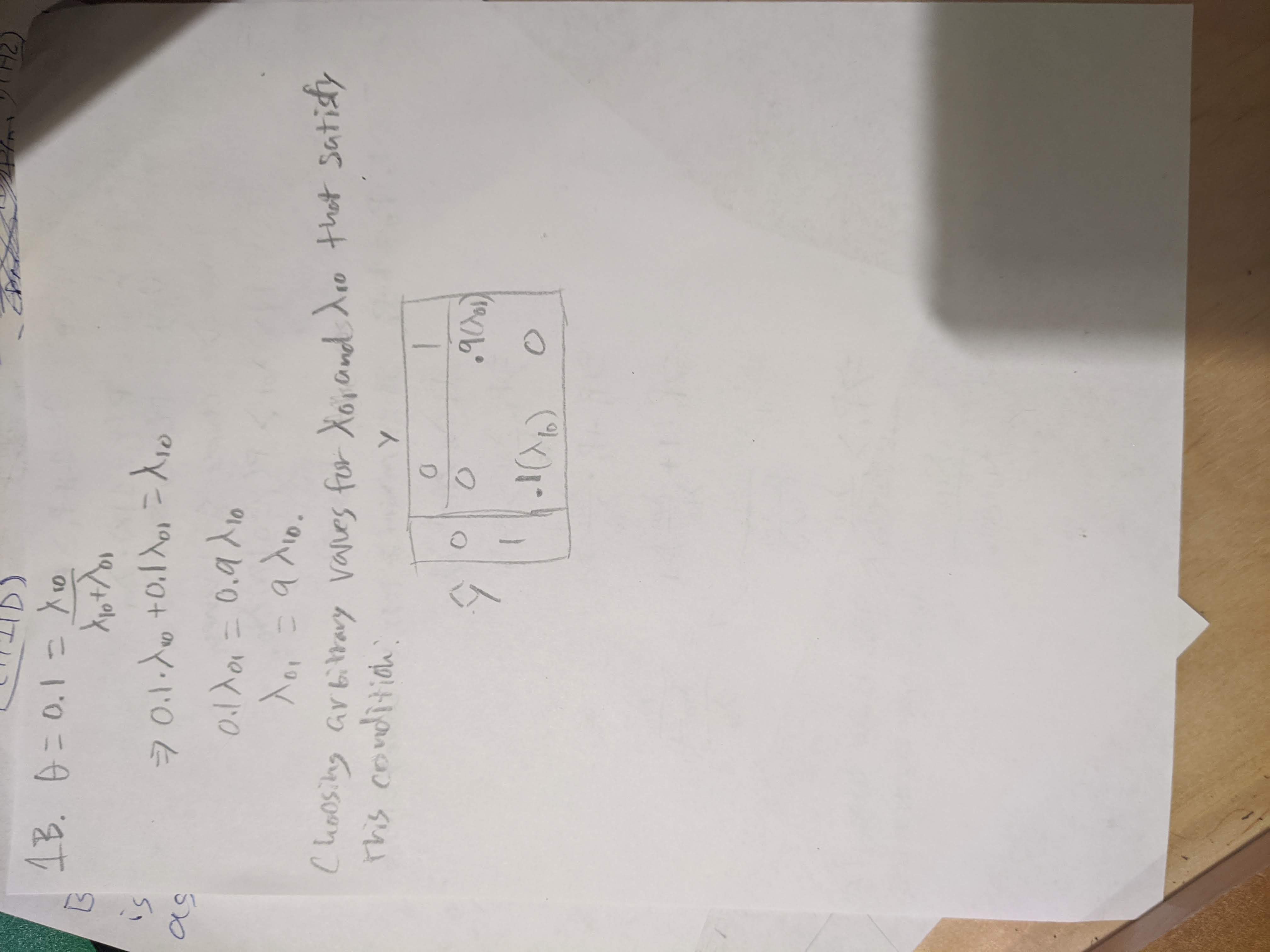
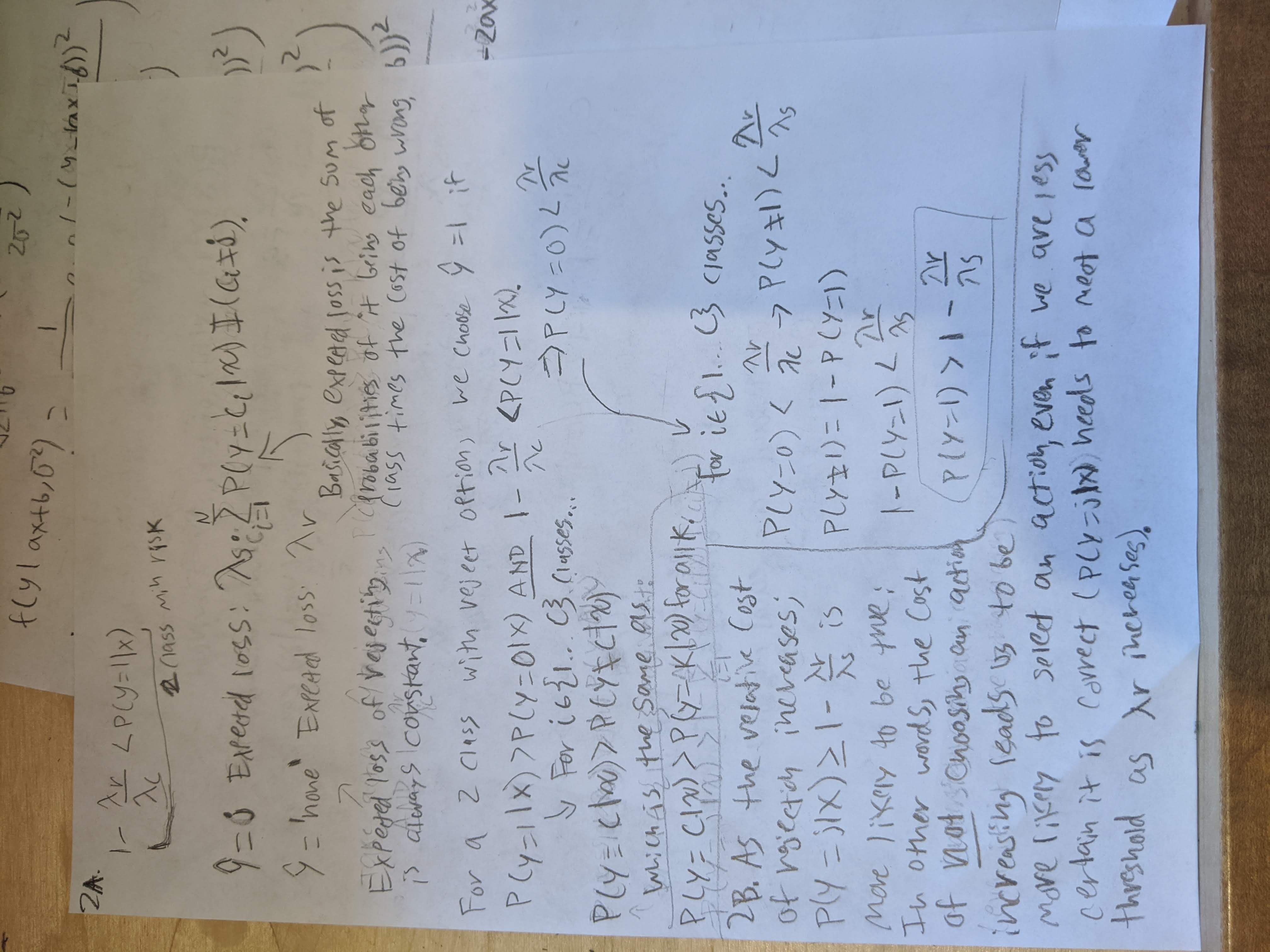
**Problem 1**

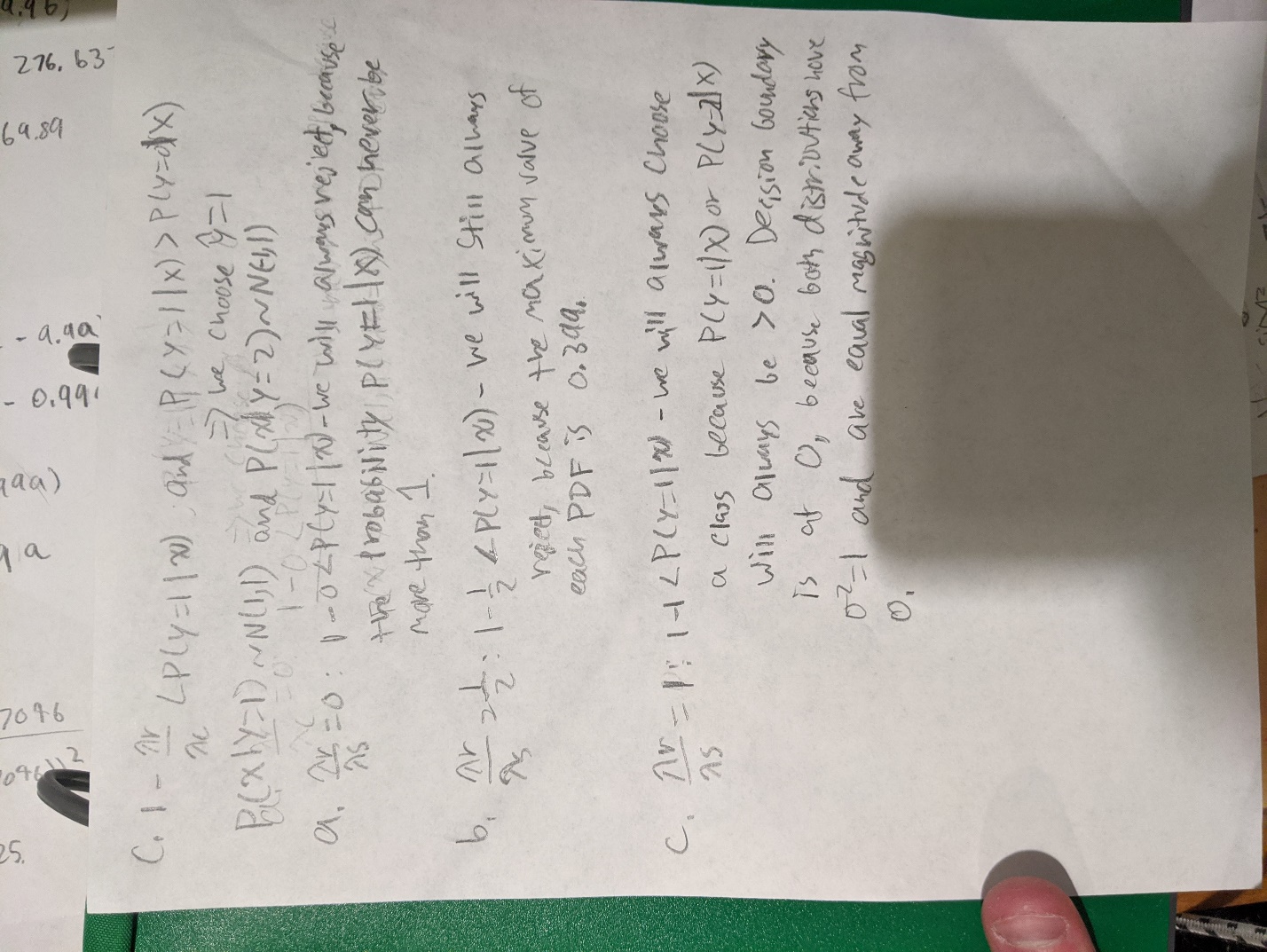




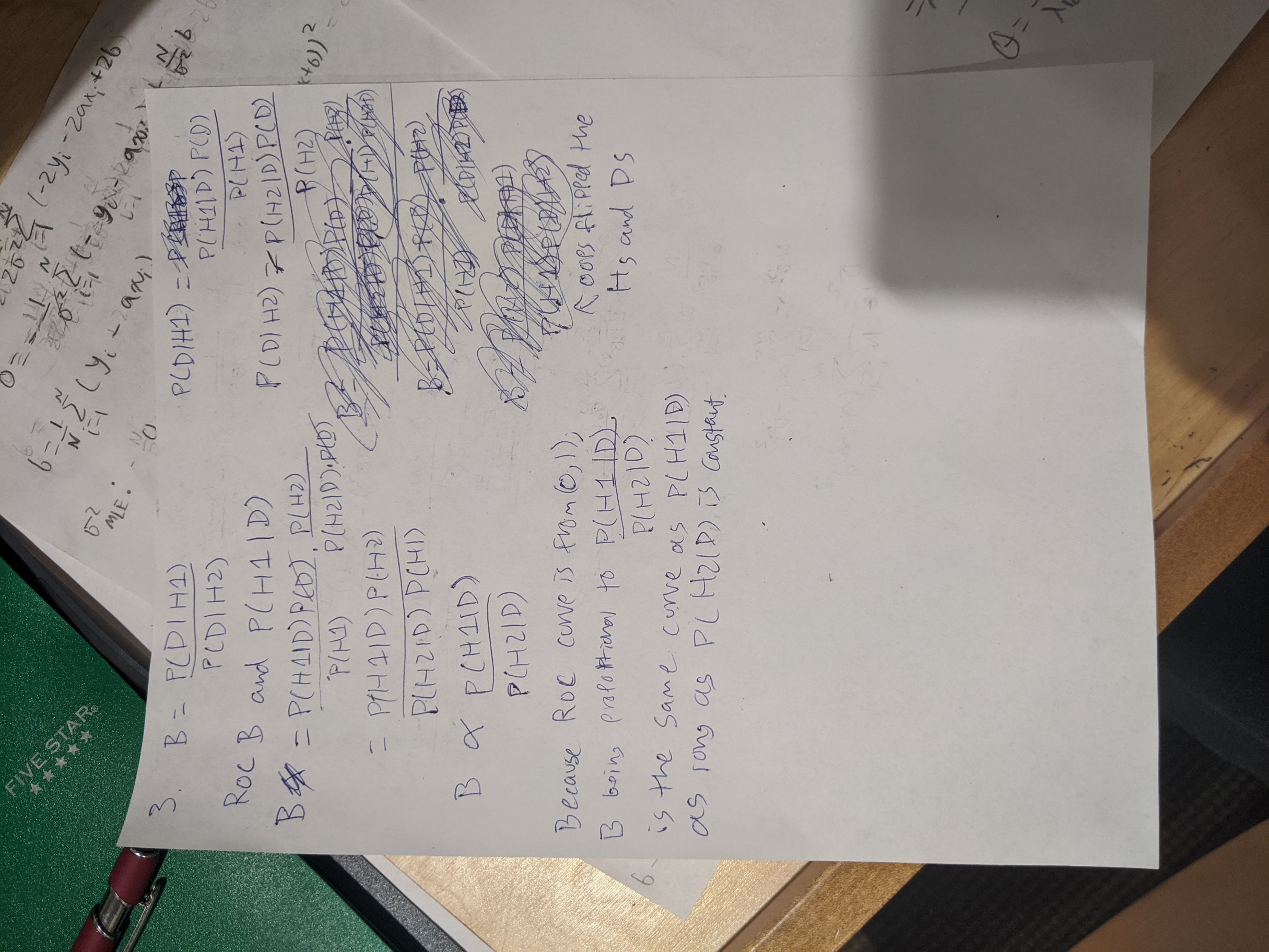
**Problem 2**

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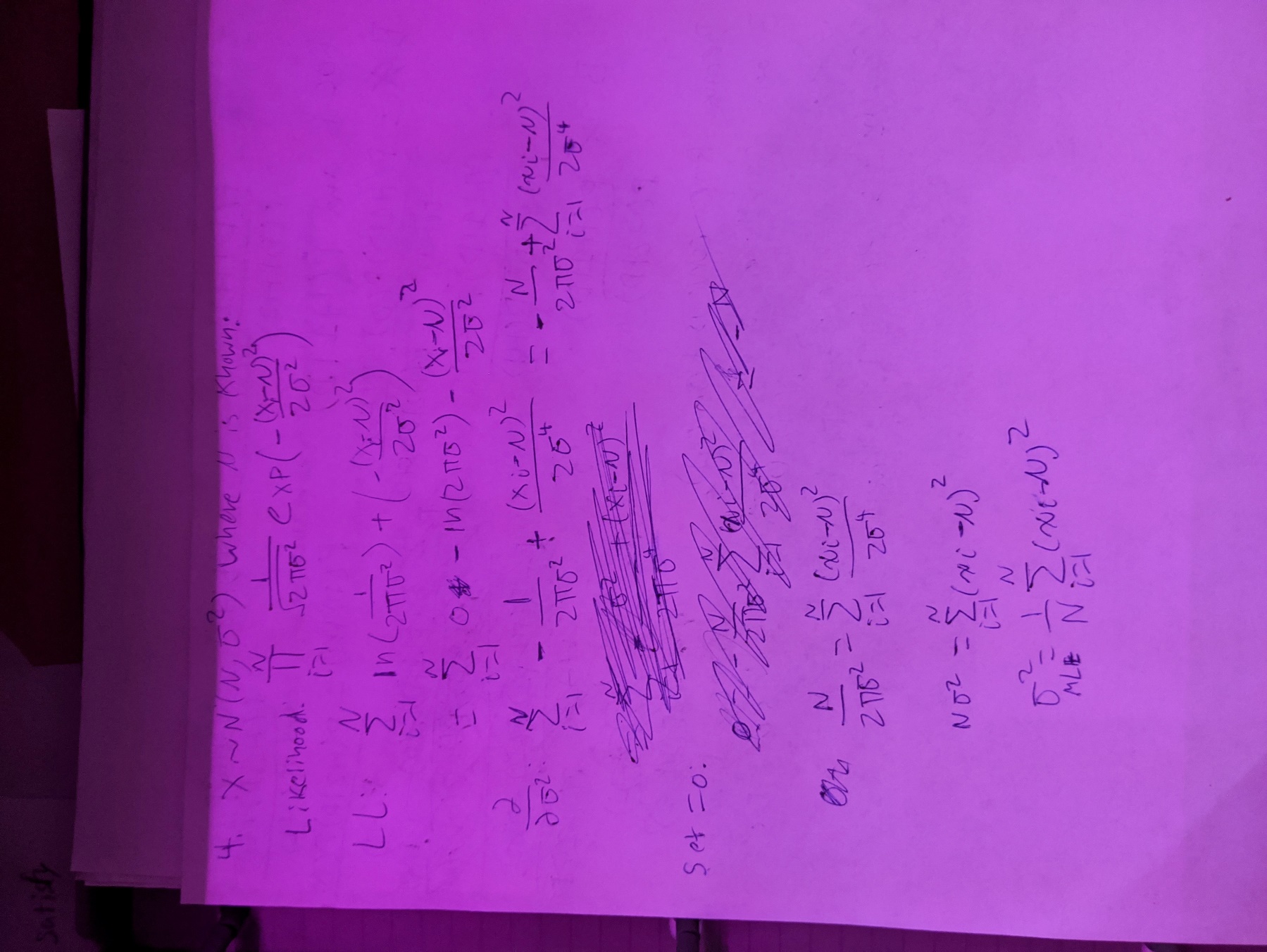
**Problem 2 continued**



**Problem 3**



**Problem 4**

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We know from class (2nd lecture) that the MLE of the variance of a normal distribution is a biased estimator because its expected value is not equal to the actual variance of the distribution. σmle = (1-1/n) \* σ2 whereas the variance is just σ2