



## MITx: 6.041x Introduction to Probability - The Science of Uncertainty



Bookmarks

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Bookmark

## Problem 5: Maximum likelihood estimation

(2/2 points)

The random variables  $X_1, \dots, X_n$  are independent Poisson random variables with a common parameter  $\lambda$ . Find the maximum likelihood estimate of  $\lambda$  based on observed values  $x_1, \dots, x_n$ .

 $\hat{\lambda}_{ML} =$ 


☐  $(x_1 x_2 \cdots x_n)^{1/n}$

☒  $\frac{x_1 + \cdots + x_n}{n}$  ✓


- ▶ Unit 6: Further topics on random variables
- ▶ Unit 7: Bayesian inference
- ▶ Exam 2
- ▼ **Unit 8: Limit theorems and classical statistics**

#### Unit overview


##### Lec. 18: Inequalities, convergence, and the Weak Law of Large Numbers

Exercises 18 due Apr 27, 2016  
at 23:59 UTC 

##### Lec. 19: The Central Limit Theorem (CLT)

Exercises 19 due Apr 27, 2016  
at 23:59 UTC 

##### Lec. 20: An introduction to classical statistics

Exercises 20 due Apr 27, 2016  
at 23:59 UTC 

☐ 
$$\frac{1}{\frac{1}{x_1} + \dots + \frac{1}{x_n}}$$


☐ **None of the above**

*You have used 1 of 2 submissions*

## DISCUSSION

Click "Show Discussion" below to see discussions on this problem.

[Solved problems](#)[Additional theoretical material](#)**Problem Set 8**

Problem Set 8 due Apr 27, 2016  
at 23:59 UTC 

[Unit summary](#)

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