

Homework 2, Math 181A Winter 2023

Due by Saturday noon, January 21 (pacific time).

Relevant section in textbook by Larsen and Marx: 5.1, 5.2.

Relevant lecture notes: Lecture 3, Lecture 4 and Lecture 5.

Problem 1: Larsen and Marx question 5.2.17.

You need do the MLE in 5.2.12 as well to make a comparison.

Problem 2: Larsen and Marx question 5.2.18.

Problem 3: Larsen and Marx question 5.2.21.

Problem 4: Larsen and Marx question 5.2.4. Add the assumption: $\theta > 0$.

Problem 5: Larsen and Marx question 5.2.6.

Problem 6: Suppose X_1, \dots, X_n is a random sample from the uniform distribution on $[a, b]$.

- (a) Find the method of moments estimators of a and b .
- (b) Find the maximum likelihood estimators of a and b .