

Homework 4

BIOS 7731

Due 10/6 10:30am am through Canvas

Students may work together on homework assignments, but the assignment handed in must represent your own work.

1. BD 1.6.12

2. BD 1.6.18 - Modified

Assume that $\sigma^2 = 1$ and show that this family has rank 2.

3. Suppose we have the following discrete distribution:

x	-2	-1	0	1	2	
$P(X = x \theta)$	$\frac{1-\theta}{4}$	$\frac{\theta}{12}$	$\frac{1}{2}$	$\frac{3-\theta}{12}$	$\frac{\theta}{4}$	$0 \leq \theta \leq 1$

Given one observation, X , obtain the maximum likelihood estimator $\hat{\theta}$ for θ and show that it is not unique.

4. BD 1.6.27 (assumption in Thm 2.3.1 Proof)

5. BD 2.3.1

6. BD 2.3.8 b)