MATH450, Spring 2019, Homework 3, Due Friday, March 22, 2:30pm

1. Section 6.2: 13, 17, 19

2. Section 7.1: 13, 15

3. Suppose that for a parameter $0 \leq \theta \leq 1$, X is the outcome of the roll of a four-sided tetrahedral die

x	0	1	2	3
p(x)	$\frac{2\theta}{3}$	$\frac{\theta}{3}$	$\frac{2(1-\theta)}{3}$	$\frac{(1-\theta)}{3}$

Suppose the die is rolled 10 times with outcomes

$$3, 0, 2, 1, 3, 2, 1, 0, 2, 1$$

(a) Use the method of moments to obtain an estimator of θ.

(b) Use the method of maximum likelihood to obtain an estimator of θ.