Homework 3

1. Chapter 9, problem 1

2. Chapter 9, problem 2 (a), (b), (c)

3. Chapter 9, problem 3 (a) and (c). For part c, we need only to find the MLE $\widehat{\tau}$.

4. Chapter 9, problem 5.

5. Let $X_1, X_2, \ldots, X_{20}$ i.i.d. $\sim$ Geometric(p) with $P(X_1 = x) = p(1-p)^{x-1} I(x \geq 1)$.

(a) Find the method of moments estimator for p.

(b) Find the MLE of p.

(c) Suppose the data are:

1 2 1 1 1 3 2 2 1 3 1 1 2 1 2 2 4 1 2 2

Find the values of the estimators in (a) and (b).