MATH 3420 HOMEWORK #8 Name:

Due Tuesday, Apr 2

Solve the following problems and staple your solutions to this cover sheet.

1. Exercise 9.60

2. Exercise 9.64(not c)

3. Exercise 9.65

   Notes: Ignore the hint. First solve problem #10. Then, use the fact that $\widehat{t(\theta)} = t(\hat{\theta})$ if $t(\theta)$ is a 1-1 function of θ (on its domain).

4. Exercise 9.73

5. Exercise 10.26

6. Exercise 10.29

7. Exercise 10.30

8. Exercise 10.34

9. Let $Y_1, \cdots, Y_n$ be a random sample from a geometric distribution with the probability function $p(y) = p(1-p)^{y-1}$, $y = 1, \cdots, n$, $0 < p < 1$. Find the maximum-likelihood estimator of p.

10. Let $Y_1, \cdots, Y_n$ be a random sample from an exponential distribution with mean θ. Find the maximum-likelihood estimator of θ.