Name Jerry

Student Number

STA 442/2101 f2014 Quiz 5

If you do not have a number on your printout, do *NOT* write it on your quiz paper. It will be assumed that you copied it from somebody, and you will be charged with an academic offense.

1. In Problem One of Homework Assignment Five, you were asked for several numerical maximum likelihood estimates

   (a) (1 point) For the `Cauchy data`, write the maximum likelihood estimate of θ in the space below. The answer is a number from your printout. **Circle the answer on your printout**, and write "Question 1a" beside the answer.

   -3.7194

   (b) (1 point) For the `beta data`, write the maximum likelihood estimates of α and β in the space below. The answer is a pair of numbers from your printout. **Circle the numbers on your printout**, and write "Question 1b" beside the numbers.

   $13.97, \quad 27.28$

   (c) (1 point) For the `mystery data`, write the maximum likelihood estimates of μ and θ in the space below. The answer is a pair of numbers from your printout. **Circle the numbers on your printout**, and write "Question 1c" beside the numbers.

   $3.34, \quad 0.876$

   (d) (1 point) For the `gamma data`, write the maximum likelihood estimate of m in the space below. The answer is a number from your printout. **Circle the answer on your printout**, and write "Question 1d" beside the answer.

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2. Consider the Wald tests for the cell phone screen manufacturing problem (Homework Question Five).

   (a) (3 points) What is the value of the statistic W_n used to test whether the expected numbers of dead pixels are different for the six manufacturing processes? The answer is a single number from your printout. Write the number in the space below. **Circle the answer on your printout**, and write "Question 2a" beside the answer.

   ~~12.26~~ 15.26

   (b) (3 points) Based on the Bonferroni-corrected pairwise comparisons at joint significance level 0.05 but using *plain, non-statistical language*, what do you conclude about the manufacturing processes?

   Manufacturing process 4 produces fewer dead pixels than process 1.

   In the space below, write the all the pairwise comparison W_n test statistic values (numbers from your printout) for which H_0 is rejected) with the Bonferroni correction. Circle the number or numbers on your printout, and write "Question 2b" beside them.

   $W_n = 12.15$

Attach your R printouts to the quiz. Make sure your name and student number are on your printouts.