MATH209: Exam 01 – Take Home

Name: _____

This is the take-home portion of the first exam. There is only one question. Please bring this page with your answers to the question (and nothing else) to the exam. You will fill in the answers on the exam itself. You are expected to work on this question on your own without any direct assistance. The use of notes and static internet resources are all allowed.

1. Assume that you have performed an experiment to test whether a new pesticide is able to provide protection from a new type of pest that has been plaguing corn farmers. In the lab, you took 200 identical species of corn plants, giving 75 the new pesticide and leaving 125 without it. After exposing each plant to a sample of pests and waiting two weeks, you record the following contingency table showing how many plants had been eaten by the pest:

	eaten	not eaten
no pesticide	30	95
pesticide	10	65

Construct a tabular dataset version of this contingency table and read it into a R data frame. Compute the following values (please record p-values to the number of decimal spaces reported in R):

A. The test statistic from a Z-test for proportions on the data.

B. The p-value for a Z-test for proportions on the data.

C. The p-value for Fisher's exact test on the data.

D. The p-value for a Chi-squared test on the data.