Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Intro to R and RStudio

Before we can get to the fun statistical analyses, we have to begin with the basics of R and R studio. Use the file titled Lesson1\_R\_introduction.R to answer the following questions. Any highlighted questions are challenge questions. Optional, but recommended!

1. R Basics and Math:

a) What are the primary data types used in the R coding language?

b) What is a comment and how do you write one?

c) What does it mean for a variable name to be reserved?

d) How can you get more information about R functions?

e) Where might you go ask for help online after this course is over?

1. Vectors and Accessing Elements:

a) What types of data can Vectors contain?

b) What were your total winnings for your week of heavy gambling? Can you do this in one line with R?

c) What code did you use to identify which days you did better at poker than roulette?

1. Dataframes and matrices:

a) In your own words, what is the difference between a dataframe and a matrix?

b) Do you prefer looking at dataframes in the Console or View(df)?

c) What code would you use to determine the type of data in the column named “Results” from the hypothetical dataframe, “results\_df”?

d) If we found out that the “Results” column contains integers, what code could we use to calculate the sum?

f) Say we want to subset a dataframe to get rows that only include values in the “Results” column greater than 1.

g) What about to get results that equal 1?

h) How would this be different if we were trying to match rows that contained string variables?

1. Lists Are Hard:

a) What type of data can you store in a list?

b) What is the difference between using single brackets, combined\_list[1], compared to using double brackets, combined\_list[[1]]?

c) How can you access the first row of the second object in combined\_list?

1. R Logic and Logic Equations:

a) What does the “!” symbol do to logic?

b) What is the value of !(13 < 6) & ( (40 - 3) != 37) ?

c) What about !(13 < 6) | ( (40 - 3) != 37)

d) What about !(13 < 6) & ( (40 - 3) != 37) | (42 <= (8\*6 + 9 - 15)) ?