Math 115 – Project 3

Please do the following on a separate sheet of paper, in order, and submit in Blackboard inside the Project 3 assignment, as one pdf or one doc file. If you cannot make one file, you must submit your files in a zip folder, still in the correct format. You must show all work for credit. I will be paying close attention to the details so make sure that you label, use appropriate and accurate scales, and make it neat. The data you must use will be given to you in both Excel and pdf format. Assume that the data represents a normal distribution for the purpose of this project. Round probability to 4 decimal places and everything else to 2 decimal places.

1. Use the Height (inches) data to answer the following questions:

   a) Draw the normal distribution curve to +/- 3 standard deviations, labeling each with the height at all the standard deviations. (A good example of this is on page 343 in Example 8.4.1 – except you only have to go to +/- 3 standard deviations not 4)
   b) Find the height of a person if the z-value is -1.5
   c) Find the z-value if the height is 69 inches
   d) Find the probability that the height is less than 65 inches
   e) Find the probability that the height is greater than 65 inches
   f) Find the probability that the height is between 65 and 70 inches
   g) Summarize your conclusions and identify anything you think is strange or wrong with this distribution

2. Use the Forearm Length (cm) data to answer the following questions. Do not leave any data out and blank does not mean zero, it means skip:

   a) Draw the normal distribution curve to +/- 3 standard deviations, labeling each with the forearm length at all the standard deviations.
   b) Find the forearm length of a person if the z-value is 2
   c) Find the z-value if the forearm length is 40 cm
   d) Find the probability that the forearm length is less than 50 cm
   e) Find the probability that the forearm length is greater than 50 cm
   f) Find the probability that the forearm length is between 43 and 60 cm
   g) Summarize your conclusions and identify anything you think is strange or wrong with this distribution