HW UNIT 3

Instructions: All plots except "Step 2 plots" must be computer generated and placed in a Word document. In addition, all HW and results must be typed and placed in the same word document. This is good practice for when you get paid > $100,000 to do this!

1. Create 2 Q-Q plots (by hand) for the original data in question 20. A QQ-plot for the In-State and a QQ-Plot for the Out-Of-State data. Show all work by filling in a table like the one below (One for In-State and one for Out-of-State):

Original Data	Percentage for percentiles given number of values	Z-score of original data	Z-score percentiles assuming normal distribution given the values in column 2.

   Check your QQ-plot by comparing them with the ones from proc ttest. (Run proc ttest but just for the QQ plots … you do not need to run a full hypothesis test.) What would you conclude about the normality of the distributions these data came from?

2. Find the "Education Dataset" data in the HW 3 Item. In it is a data set with annual incomes in 2005 of the subset of National Longitudinal Survey of youth (NLSY79) subjects who had paying jobs in 2005 and who had completed either 12 or 16 years of education by the time of their interview in 2006. All the subjects in this sample were between 41 and 49 years of age in 2006. Test the claim that the distribution of incomes for those with 16 years of education exceeds the distribution for those with 12 years of education. (Hint: pay careful attention to the ratio between the largest and smallest incomes in each group … also …. Is the bigger mean associated with the bigger standard deviation? … Transformation?)
   Note: There is some SAS code in the HW3 item to help you download the data into SAS…. It is a very large dataset…. "datalines" is not a good idea here! OR … you could also use the File/Import option.
   Finally, make sure you present your findings as you would to a client:
      1. State the Problem
      2. Address the Assumptions (Graphically and verbally).
      3. Perform the Appropriate Test (6 step hypothesis test for now.)
      4. If significant result is found, state scope.

3. You may do the HW listed on the Blackboard for Bonus: 2 pts.