Homework for Chapter 5 – Part II

In all of the following problems, perform the hypothesis test based on the t-distribution using all three methods (confidence interval, test statistic and p-value). For each method, make sure you complete all steps.

Refer to question 5.36 – Using the reading-comprehension data, is there significant evidence that the mean comprehension for all fourth graders is greater than 80, the statewide average for comparable students during the previous year? Give the level of significance for your test. Interpret your findings.

5.41 - Use the actual sample values rather than rely on the sample mean and standard deviation given.

5.58

a. Calculate the sample mean of the mercury concentration after the accident.

5.61

Also plot the power vs. effect size assuming σ equals the sample standard deviation you calculated. Interpret what the power curve means.

5.62

Also determine what sample size is needed to achieve a power level of 0.90 when the effect size is 30 and $σ=45$.