MATH 2240 – Problem Set #3 Due Wednesday, September 12

1. What sampling distribution do we use to make inferences about a single population variance? What two assumptions must be met in order to use this distribution for this purpose? What are some of the similarities and differences between this distribution and the z- and t-distributions?

2. Read Problem 8.124 on p. 422 and download the TABLET dataset from the course webpage.
   (a) Use Minitab to create a histogram of these data, fitted with a normal curve. Is it reasonable to assume that this sample comes from a normal population? Explain.

   (b) Regardless of your answer to part (a), use Minitab to answer the question in the book (but use $\alpha = .05$ instead). Show all five steps and a post-hoc analysis, if appropriate. Be specific in your conclusion! In addition to this, draw a picture representing the given p-value and verify the given test statistic by hand.

3. Read the set up in Problem 8.117 on p. 421. Use Minitab to test whether the population of institutional investors performs consistently. Show all five steps and a post-hoc analysis, if appropriate. Be specific in your conclusion! In addition to this, draw a picture representing the given p-value and verify the given test statistic by hand.