

STAT 269 - Introductory Statistics

Minitab Homework 5 (Unit 2 Part 3)

- For this group you should be working with your permanent Minitab Group established by email on Minitab Homework 3. Get together with those friends (if you were in a group), and then begin the rest of the assignment.
- Open Minitab.
- In this homework, you will be considering data using the normal distribution with more than one observation in the sample. Where Minitab asks you for your standard deviation, you will want to calculate that in Minitab first, and then find the probability using the skills from the last assignment.
- To calculate the standard deviation for the sample average, you should “Show Command Line” (we’ve done that before using the menus, but you can also obtain this by typing Ctrl+k). In what follows, plug in the numbers for your setting (standard deviation=sd and sample size=n). Type “let k1=sd/sqrt(n)” (recall that you should not type the quotes) and press enter. Now, ask Minitab to print the value of k1. You should copy this value and paste it into the standard deviation line or just remember it and type it into the appropriate spot. Either will work. You may disable the commands between examples, or leave them enabled. If they are enabled, Minitab will show you the commands you could have used instead of the menus, but this isn’t necessary.
- Questions to answer:
 1. Suppose that a professor gives an exam to many students. She finds the grades follow a normal distribution with a mean of 70 and a standard deviation of 10 points. If five random exams are selected, what is the probability that the average grade for the five exams would be more than 75?
 2. A local meteorologist is tired of being criticized for inaccuracy. He decides to look at data over the past several years, and see whether the criticism is warranted. He selects 50 days at random from the five years he has worked with his current station. He finds that on average his predictions were off only 0.1° F. Suppose the distribution of prediction errors is normal with a mean of zero and a standard deviation of 1° F. What is the probability that his predictions would have been off by more than 0.1° F (note we don’t know or care which direction he is off)?
- Adjust the title of each graph to reflect the problem number above. (See Homework 2 for instructions on how to do this.)
- Copy each of the graphs into Word with both on the same page. Save the Word file with the name “Minitab5”. Be sure to put them in the correct order to make my review of your work less likely to give an incorrect grade.
- Save the Minitab project as “Minitab5”. This will automatically save with a .MPJ extension (Minitab5.MPJ). Please do not use your own naming convention. Save the file(s) as asked.
- In Canvas, go to the Minitab 5 assignment and click to submit the assignment and upload the two files that you just saved. You **must** upload **both** files for full credit.