

Instructions for Project 5: Students' Height

For this project you will continue to enhance your Excel skills with an emphasis on Filtering data and formulas. In the Project 5 Solution Template, please answer all the questions with complete sentences and proper grammar.

Instructions for Task 1:

At the beginning of the semester, we collected data from all Math 107 courses regarding student heights and the length of their forearm and the length of their feet. For this project we will be working with ***only women's height data***.

Steps for Task 1:

1. In Excel open the spreadsheet Project 5 document, and open the tab labeled Task 1.
2. Using the Excel calculator first calculate the average and standard deviation of the height data. Enter the values in cells **G2** and **G3**, as indicated.
 - See Project 3 for reminders about how to calculate averages, and standard deviations.
3. Using the Excel calculator calculate the z-score for each height.
 - Start by calculating the z-score for the height given in cell B2.
 - Remember the z-score formula is $z = \frac{x - \bar{x}}{s}$
 - See the instructions for Projects 1 and 2 if you need some help with inputting formulas into Excel. Project 1 has helpful reminders regarding how to “lock” in a cell so the formula references the same one every time.
 - Please note: Order of operations is very important when putting the formula into the cells, make sure you appropriately use parentheses where necessary.
 - Once you have the formula in C2, copy the formula down to compute the z-scores for the remaining heights.

Instructions for Task 2:

For this task we will continue to work with the height data. In this task, we are going to show using a histogram and z-scores that the data is approximately normally distributed.

Instructions for Task 2:

1. In Excel open the spreadsheet Project 5 document, and open the tab labeled Task 2.
2. Using your filtering skills and the z-scores you found in part 1, fill in the frequency table provided for you. For reminders about different ways to filter see Project 1 and Project 2 instructions.
 - The “between” option is a good one to use for this project.
3. Using the Excel calculator find the relative frequencies of the classes.
4. Create a histogram based on the relative frequencies you calculated.
 - Make sure to appropriately label all aspects of your graph.
5. Add data labels to the bars in your graph. To do this, right click on one of the bars in your chart. Then click on the option that says “add data labels.”