General Education Assessment Plan

G.8: Quantitative Reasoning Assignment
Sample 1

Group
Project

Does square footage determine home prices?

Directions:
Your group will be assigned 3 zip codes to get home data from the Zillow.com website. You will use data on homes that are currently FOR SALE – choose the FOR SALE link and enter in the zip code. For each zip code you will need to choose 25 pairs (square footage, home price) of data. Each “pair” is one house where the square footage (x) and home price (y) make up your data. You will also need to determine a sampling technique on how you’ve chosen your data. In your write-up you need to address what sampling technique your group has chosen and why you chose that particular technique.
Each group will turn in a single report 9in Word format, all charts must be pasted into the Word file) addressing the following questions and calculations that are outlined in the Data Analysis section below. Your data analysis is not limited to the questions and calculations listed below. Your group is free to include additional analysis where appropriate.

DATA ANALYSIS:

☐ Create separate scatter plots for each of the three data sets. You may wish to use Excel to create your scatter plots; you may use whatever software you wish as long as you are able to copy and paste (or import) into Word.
☐ Determine the regression equation and show the equation on each of the scatter plots.
NOTE: charts need to be clearly labeled with a title.
☐ Interpret the meaning of the slope coefficient in the problem.
☐ Determine the correlation coefficient for each of the data sets.
☐ An explanation of the sampling techniques that was used and why it was chosen.
☐ What level of measurement (nominal, ordinal, interval or ratio) does the data possess?
☐ Does the pattern of the scatter plot roughly follow a straight line and does the visual repress
☐ Is the data pattern upward or downward sloping?
☐ Are the data values tightly clustered in the pattern or widely dispersed?
☐ Are there any significant deviations from the pattern? Why might this have happened?
☐ Which data values are your independent values? Which data values are your dependent values?
☐ Predict the price of a 2,000 square foot house based on each of the three regression models.
☐ Compare the regression models of your 3 zip codes? Are the results similar/different? Are there other pieces of home data that were not included in our regression analysis that may have influenced the results?
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NOTE:
Each group will choose a group leader. The group leader will receive 5 additional points on their project. Only the names of the group members that the group leader submits on the final report will receive a grade on this project (list them on the cover page of the report). If the group leader determines that you have not contributed on this project and does not submit your grade then you will receive a zero. The team leader must submit the report on the MML discussion board as FINAL DRAFT.

Thanks to Robert Williams for allowing use of this sample.