

Chapter 4 Project Normal Quantitative Data Analysis

Directions for Online Classes: *This will be an individual project. Each student will analyze one quantitative data set from the “Math 075 Chapter 4 Project Normal Data” and create a poster summarizing their findings. After submitting a picture of the poster to their instructor, students will then go to the “Chapter 4 Project Class Discussion” in Canvas and discuss their findings with other students in the class.*

Each student will pick one of the following data sets from the Math 075 Chapter 4 Project Normal Data to analyze: Male Body Temp Degrees Fahrenheit, Female Body Temp Degrees Fahrenheit, North Territory Australia Weekly Salary Dollars, Tasmania Australia Weekly Salary Dollars, Chicks Weight Gain (in grams) after 20 days on Normal Corn, January minimum temperature in degrees Fahrenheit of various U.S. Cities, Percent of Female Students at Universities around the world, Salamander Total Length (cm), Fat (grams) Fast Food Breakfast Items, Soil Surface temperature (degrees Celsius) in Comanche, Texas, NBA All-Star Player Heights.

The Individual Poster Should Have

- **First and Last Name of student**
- **Why is this data important or interesting to you?**
- **Go to www.lock5stat.com and open StatKey. Click on “one quantitative variable” under the “descriptive statistics and graphs” menu. Click on “edit data” and copy and paste your one column of quantitative data into Statkey. If you data has a title, click on “data has a header row”. Do NOT click the box the says data has identifier. Press OK.**
- **Click on dot plot in StatKey and sketch the dot plot onto your poster.**
- **Click on histogram in StatKey, and pull the slider to “3 buckets”. Your histogram should have 3 bars. Sketch the histogram onto your poster.**
- **Write down the Mean, Standard Deviation, Min, Max and Sample Size onto your poster. You will see them under the “Sample Statistics” menu in StatKey.**
- **What is the data measuring?**
- **What are the units?**
- **How many numbers are in the data set : sample size (n)**
- **What is the Shape? Look at your histogram. Should be normal (bell shaped).**
- **Write a sentence to explain the mean.**
- **What is the average? (Use the mean if normal data.)**
- **What is your spread for the data? (Use the standard deviation if normal data.)**
- **Write a sentence to explain the standard deviation.**
- **Find two numbers that typical values fall in between (Mean – Stand Dev , Mean + Stand Dev)**
- **Calculate Unusually high cutoff (Mean + 2 x Stand Dev)**
- **List all unusually high values (high outliers) in the data set. (Find these on the dot plot or excel spreadsheet.) If there are none, say “No high outliers”.**
- **Calculate Unusually low cutoff (Mean – 2 x Stand Dev)**
- **List all unusually low values (low outliers) in the data set. (Find these on the dot plot or excel spreadsheet.) If there are none, say “No low outliers”.**
- **Decorate Poster**

Now take a picture of your poster project and submit the picture to your instructor in Canvas.

After submitting the picture of the poster, go to the discussion menu in Canvas and complete the “Chapter 4 Project Discussion”. You will be discussing your findings with other students in the class.



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Directions for Face to Face Classes: *The class will be separated into groups. Each group is required to pick a “team name” for their group and analyze one quantitative data set from the “Math 075 Chapter 4 Project Normal Data”, create a poster summarizing their findings, and present the poster to other students in the class.*

Each group will have a different topic and will pick one of the following data sets from the Math 075 Chapter 4 Project Normal Data to present it to their classmates: Male Body Temp Degrees Fahrenheit, Female Body Temp Degrees Fahrenheit, North Territory Australia Weekly Salary Dollars, Tasmania Australia Weekly Salary Dollars, Chicks Weight Gain (in grams) after 20 days on Normal Corn, January minimum temperature in degrees Fahrenheit of various U.S. Cities, Percent of Female Students at Universities around the world, Salamander Total Length (cm), Fat (grams) Fast Food Breakfast Items, Soil Surface temperature (degrees Celsius) in Comanche, Texas, NBA All-Star Player Heights.

The Poster Should Have

- **Group/Team Name**
- **First and Last Name of each team members on the poster**
- **Why is this data important or interesting to your group?**
- **Go to www.lock5stat.com and open StatKey. Click on “one quantitative variable” under the “descriptive statistics and graphs” menu. Click on “edit data” and copy and paste your one column of quantitative data into Statkey. If you data has a title, click on “data has a header row”. Do NOT click the box the says data has identifier. Press OK.**
- **Click on dot plot in StatKey and sketch the dot plot onto your poster.**
- **Click on histogram in StatKey, and pull the slider to “3 buckets”. Your histogram should have 3 bars. Sketch the histogram onto your poster.**
- **Write down the Mean, Standard Deviation, Min, Max and Sample Size onto your poster. You will see them under the “Sample Statistics” menu in StatKey.**
- **What is the data measuring?**
- **What are the units?**
- **How many numbers are in the data set : sample size (n)**
- **What is the Shape? Look at your histogram. Should be normal (bell shaped).**
- **Write a sentence to explain the mean.**
- **What is the average? (Use the mean if normal data.)**
- **What is your spread for the data? (Use the standard deviation if normal data.)**
- **Write a sentence to explain the standard deviation.**
- **Find two numbers that typical values fall in between (Mean – Stand Dev , Mean + Stand Dev)**
- **Calculate Unusually high cutoff (Mean + 2 x Stand Dev)**
- **List all unusually high values (high outliers) in the data set. (Find these on the dot plot or excel spreadsheet.) If there are none, say “No high outliers”.**
- **Calculate Unusually low cutoff (Mean – 2 x Stand Dev)**
- **List all unusually low values (low outliers) in the data set. (Find these on the dot plot or excel spreadsheet.). If there are none, say “No low outliers”.**
- **Decorate Poster**

Presentation

Make sure each person on the team understands the poster and can present your findings. Bring your poster to a designated presentation area in the classroom and hang or tape your poster to a wall. One person at a time will present the poster. We will then rotate so that each member of the team gets to present. Everyone else will listen to presentations and give feedback.



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