

AP Statistics Summer Homework 2019-2020 School Year

Welcome to AP Statistics! My name is Robert Beyronneau. You may call me Mr. Beyronneau (bear-a-no), or just use “Mr. B” which is what most students do.

I am REALLY looking forward to next year’s class and I hope you are as well. I love teaching statistics because it truly is fun and interesting and hopefully this summer assignment not just introduces you to statistics, but allows you to experience why I feel this way. Please remember that the point of the summer assignment is to have fun with collecting data and also getting use to asking me for help. You need to feel comfortable with asking for help and clarification and need to realize the best students are always willing to ask questions and you should never feel afraid to ask for clarification or a hint to get you unstuck so you can move forward.

Before we worry about the assignment, there are a few things that I would like you to do first.

1. You will need to add yourself to my google classroom. **Go to:** <http://classroom.google.com>

You’ll need to add the class with the class code: **t3lho0** ← this is a zero

You will end up submitting your summer assignment here.

2. Everyone should also join my REMIND Account for the class that way you can get reminders to help you stay on top of things, REMIND also allows you to ask me questions:

To join text @normal2020 to 81010.

3. You will need to go to the link: <https://mrbeyronneau.weebly.com/summer-ap-stats.html>

There you will find the optional summer reading. Chapters 2, 3 are introduction chapters about statistics in general. Chapters 3 and 4 will help with project type I and chapters 7 and 8 will help with project type II. That is correct, the reading is not required, but hopefully as you work on your summer assignment you will enjoy it so much you will take the time to look through these chapters to make your homework even better. These chapters are password protected, the password is: finallynormal

Below is a chart to help remind you when things should be done by:

Assignment	Due Date
Join google classroom and REMIND	6/7/2019
Gathering Your Data	You must gather your data for 20 of the 38 days between 6/8/2019 and 7/15/2019
Summer Assignment Data Collection Spreadsheet	7/15/2019
Summer Assignment Report	7/29/2019

If you have questions you can always ask for help by texting me on the REMIND account.

The best way to learn about statistics is to use them, the best way to make it come to life for you is for you to choose something that interests you so that is what this assignment is going to have you do. You are going to do some data collection; you may choose one of the following examples below, or you can get your own approved any time before 6/20/2019 by talking with me in person or texting me on REMIND. Remember you only need to do Project Type I or Project Type II, not both.

Project Type I: One Variable Data

Sports Addict:

So you love sports! Choose a professional sport that is currently going on and will at least continue once you start collecting data for 20 days. Choose a variable to keep track of each day (for example # of strikeouts the Anaheim Angels starting pitchers have each game), in the spreadsheet keep track of the day you gathered the data, the value of the variable you are tracking, and any important notes that might be needed later (for example in this case who the starting pitcher was each day).

Fitness Buff:

Maybe you have an Apple Watch, Fitbit, or another type of fitness tracker, maybe you like to workout, or perhaps you like to run using an app. Choose a variable that you will track for 20 days, (it could be your weight each day, how many miles you run each day, calories burned each day, anything you might want to track fitness wise for 20 days), in the spreadsheet keep track of the day you gathered the data, the value of the variable you are tracking, and any important notes that might be needed later (for example time of day you weighed, time of day or temperature you ran at).

Media Giant:

Who doesn't love to binge watch shows, follow their favorite celebrities' every moves, or know everything that is going on in their favorite theme park? Choose a variable that you will track for 20 days, (perhaps number of tweets per day your celebrity crush does each day, number of hours you spend watching Netflix each day, or the wait time for your favorite ride at a theme park), in the spreadsheet keep track of the day you gathered the data, the value of the variable you are tracking, and any important notes that might be needed later (for example the time of day your are checking the wait time for your favorite ride)

Once you have your data recorded create a report that includes each of the following:

An introduction on what you decided to collect data on and why you chose it.

Some display/graph (histogram, box plot, or dot plot) that would show your data (you are encouraged to use technology to graph it but you can insert a picture of a hand drawn graph, too.)

Calculate the mean, median, IQR, and standard deviation (please use technology to do this, either a calculator or formulas inside your google spreadsheet)

As best as you can and in your own word analyze the data by describing what you think you see in the graph and what you think the mean, median, IQR, and standard deviation mean for your results. This part should be 3-5 sentences long.

Lastly, state anything that you noticed that was interesting to you about the results. This can be your own opinions of what you noticed or maybe a trend or pattern you saw in your data.

Project Type II: Two Variable Data

Feeling a little nerdy or mathematical? Up your game by collecting data on two variables that might be related.

Sports Addict:

Dig deeper into the sport you love. Choose a professional sport that is currently going on and will at least continue once you start collecting data for 20 days. Choose two variables to keep track of each day (for example # of home runs hit during day games per day vs. # of homeruns hit during night games per day, or # of walks allowed by a starting pitcher vs. # of runs allowed per game), in the spreadsheet keep track of the day you gathered the data, the value of the variables you are tracking, and any important notes that might be needed later.

Fitness Buff:

Take your fitness to the next level. Choose two variables that you will track for 20 days, (perhaps you want to look at the temperature that it is outside when you run vs. the average pace that you run at during a run), in the spreadsheet keep track of the day you gathered the data, the value of the variables you are tracking, and any important notes that might be needed later.

Media Giant:

Maximize your time! Choose two variables that you will track for 20 days, (perhaps time of day vs. wait time for your favorite theme park ride), in the spreadsheet keep track of the day you gathered the data, the value of the variables you are tracking, and any important notes that might be needed later.

Once you have your data recorded create a report that includes each of the following:

An introduction on what you decided to collect data on and why you chose it.

A scatterplot that would show whether there is a trend in your data (technology required)

A sentence that lets the reader know what the correlation coefficient is. (Use DESMOS to calculate the correlation coefficient, r .)

As best as you can and in your own words analyze the data by describing what you think you see in the graph and whether you believe there is a relationship between the two variables that you recorded.

Lastly, state anything that you noticed that was interesting to you about the results. This can be your own opinions of what you noticed or maybe a trend or pattern you saw in your data.