

MATH SUMMER ASSIGNMENT

Statistics Honors Level and College Level

Mathematics is foundational and it is crucial that students maintain certain skills and conceptual understandings to be able to succeed in future mathematics courses. It is for this reason that we have developed numerous summer assignments that are designed to help students review, refresh, and improve upon **prerequisite skills** to prepare for future courses.

This year, we are requiring students to complete summer assignments to ensure that they are prepared for the year. The assignments were designed by content teachers to help students be better prepared for math work in the fall. Students will be given time in class to clarify questions, practice concepts and will be assessed during the first week of school.

For Statistics, the summer assignment is due the first week and graded as a formative assessment.

kharty@lowell.k12.ma.us
vmeyer@lowell.k12.ma.us

Instructions for College Level -- Complete Sections 1 and 2 for the mean and median values. Do not calculate any standard deviations.

Instructions for Honors Level -- Complete all 3 Sections of the Assignment.

Please follow the directions below to complete this work. These assignments are due by the first day of class and will count as a test grade in the first marking period. Please email either of the teachers with questions about the course or the Summer Assignment. (Do not be concerned about which teacher/class you were assigned)

DO NOT email your documents to your teacher. Assignments will only be acted through Google Classroom. You will get information on this when classes begin.

Required Materials

Have these materials with you on the first day of class;

- Pencils and erasers
- Assignment folders or binder

Special Note

The TI 83/84 calculator is a required item for the Statistics courses. The textbook is based on this calculator and many of the assignments must be done on it. All of the data we use for analysis will be stored on the calculator. If you have access to a TI 83 or TI 84, please bring it to class. If you do not, there will be a limited number of calculators available for classroom use.

"Statistical thinking will one day be as necessary for efficient citizenship as the ability to read and write." H.G.Wells

Statistics Summer Assignment 2017

A Critical Statistical Analysis based on a Data Set: The United States Presidents' ages at the time of their inauguration.

Research and record the Age of each U.S. President at the time of their Inauguration. Take note of any interesting age trends among the presidents. Do not limit your research to the ages of the presidents. Look at background information that will help explain why they were inaugurated at a certain age.

Using Fractions for Statistical Analysis

The following Statistical Vocabulary terms all use fractions; Mean, Median and Standard Deviation. These terms will be used extensively to describe every data set that we will analyze. Express ALL of your answers in fractions.

Part 1 Calculate the Critical Values that describe the data set

Find the MEAN Age of the US President's at the time of their inauguration. Express this value as a fraction.

Find the MEDIAN Age of the US President's at the time of their inauguration. Express this value as a fraction.

What do these values tell you about the ages of the Presidents at inauguration?

Are these values equal to each other? Why or why not?

Calculate the STANDARD DEVIATION of the US President's at the time of their inauguration. Find the formula for Standard Deviation at APstatsmonkey.com, or other Statistics web site. Express the value as a fraction.

Part 2: Categorical Data Analysis

Separate the list of presidents' ages into age categories; ie Presidents in their 30's, 40's, 50's, 60's and 70's at the time of their inauguration.

Find the MEAN Age of the US Presidents for each age category and enter them into the chart below. Express these values as fractions.

Find the MEDIAN Age of the US Presidents for each age category and enter them into the chart below. Express these values as fractions.

Find the STANDARD DEVIATION of the US Presidents for each age category and enter them into the chart below. Express these values as fractions.

Categorical Breakdown

US Presidents' Ages at the time of their inauguration.

Age Category	Mean	Median	Standard Deviation
30-39			
40-49			
50-59			
60-69			
70-79			

Part 3: DATA ANALYSIS ASSIGNMENT

Interpreting the statistical values that you calculated is the most critical part of any data analysis. You will submit a typed one page essay that summarizes your statistical findings and analysis.

After recording the statistical values, write at least two paragraphs summarizing your data analysis. Interpret the values and show what they represent in the context of the data set. Draw conclusions about the president's ages at the time of their inauguration.

You will submit your document(s) on Google Classroom or Print and bring to class on at the beginning of school. Do not email any documents to the teacher. Instructions on Google Classroom will be give on the first day of class. Be prepared to discuss your findings in class the fall.

Questions to consider.....

Who is the oldest, youngest etc. Does there appear to be a minimum or maximum age which a president can be lectured? What age category do most of the presidents fall into? What factors might cause this to be the case? Are there any "clusters" of certain age groups? Are there any other interesting facts about the U.S. Presidents in relation to their ages?