Statistics Summer Assignment

Welcome to Statistics! This course is like no other mathematics course in that the emphasis is placed on your ability to think, reason, explain, and support as opposed to plugging in formulas or performing memorized computations. You will be asked to read about real-life situations, pick out the useful data, and use that data to find a conclusion.

You will need to have your own calculator and bring it to class every day. Statistics relies on the use of a calculator. I highly recommend you have a TI-84 (Plus Silver Edition), TI-84 CE, or TI-89.

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Now that you have a little information about the course, you are ready to start your summer assignment. Make sure you read all directions thoroughly and complete each part of the assignment. I look forward to working with and teaching all of you over the course of the next year!

The assignment is due <u>on the first day of class</u>.

Enjoy your summer and see you at the start of school!

On this assignment, you may use your calculator, internet resources, and notes/books from previous mathematics courses. You may not work together or get help from another person. I will be available at school to answer questions before the assignment is due. Also, you can email me over the summer at <u>paula.daly@saintjosephprep.org</u>. I will do my best to get back to you quickly.

Part I: Vocabulary

The following is a list of basic concepts you will see often in Statistics. Define each word using a dictionary or online resource in a one or two sentence definition. You may also use your own definition if you know the meaning of the word. Definitions can be written or typed on this page or on a separate sheet and attached.

1. study

2. average

3. population

4. sample

5. randomly selected

6. correlation

7. descriptive statistics

8. mean

9. variance

10. standard deviation

11. median

12. range

13. minimum

14. maximum

15. permutation

16. combination

17. categorical variables (with an example)

18. quantitative variables (with an example)

19. outliers

20. difference between probability and statistics

Part II: Data and Graphs

For each of the following sections, provide a complete solution to each problem described. Complete solutions include explanations and work, not just answers. Do not worry if you cannot completely solve a problem; you must attempt each by looking up what to do and trying. If you are still lost as to how to solve, provide your thoughts on what you think you should do. All work should be done on separate paper (or graph paper) and attached.

Use the following table to answer the questions.

Marvel Comics Superheros	Gender	Eyes	Hair	Height	Weight	First Appeared
Black Cat	Female	Green	Blonde	5'10"	120	1979
Captain America	Male	Blue	Blonde	6'2"	240	1941
Daredevil	Male	Blue	Red	6'0"	200	1964
Dark Angel	Female	Green	Red	5'7"	120	1992
Deadpool	Male	Brown	None	6'2"	210	1990
Elecktra	Female	Blue	Black	5'9"	130	1981
Human Torch	Male	Blue	Blonde	5'10"	170	1961
Iceman	Male	Brown	Brown	5'8"	145	1963
Invisible Woman	Female	Blue	Blonde	5'6"	120	1961
Iron Man	Male	Blue	Black	6'1"	225	1963
Mr. Fantastic	Male	Brown	Brown	6'1"	180	1961
Ms. Marvel	Female	Blue	Blonde	5'11"	124	1967
Phoenix	Female	Green	Red	5'6"	115	1963
Silver Surfer	Male	Silver	None	6'4"	225	1969
Spider-man	Male	Hazel	Brown	5'10"	167	1962
Spider-woman	Female	Green	Black	5'10"	130	1977
Storm	Female	Blue	White	5'11"	127	1976
The Black Widow	Female	Blue	Red	5'7"	135	1962
Thing	Male	Blue	None	6'0"	500	1961
Thor	Male	Blue	Blonde	6'5"	640	1951
Venus	Female	Blue	Blonde	5'6"	280	1948
Wolverine	Male	Blue	Black	5'3"	195	1974

Part II Questions

1. For each category, label it as categorical or quantitative.

2. Create a bar graph of hair color with color on the x-axis and number of heroes on the y-axis.

3. Create a stem-and-leaf plot for weight.

4. For height,
     a. convert all heights to inches (1 foot = 12 inches)
     b. find the maximum and minimum heights
     c. find the range in height
     d. find the median height
     e. find the mode height
     f. find the mean height