

Summer Assignment

Welcome future statisticians! In August you will embark on a wonderful journey of exploring data analysis. Statistics is a math course unlike every other math course you have taken. You will never sit in class and wonder “When will I ever use this?” or “Why am I learning this?”. Turn on the news, read the newspaper, look around you – statistics are everywhere! Real people use statistics in their real lives daily to make decisions. My average grocery bill is lower at *this* store, I have a better chance at winning *this* game, I’ll probably make more money with *this* major... we say things like this all the time.

In AP Statistics you will do more writing than in any other math course. A statistic is a number with a context, and the context matters. The same percentage can mean very different things in different situations. To get you ready for the wonderful world of statistics, you will review some of the statistical topics that you have covered in previous math courses and develop a basic statistical understanding of data. In addition, you will complete a short, written assignment because in statistics, you need to be ready to see the context and write about it. The purpose of this assignment is to give you a good foundation of the mathematical skills that will prepare you for the course as well as enhance your reading comprehension and writing skills in the mathematics classroom, as both reading and writing are important parts of the course.

All of your work is attached with all instructions. This work is due the first day of school and will be collected and graded as a formative assessment, so please take the assignment seriously.

If you have any questions or clarifications, email me (kspano@oxfordasd.org).

Late work will result in the following penalties:

<u>Late</u>	<u>Penalty</u>
1 day late	Loss of $\frac{1}{4}$ of total points
2 days late	Loss of $\frac{1}{2}$ of total points
More than 2 days late	NO CREDIT

The summer assignment is composed of two parts:

- 1. Review of Mathematical Topics.** You will review statistical topics from previous math courses. This work will be done through Khan Academy. You will watch certain videos and do the practice problems/quizzes associated with what you learn on the videos. Your effort and achievement will be recorded and can be seen by your teacher. Keep a record of your work and progress.
- 2. Autobiographical Essay.** Compose a one-page (no longer) typed document. (NOTE: A partial page will **not** suffice.)

Part I: Review of Mathematical Topics

How to join Mrs. Spano's Khan Academy Class

- ◇ Go to khanacademy.org/join
- ◇ Enter your class code **XR6E6J78** and press “Add”.
- ◇ If you don't already have an account press “Create a new account”. Enter your date of birth and sign up using your school email.
- ◇ Enter your grade and course. Now you are ready to start learning.
- ◇ Details of the topics you will cover can be found below.

Topic 1 – Exploring Categorical Data

- ◇ Identifying individuals, variables, and categorical variables in a data set
- ◇ Creating and Reading a Bar Graph

Topic 2 – Exploring one-variable quantitative data: Displaying and Describing

- ◇ Constructing Dot Plots, Histograms, and Stem Plots
- ◇ Shapes of Distributions and their comparison

Topic 3 – Exploring one-variable quantitative data: Summary Statistics

- ◇ Mean, Mode, and Median
- ◇ Variation and Spread
- ◇ Box and Whisker plots

Topic 4 – Exploring two-variable quantitative data

- ◇ Scatter Plots and Data correlation

Topic 5 – Probability

- ◇ Theoretical and experimental probability
- ◇ Compound probability of independent events and probabilities involving “at least one”

Note:

- ◇ The above is just a list of the topic headings. These include a total of 45 assignments which will require you to either watch a video or practice what you learn in the video. Each assignment will take 5 to 10 minutes. So, please pace yourself and don't wait until the last few days before school begins to start the assignment.

Part II: Autobiographical Essay

Content. The first paragraph should be a brief autobiographical statement about yourself that will help me get to know you. What are your likes and dislikes? Who are your role models? What makes you unique? In the second paragraph, tell me something you remember from a previous math course. It can be a particularly good experience or a particularly bad experience. Or describe a math teacher you've had who stood out in some way. In the third paragraph, tell me about your future plans. If you are planning on college and thinking about a particular major, tell me about that and why you are interested in that field. Alternatively, if you aren't planning on college, tell me about possible career interests in general terms. In the fourth and last paragraph, tell me something about this statistics course. Possible areas to address: Why are you taking AP Statistics? Is statistics an important tool in the field of study you are considering? Have you had any previous connection with statistics? Can you give an example from the "real world" where statistics is or has been important to you personally?

Requirements. Here are some specifics regarding your final paper:

1. Change the font to Times New Roman (if this is not available on your computer, use a simple newspaper-type font like the one you are reading). Make your font size 12 points.
2. Make the first line "Brief Autobiographical Sketch," and make the second line (the title) your name. Center both lines, and change your name to font size 18.
3. Insert the following paragraph headings, in order: Biographical, Retrospective, Future Plans, and AP Statistics, like the paragraph headings I have used on these directions, and then put these words in **bold**.
4. Leave one line of space between the title and the first paragraph, and leave one line between paragraphs.
5. Put something (or some things) in *italics*, and underline something else.
6. Number your page at the bottom of the page, centered.
7. Before you print the final copy, make sure you proofread your paper on the screen, and then check it for spelling and syntax.

Grading. I will evaluate you on: following instructions, spelling, grammar and syntax, general interest, and whether your report was submitted on time (see next page for grading rubric, which you are to attach to your essay).

Autobiographical Essay: Rubric**Name:** _____

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|---|----------------|
| 4 | Excellent |
| 3 | Good |
| 2 | Satisfactory |
| 1 | Unsatisfactory |

General

Followed instructions for the investigation:

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|---|---|---|---|--|
| 1 | 2 | 3 | 4 | Format of title is as specified |
| 1 | 2 | 3 | 4 | Single-space within paragraphs; double-space between paragraphs. |
| 1 | 2 | 3 | 4 | Length is correct (one complete page-no more, no less). |
| 1 | 2 | 3 | 4 | Report is grammatically correct and free of all spelling errors. |
| 1 | 2 | 3 | 4 | Report avoids slang and clichés. |
| 1 | 2 | 3 | 4 | Report is clear and unambiguous. |
| 1 | 2 | 3 | 4 | Paragraph 1 Biographical: All content questions answered |
| 1 | 2 | 3 | 4 | Paragraph 2 Retrospective: All content questions answered |
| 1 | 2 | 3 | 4 | Paragraph 3 Future Plans: All content questions answered |
| 1 | 2 | 3 | 4 | Paragraph 4 AP Statistics: All content questions answered |

Specifics

- | | | | | |
|---|---|---|---|-------------------------------|
| 1 | 2 | 3 | 4 | ITALICS/UNDERLINE/NUMBER/NAME |
|---|---|---|---|-------------------------------|

TOTAL: _____ /44