



Summer Assignment Statistics

Directions: Show all work for the following problems. A calculator is needed to complete this assignment.

Academic Integrity: All work should be completed independently and without the assistance of unapproved resources. Any work violating academic integrity will be subject to a “0” and any additional consequences as outlined in the Knox Academic Integrity Policy attached to this assignment.

Due Date: Your work is due the first day of your Statistics class. All late work will be subjected to a grade reduction or penalty as outlined in the course syllabus and copied below:

All major assignments not submitted on the due date will face a 10% deduction of max points per day for up to five (5) days and up to a 50% deduction.

Summer Assignments for AP Classes that are not submitted on time will result in the student being dropped from the course.

If you have any questions or concerns regarding this assignment, please contact the Dean of Academics, Mrs. Pergola, at dpergola@knoxschool.org .

Statistics Summer Assignment

1. Compare and contrast the measures of central tendency (mean, median, mode and midrange). Give examples of when the mean would be a preferred measure, and when the median would be a preferred measure. Explain your answer.

<https://www.expil.com/t/word-problems-when-to-use-mean-median-and-mode-4645>

2. Find the mean, median, mode and midrange for the number of natural gas drilling sites in Pennsylvania counties with drilling operations listed below. Discuss the differences in these measures, and which best describes the center of the data. Explain your answer.

9	112	1	1	6	1008	109	6	14	58
20	136	85	3	58	185	6	415	2	43
26	2	2	2	473	53	76	19	41	462
693	1	2	560	4	191	98			

3. Use the website <https://stattrek.com/survey-research/sampling-methods.aspx> to research the following:

Explain what is meant by Probability Samples and Non-probability samples.

Determine how each of the sampling methods is executed and give an example for which each method would best be used:

Simple Random Sampling

Systematic Sampling

Stratified Sampling

Cluster Sampling

Convenience Sampling

Multi-stage Sampling