College Prep Stats Name _____
MID-PROJECT: Chapter 3

DATA COLLECTION AND PERCENTILE, MEAN, STDDEV, Z-SCORE

Overview: We need to collect the heights of all the students in this class. Your task is to use this data to calculate the mean and standard deviation for the data set. You will then find your height percentile. Finally, determine your z-score and the z-score of your teacher in the class. Decide who has the more extreme value and write a summary of the results. **All work must be typed**.

Your Chapter 3 **Individual** Project will be graded based on the following guidelines:

- ✓ Correctly calculate the mean and standard deviation
  - The mean calculation must be done by calculator with formula shown
- ✓ Accurately determine your and your teacher's height percentile
- ✓ Accurately determine both z-scores
- ✓ Draw accurate and relevant conclusions in 1 paragraph (**4-6 sentences minimum**)
  - Determine who has the more extreme height using the Z-Scores.
- ✓ The write-up and calculations are well organized and neat

The project is worth **40 points.

Topic	Excellent	Adequate	Below Expectations	Inadequate
Mean	4 points. The mean is accurately calculated and all appropriate work is shown and organized.	2 points. The mean is accurately calculated with inadequate work. **OR** The mean is incorrect with minimal flaws in the work.	1 points. The mean is accurately calculated but with no clear work. **OR** The mean is incorrect with several mistakes in the work.	0 points. Student shows no understanding of calculating the mean.
Standard Deviation	4 points. The standard deviation is accurately calculated and all appropriate work is shown and organized.	2 points. The standard deviation is accurately calculated with inadequate work. **OR** The standard deviation is incorrect with minimal flaws in the work.	1 points. The standard deviation is accurately calculated but with no clear work. **OR** The standard deviation is incorrect with several mistakes in the work.	0 points. Student shows no understanding of calculating the standard deviation.
Height Percentile	4 points. The height percentile is accurately calculated and all appropriate work is shown and organized.	2 points. The height percentile is accurately calculated with inadequate work. **OR** The height percentile is incorrect with minimal flaws in the work.	1 points. The height percentile is accurately calculated but with no clear work. **OR** The height percentile is incorrect with several mistakes in the work.	0 points. Student shows no understanding of calculating the height percentile.
Z-Scores	8 points. Both Z-Scores are accurately calculated and all appropriate work is shown and organized.	5 points. The Z-Scores are accurately calculated with inadequate work. **OR** One Z-Score is incorrect with minimal flaws in the work.	2 points. Both Z-Scores are incorrect but student demonstrates understanding of the process. **OR** At least one Z-Score is correct but there is no clear work shown.	0 points. Student shows no understanding of calculating Z-Scores.
Conclusion	5 points. Accurate conclusions are drawn regarding each calculation and a comparison of the more extreme value is made. **AND** Minimum length requirements are met.	3 points. Conclusions are drawn regarding each calculation and a comparison of the more extreme value is made with minimal flaws. **AND** Minimum length requirements are met.	1 points. Conclusions are drawn regarding most calculations and a comparison of the more extreme value is made with minimal flaws. **AND** Minimum length requirements are met.	0 points. No relevant conclusions are drawn. **AND/OR** Minimum length requirements are not met.

*Your Project **MUST** be in the following format and template:*

Name_____ (5 points)

Recorded Data: (5 points)

blabla	blabla	blabla			

Sorted Data: (5 points)

blabla	blabla	blabla			

Your Height:_____ Mr. Tu's Height: _____67 in._____

Mean Calculation Formula $\bar{x} = \frac{\sum x}{n}$

(4 points) Mean =

Standard Deviation Calculation Formula $s = \sqrt{\frac{\sum(x-\bar{x})^2}{n-1}}$

(4 points) Standard Deviation =

(4 points) Percentile Calculation: Your Percentile =

Mr. Tu's Percentile =

(8 points) z-Score Calculation: z-Score Calculation Formula $z = \frac{x-\bar{x}}{s}$

Your z-Score =

Mr. Tu's z-Score =

(5 points) Conclusion: