College Prep Stats	
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
  - o 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**)
  - o Determine who has the more extreme height using the Z-Scores.
- ✓ The write-up and calculations are well organized and neat

<sup>\*\*</sup>The project is worth **40 points**.

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

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

Name	(5	points)						
Recorded Data: (5 points)								
blabla	blabla	blabla						
Sorted Dat	Sorted Data: (5 points)							
blabla	blabla	blabla						
Your Height: Mr. Tu's Height: 67 in.								
Mean Calc	culation Formula	$\bar{x} = \frac{\sum x}{n}$	<u>:</u>					
(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:	Y	our Percentile =					
		M	r. Tu's Percentile =					
(8 points)	z-Score Calculation:	z-Score Calculat	on Formula	$z = \frac{x - \bar{x}}{s}$				
		Y	our z-Score =					

Mr. Tu's z-Score =

(5 points) Conclusion: