Statistical Reasoning
Collecting and Analyzing Data

Name: Date: Class:

Measures of Center and Spread

A teacher has a problem and needs your input. They have to give one math award this year to a deserving student but can't decide between two students. Here are the test grades for her two best students:

Bryce: 90, 90, 80, 100, 99, 81 98, 82

Briana: 90, 90, 91, 89, 91, 89, 90, 90

Make a dotplot of both their test scores

Bryce

Briana

Who do you think should get it and why?

Comparing sets of data

Measures of Center

Mean –

Median –

Mode –

Measures of Spread

Standard Deviation –

Interquartile Range –

Range -

Calculate the mean, median, and mode of Bryce's distribution

Calculate the mean, median and mode of Briana's distribution.

Now who do you think should get the award?

The Five Number Summary

Calculate Bryce's five number summary

Calculate Briana's five number summary

Using the Five Number Summary for Box and Whisker Plots

Make a box and whisker plot of Bryce and Briana's test scores on top of each other.

Calculating Measures of Spread: Standard Deviation

Use the table below to calculate the standard deviation of Bryce's distribution.

Test scores for Bryce	$x-\bar{x}$	$\left(x-\bar{x}\right)^2$
90		
90		
80		
100		
99		
81		
98		
82		
	Variance:	
	Standard Deviation:	

Use the table below to calculate the standard deviation of Briana's distribution.

Test Scores for Briana	$x-\bar{x}$	$\left(x-\bar{x}\right)^2$
90		
90		
91		
89		
91		
89		
90		
90		
	Variance:	
	Standard Deviation:	

What does the standard deviation measure?

Calculating Measures of Spread: The Interquartile Range

Calculate Bryce's IQR

Calculate Briana's IQR

So who should get the award?