

## Collaborative Project – Concepts in Statistics

A Precalculus class took a standardized test at the beginning of the school year. The scores are shown below.

78, 79, 79, 64, 86, 71, 86,  
93, 79, 71, 79, 79, 71, 86,  
57, 50, 79, 86, 64, 79, 86

1. Create a line plot for the data.
2. Find the (a) mean, (b) median, (c) mode, and (d) standard deviation of the data.
3. Create a box-and-whisker plot for the data.
4. Another class took the same test and the scores were normally distributed with a mean of 74 and a standard deviation of 9. Find the probability that a student scored no higher than a 71.
5. Near the end of the school year, the class retakes the test. The new scores are shown below.

93, 79, 86, 71, 93, 87, 95,  
78, 93, 68, 88, 79, 79, 93,  
93, 85, 83, 84, 85, 98, 89

Create a double stem-and-leaf plot to compare the scores of the class at the beginning of the year and the end of the year. Which set of scores is higher as a group?

6. A teacher creates the graph below to show how the class has improved. Explain why the graph could be misleading.

