1.7 Measuring Variability (Part 3)

When we use the median to measure the center of a distribution, the interquartile range (IQR) is our corresponding measure of variability.

If we summarize the center of a distribution with the mean, then we should use the **standard deviation** to describe the variation of data values around the mean.

How to Find the Standard Deviation:

1. Find the mean of the data.

2. Find the difference between each value in the set of data and the mean.

3. Square each difference.

4. Add all the squared differences, divide by the number of data minus 1, and take the square root of that number.

Example: Find the standard deviation for each set of data.

{19, 16, 22, 33, 27, 9, 20, 14, 19}

7.044

* http://highschool.bfwpub.com/spa3e
* go to student site
* click One Quantitative Variable
* Enter data
* SD is standard deviation

Example: Find the standard deviation for each set of data.

{30, 30, 31, 32, 34, 35, 36, 36, 36, 38, 39, 41, 41, 43, 44, 44, 45, 45, 46, 47}

5.622

Example: Find the standard deviation for each set of data.

{154, 152, 153, 160, 144, 178, 170, 154, 156, 151, 172, 148, 177, 138}

12.232