

Question:

On page 28 of the statistics chapter, number 4 asks for the mean and standard deviations of a, b, and c. I got the means right, but not the standard deviations. For a, I entered all the numbers (a. 3, 5, 7, 11, 13, 15) into my scientific calculator and got 4.3 for the standard deviation. For b, I got 6.48 and c, 2.16 What am I doing wrong?

Answer:

Good question! Anytime you are presented with a normal distribution curve with the vertical boundary lines drawn, that means the standard deviation has already been computed. The st. dev. has to be known in order to draw the lines. In those situations such as 4a,b, and c on page 28, the standard deviation is simply the "distance" between any two vertical lines.

For example, to do the st. dev. for 4a) pick a boundary line, say 11. The one immediately to the left is 9. The distance between them is **2**. ($11 - 9 = 2$)

For 4b) The distance between any two boundaries is **3**: $23 - 20 = 3$

For 4c) The distance between any two boundaries is **1**: $72 - 71 = 1$

The only time you need to use your calculator to grind out an answer is when you are presented with a list of raw data:

Example- Determine the standard deviation for the weights of these dog food bags filled on a production line:

35.1 lbs, 34.8, 34.6, 34.0, 34.9, 34.8, 35.0, 34.1, 34.1, 34.0