Example: Find the standard deviation of the following data set: 61, 32, 47, 28, 39, 47, 54

Data x	Data – Mean $(x - \bar{x})$	(Data – Mean)^2 $(x - \bar{x})^2$
		Total:

$\bar{x} =$

$(x - \bar{x})^2 / n - 1 =$

Standard Deviation:

$\sqrt{(x - \bar{x})^2 / n - 1} =$

Example: The dot plots shown here represent lengths of steel rods created by machines A, B, C, and D at a manufacturing plant. The rods are to have length 4.7 inches with an error allowance of 0.1 inches above or below that value. Any rod outside these specifications is not delivered to the buyer.

Arrange the four machines in order from smallest standard deviation to largest standard deviation. Explain your decision in ordering the distributions this way.