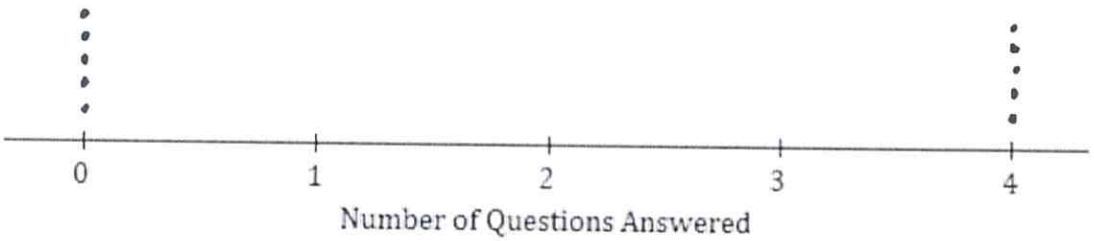
5. Continue to think about the situation previously described where the numbers of questions answered by each of ten people was recorded.

   a. Draw the dot plot of the distribution of possible data values that has the largest possible standard deviation. (There were ten people at the talk, so there should be ten dots in your dot plot.) Use the scale given below.



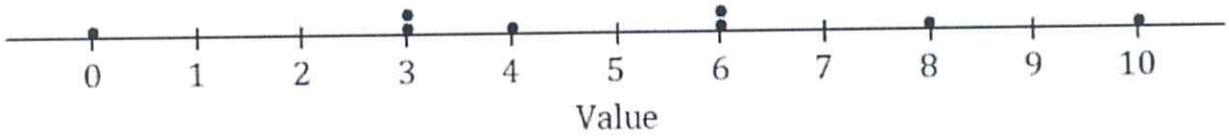

   b. Explain why the distribution you have drawn has a larger standard deviation than the distribution in Exercise 4.

Half the data moved to the other extreme (0)
It'll ↑ Sx as much as possible

extreme

(BELLWORK)

1. Look at the dot plot below.

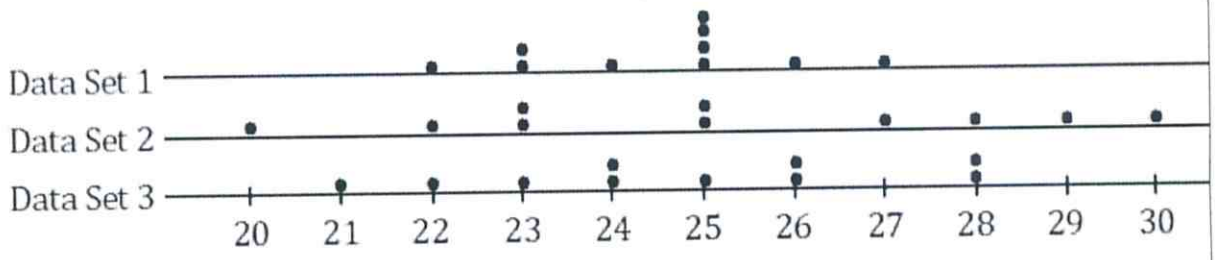



   a. *Estimate* the mean of this data set. Since it's symmetric, mean is in middle. So $\bar{x} \approx 5$

   b. Remember that the standard deviation measures a typical deviation from the mean. The standard deviation this data set is either 3.2, 6.2, or 9.2. Which of these values is correct for the standard deviation?

3.2 (max deviation possible is 5)

2. Three data sets are shown in the dot plots below.




   a. Which data set has the smallest standard deviation of the three? Justify your answer.

Set 1 : Data is closest together

   b. Which data set has the largest standard deviation of the three? Justify your answer.

Set 2 : Data has greatest spread