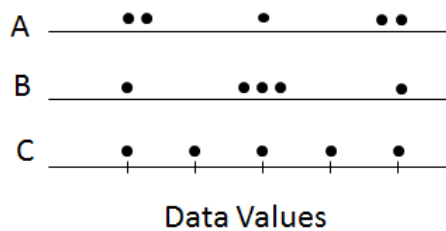


1. Answer the following True/False questions. (1 pt each)

a.	It is possible for the range to be less than zero.	TRUE	FALSE
b.	The standard deviation is the most widely accepted method of measuring spread for a set of data by statisticians.	TRUE	FALSE
c.	The range is not influenced by outliers.	TRUE	FALSE
d.	The standard deviation uses all the data points in its calculation.	TRUE	FALSE
e.	Boxplots can be used to identify outliers in a set of data.	TRUE	FALSE
f.	An average that uses a very large number of observations will be much larger than an average based on very few observations.	TRUE	FALSE

2. Which of the datasets depicted in the graph below would you expect to have the least variability as measured by the standard deviation, and why? (2 pts)



Circle the most correct answer.

- Set A, because it has the most values away from the middle.
 - Set B, because it has the most values close to the middle.
 - Set C, because it is the most evenly spread out, i.e. equal spacing between points.
 - All three datasets would have the same standard deviation.
3. In terms of my driving, which of the following would influence *only* the center (or location) of the distribution for “time it takes to get to work”. (2 pts)
- Drive faster every day or drive slower every day.
 - Drive faster on some days and drive slower on other days.
 - Changing your speed will not change the center of this distribution.
4. In terms of my driving, which of the following would influence *only* the variability (or spread) of the distribution for “time it takes to get to work”. (2 pts)
- Drive faster every day or drive slower every day.
 - Drive faster on some days and drive slower on other days.
 - Changing your speed will not change the variability of this distribution.

Consider an investigation of whether or not the percentage of alumni who donate money is different between private and public schools for schools in MN, IA, and WI. Some summary statistics for each group are provided here.

Type of School	Location		Spread		Count
	Average, i.e. Mean	Median	Standard Deviation	Range	
Private	24.77	24	11.7	61	61
Public	12.48	13	3.7	15	25

5. Consider the summaries above for the Private and Public schools. (2 pts)
 - a. The mean and median are larger for Private which means that alumni from Private institutions tend to donate more often alumni from Public institutions.
 - b. The mean and median are larger for Private because this group has more observations in it (Count = 61 vs. Count = 25).
 - c. Both a. and b.

6. Consider the summaries above for the Private and Public schools. (2 pts)
 - a. The standard deviation for Private is larger; thus, the percentage of alumni who donate from Private institutions is likely to vary more than the percentage of alumni who donate from Public institutions.
 - b. The standard deviation for Private is larger and this is because the count is so much higher for Private compared to Public (Count = 61 vs Count = 25).
 - c. Both a. and b.

7. A test is given to 100 students, and the scores were calculated. After grading the test, the instructor realized that the 10 students with the lowest scores did exceptionally poor and decides to give these students five extra points because they tried hard on their exam, but just did not get it. Which of the following statements is correct? (2 pts)
 - a. The average of the new scores will be smaller than the average of the old scores.
 - b. The average of the new scores will be larger than the average of the old scores.
 - c. The average will not change.
 - d. It is impossible to tell.

8. A test is given to 100 students, and scores were calculated. After grading the test, the instructor realized that the 10 students with the lowest scores did exceptionally poor. She decides to give these 10 students 5 extra points because they tried hard on their exam. Which of the following statements is correct? (2 pts)
 - a. The median of the new scores will be smaller than the median of the old scores.
 - b. The median of the new scores will be larger than the median of the old scores.
 - c. The median will not change.
 - d. It is impossible to tell.