DUE DATE: MONDAY, September 21, 2020 by 11:59 PM on Gradescope

1. Consider a data set of 15 distinct measurements with mean A and median B.

   (a) If the highest number were increased, what would be the effect on the median and mean? The mean would increase, while the median would remain the same.

   (b) If the highest number were decreased to a value still larger than B, what would be the effect on the median and mean? Both the mean & median would decrease.

2. The following measurements were recorded for the drying time, in hours, of a certain brand of latex paint.

$$[2 \quad 3 \quad 5 \quad 3 \quad 4]$$

   (a) What is the sample size for the above sample? 5

   (b) Calculate the sample mean for these data. $\frac{2+3+5+3+4}{5} = \frac{17}{5} = 3.4$

   (c) Calculate the sample standard deviation

   (d) Add 4 to each of the data values. Compute the mean and standard deviation. *You must show your work for full credit.*

3. Suppose our data is strongly skewed to the right.

   (a) What is the appropriate measure of center (circle one)?
   Mean (Median) Mode

   (b) What is the appropriate measure of spread (circle one)?
   Variance Standard deviation (IQR)

   (c) Which of the following is associated with the standard deviation(circle one)?
   (Mean) Median Mode

$$\sqrt{\frac{63 - \frac{(17)^2}{5}}{4}} = \sqrt{\frac{63 - 57.8}{4}} = \sqrt{\frac{5.2}{4}} = \sqrt{1.3} = 1.1402$$

x	x^2
6	36
7	49
9	81
7	49
8	64
$\Sigma x = 37$	$\Sigma x^2 = 279$

$$\text{MEAN} = \frac{6+7+9+7+8}{5} = \frac{37}{5} = 7.4$$

$$SD = \sqrt{\frac{279 - \frac{(37)^2}{5}}{4}} = \sqrt{\frac{279 - 273.8}{4}} = \sqrt{\frac{5.2}{4}}$$

$$= \sqrt{1.3}$$

$$= 1.1402$$