

Name: \_\_\_\_\_

Discussion among students is encouraged but all answers must be written in your own words.  
Points will be deducted if you answers are identical to other students.

**Ch 3: Describing Data**

|      |    |  |
|------|----|--|
| Ch 3 | a) | mean / <u>median?</u> (circle answer)  |
| 17   |    | Why: Ex: "b/c the data includes an outlier, the mean will be biased, unlike the median"<br>"the median is resistant to outliers" |
|      | b) | Standard deviation (sd) / <u>interquartile range</u> (circle answer)   |
|      |    | Why:<br><u>"interquartile range is resistant to outliers"</u>  |

Answer this question **using R. Attach the R code used to make the calculations**

|                 |    |  |
|-----------------|----|--|
| Ch 3            | a) | Attach a graph of the data produced in R. Once you have the data organized you should be able to do this with a single plotting command. (Hint: this plot does not have means plotted on it).  |
| #14<br>pg<br>89 |    | Explain choice of graph: I didn't grade this part of the question A boxplot is best b/c the V1a-enhanced data is somewhat skewed. A plot of the mean w/ the standard error would also be fine. |
|                 | b) | Contrl mean: <u>58.05</u> V1a-enhanced mean: <u>86.27</u>  |
|                 | c) | Contrl SD <u>29.75</u> V1a-enhanced SD <u>12.92</u>  |

|             |    |   |
|-------------|----|---|
| Ch 3<br>#18 | a) | ex: "w/ the exception of 10-12, all of the distributions are skewed" (true but doesn't get to the heart of the matter: they all contain outliers) |
|             | b) |   |
|             | c) |   |
|             | d) |   |

Answer this question using R. Attach the R code used to make the calculations

|      |   |                   |                    |
|------|---|-------------------|--------------------|
| Ch 3 | a | mean =            | <u>0.9709</u>      |
| 21   | b | median =          | <u>1.01</u>        |
| (pg  | c | variance (var) =  | <u>0.004889091</u> |
| 91)  | d | stand. dev (SD) = | <u>0.06992203</u>  |

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Answer this question using R. Attach the R code used to make the calculations

|      |   |   |
|------|---|---|
| Ch 3 | a | Plot the data with a method other than a boxplot. Attach the plot                                       |
| #28  |   | Is there an association: <u>Yes</u> / No  |
| (pg  | b | Best way to compare data: mean / <u>median</u>  |
| 93)  |   | Values: AA = <b>0.7950</b> BB = <u>0.37</u>   |
|      | c | Best way to compare spread: standard deviation / <u>interquartile range</u>                             |
|      |   | Value: AA = <b>0.155</b> BB = <b>0.18</b>   |
|      |   | (you can get the interquartile range using the summary() command, returns the median and the quartiles) |