**STAT 101**

**CA#4**

**3.5.20 :: Due 3.17.20**

**No Late Assignments - No Exceptions**

**CLASS ASSIGNMENT #4 [10 points]:**

**GENERAL INSTUCTIONS:**

* **COMPLETE YOUR ASSIGNED PROBLEMS ON THIS SHEET.**
* Please be thorough and neat in the presentation of your responses as **they must fit within the space provided on this sheet.**
* REMEMBER LABELS WHERE APPROPRIATE [-.5 IF THEY ARE MISSING]
* Grading: Problem point values and point credit distributions are included in brackets [ ]. General Grading: -.5 for first error; -1 to -2 for multiple errors; 0 minimal effort/not attempted/incorrect.

**EXAMPLE:**

  becomes 

* **NOTE:** Formulas for an “X” variable may be used for “Y” variables by substituting a “y” into the formula wherever there is an “x”.

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**ASSIGNED PROBLEM:** If your surname begins with the letter:

* “A” through “L,” complete the problems using the **X** variable, **SYSTOLIC BP BEFORE**.
* “M” through “Z,” complete the problems using the **Y** variable, **SYSTOLIC BP AFTER**.



**THE DATA: Table 1 presents statistics for the systolic blood pressures (in mmHg) of 12 women between the ages of 20 and 35, measured before and after administration of a newly developed oral contraceptive**.

**PROBLEM 1 [2]:**

**X:** A “Before BP” of 128 mmHgis how many standard deviations away from the mean?

**Y:** An “After BP” of 128 mmHgis how many standard deviations away from the mean?

**Statistic being calculated:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**The variable’s stated value is how many standard deviations from**

**the mean: \_\_\_\_\_\_\_\_\_\_\_\_\_**

**Would your result be considered an unusual value? YES NO**

**WHY?** \_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**PROBLEM 2 [1]:** Determine whether or not the variable is skewed.

**Statistic being calculated:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**The variable’s skew calculation is: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Skew:** Given the skew value would you consider this variable approximately normally distributed. **Yes No** (circle one)

**PROBLEM 3 [1]:** Determine the percent variability of the variable.

**Statistic being calculated:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**The variable’s percent variability calculation is: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**PROBLEM 4 [3]: Box plot**

Create a **modified box plot** for the assigned variable. Although you may not need these values, calculate the IQR, upper limit, and lower limit. [NOTE: Never present Lower and Upper Limits on a box plot.]

Variable Statistics: LABEL FOR ALL VARIABLES: \_\_\_\_\_\_\_\_ Min: \_\_\_\_ Q1: \_\_\_\_ Q2: \_\_\_\_

Q3: \_\_\_\_ Max: \_\_\_\_ IQR: \_\_\_\_ L. Limit: \_\_\_\_ U. Limit: \_\_\_\_ Adj. Pt. (if any): \_\_\_\_\_\_\_\_

Box Plot Here (use line as the x-axis)

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**PROBLEM 5 [3]**: **DOUBLE** **OUCH!!!** If this one looks familiar, it is because **ABSOLUTELY NO ONE** attempted it on Tuesday’s exam. You are not getting off that easy, so here goes … This past week (Feb. 21-28) saw massive losses in the financial markets – like $trillions massive. The Dow Jones dropped 3583 points from a closing value of 28992 on February 21 (Friday) to a close of 25409 on February 28 (Friday). Using the following data, present a chart appropriate for presentation of last week’s daily losses.

DATA (date, closing value):

Feb. 21, 28992

Feb. 24, 27960

Feb. 25, 27081

Feb. 26, 26957

Feb. 27, 25766

Feb. 28, 25409