CALCULATIONS (32 points):

Please use pencil, and put all of your answers on this paper. You must **do all** of the questions, and show all appropriate work. Draw a circle around each answer unless otherwise instructed.

1.   (18 points)   A small sample of clients used the following number of software
                          applications at a neighborhood computer center:

        3, 7, 4, 1, 2, 1, 3, 6, 2, 1, 2, 3.

(a)   In the space above, generate the full frequency distribution of the sample using
        class examples as models. **Do not circle** the frequency distribution. (4 points)

(b)   What is the variable of interest? (1 point)

(c)   What is the unit of analysis? (1 point)

(d)   What is the mean of the distribution? (1 point)

(c)   What is the standard deviation of the distribution? (2 points)

(d)   Generate a 95% confidence interval on μ. **Do not circle** the CI on μ. (5 points)

(e)   Determine Q_1, Q_2, and Q_3. (4 points)

(f)   Generate a box plot for this dataset. **Do not circle** the plot. (6 points)

2.   (8 points)   ND (10, 2)

(a)   How many standard deviations is an observation 9 from the mean of this dataset? (2 points)

(b)   What is the z-score of the observation 9? (2 points)

(c)   What is the percentile rank of the observation 9 in this distribution? (4 points)

CONCEPTS (28 points): use pen, and put your answers on this paper in the space provided.

I. (5 points) Please define **five (5)** of the following terms (1 point each).

Stem-and-leaf plot

Population parameters

Hypothesis testing

z-scores

Descriptive statistics

Random sample

Reliability of measures

Content analysis

II. (8 points)   Indicate if the following **four (4) statements** are true (T) or false (F) by circling
                    the correct letter. (2 points each):

a. Descriptive statistics infers from samples to populations.   T   F

b. Sampling error results from random sampling.   T   F

c. Hypothesis testing is a major form of statistical inference.   T   F

d. n is the number of observations in a population.   T   F

III. (15 points)   Respond to **three (3)** of the following questions or statements in
                         the space provided. (5 points each)

a.   One of the ways of understanding the course is as a consideration of error and the
         fragility of knowledge. What does such a description mean in the context of our work
         this session?

b.   Why do researchers use focus groups as data collection techniques?

_____
PLEASE DO NOT WRITE BELOW THIS LINE

c.   What does it mean to say that statistics is the major theory of error of the positivist view
        of research?

d.   What is informed consent?