

True-False.

1. T F If the values in a data set are near the mean, the standard deviation for the data set will be small.
2. T F The measure of central tendency that is most resistant is the mode.
3. T F If you look at the students in your classroom and determine that most of them are seniors then you are using the measure of central tendency called the mean.
4. T F The sample standard deviation of the data 10, 8, 7, 18, 15, 11 when using the computational formula is 4.231
5. T F A deviation is defined as the difference between the standard deviation and the variance.
6. T F The standard deviation is an indication of the center of a set of data.
7. T F The mode of the data set 19, 30, 19, 20, 29, 19, 18, 18, 27, 30 is 19.
8. T F The mean of the data set 15, 18, 38, 29, 39, 18 is 26.5
9. T F The data set 15,12,17,18,2,19 has a range of 6
10. T F An example of a measure of central tendency would be the mode.
11. T F For the sample 2.3, 1.7, 9.2, 9.7, 7.3, 8.9 the median is 8.1
12. T F A statistic is a characteristic or measure obtained by using data from a population.
13. T F When data is skewed, the mean will slide in the direction of the skewing.

14 – 21, Show all work for full credit.

14. Use the following data set to determine the percentile rank for 8.7
5.7 7.7 7.8 8.7 8.9 9.4 9.5 9.6 9.6 9.8 10.3

15. Using the data from question 14 determine the Interquartile Range (IQR)

16. According to the National Center for Health Statistics, the mean weight of a 20 to 29 year old female is 146.5 pounds, with a standard deviation of 42.2 pounds. The mean weight of a 20 to 29 year old male is 191.4 pounds, with a standard deviation of 49.0 pounds. Who is relatively heavier: a 20 to 29 year old female who weighs 160 pounds or a 20 to 29 year old male who weighs 199 pounds?

17. What is the sample **variance** of the given data: 19, 32, 55, 18, 40, 16, 50, 25

18. The following sample data were collected: 38, 50, 47, 42, 55, 32. Using the computational formula, what is the variance?

19. Calculate the mean and standard deviation for the distribution that follows.
[If a calculator is used, all necessary column totals must be shown in order to earn full credit.]

<u>Interval</u>	<u>Frequency</u>
0 – 9	21
10 – 19	39
20 – 29	27
30 – 39	6
40 – 49	4
50 – 59	2
60 – 69	8

20. The weights, in grams, of a pair of kidneys in adult males between the ages of 40 and 49 has a symmetric distribution with a mean weight of 325 grams and a standard deviation of 30 grams.

(a) Using the Empirical rule, about 99.7% of kidney pairs will be between what weights?

(b) Using the Empirical rule, what percentage of kidney pairs weighs between 295 grams and 385

21. Identify the outliers in the data set below. Show all work.

12, 4, 13, 50, 22, 15, 6, 5, 18