1. For the following set of scores from a sample, please:
   a). Calculate the mean, median, sum of squares, the variance, and the
       standard deviation. Please show all of your work. Make sure you label the variance and the
       standard deviation with the appropriate symbol.
   b). Use SPSS to check your work. Analyze ➔ Descriptive Statistics ➔ Frequencies

   X
   --
   8
   9
   12
   15
   16
   --

2. For the following set of scores from a population, please:
   - Calculate the mean, median, sum of squares, the variance, and the standard
     deviation. Please show all of your work. Make sure you label the variance and the
     standard deviation with the appropriate symbol.

   X
   --
   15
   18
   21
   22
   26
   28
   --
3. For the following set of scores from a sample, please
   a). Calculate the mean, median, sum of squares, the variance, and the
       standard deviation. Please show all of your work. Make sure you label the variance and the
       standard deviation with the appropriate symbol.
   b). Use SPSS to check your work.

   X
   ----
   10
   15
   6
   27
   22
   7
   ----

4. For the following set of scores from a population, please
   a). Calculate the mean, median, sum of squares, the variance, and the
       standard deviation. Please show all of your work. Make sure you label the variance and the
       standard deviation with the appropriate symbol.

   X
   ---
   105
   115
   89
   98
   103
   95
   ---
6. The **standard deviation** of a set of IQ scores is 15. What does this number tell you about the scores in the set?

7. Why can’t you use the **sum of squares** to compare the variability of scores for a group of 10 people to the variability of scores for a group of 20 people?

8. Why shouldn’t the **range** be used as the only measure of variability?

9. Why is the **standard deviation** easier to interpret than the **variance**?

10. Please interpret each of the following frequency distributions to describe what the shape of the graph says about how the scores are distributed. If a specific term is appropriate to describe that shape of the distribution, please provide that term (i.e., negatively skewed, bimodal, etc.)
11. Please draw each of the following shapes of frequency distributions and locate the mode, median, and mean for each distribution:

   a. Positively skewed distribution

   b. Normal curve:

   c. Distribution where all 10 scores in a data set are scores of 7.

   d. Negatively skewed distribution