Attempt all questions.

1. Calculate the mean, median & mode of A where A = [7, 8, 8, 8, 6, 7, 4, 5, 6, 9]
   [Ans: 6.8, 7, 8]
2. A teacher gives an exam to 16 of their students, in two classes. Their scores are as follows: B = [95, 84, 67, 83, 79, 79, 80, 90, 60, 77, 83, 94, 70, 94, 83, 73]. Calculate mean and median score. **[Ans: 80.6875, 83]**
3. Given a collection C with a mean of 12, find the missing value x.
   C = [13, 14, 15, 10, 11, x, 14, 13, 10,10] **[Ans: 10]**
4. Which of the following situations would median be superior to mean?
   a. When a dataset has no outliers.
   b. When a dataset has outliers to one side that is, the outliers are strictly above or strictly below.
   c. When a dataset has an equal number of outliers on each side.
   d. Median is never a better tell of the central value the mean is, even when outliers are involved.

5. A represents a poll of ten individuals, asking which type of pet is their favorite. Determine the mode of the sample distribution.
    A = [dog, cat, dog, frog, dog, horse, cat, cat, dog, tiger]
6. Which dataset has a mean of 15, a median of 14 & a mode of 14?
   a. 3, 14, 19, 24, 14
   b. 14, 22, 15, 15, 9
   c. 25, 15, 14, 3, 7
   d. 14, 22, 14, 15, 4

7. Determine the best measure of central tendency for the population below:
   [dog, cat, dog, frog, dog, horse, cat, cat, dog, tiger] **[Ans: mode]**
8. Determine the best measure of central tendency for the collection below:
   B = [1435, 1500, 1626, 1900, 20000, 2415, 1923, 1312, 1416] **[Ans: median]**
9. Determine the best measure of central tendency for the collection below:
10. C = [89.3, 84.5, 87.5, 83.2, 86.6, 88.8, 84.4, 90.0, 88.5, 87.0, 88.3, 84.2, 85.6, 87.9, 88.0, 84.7, 83.2, 82.2, 87.9, 86.3, 86.5, 85.5, 83.9, 87.8] **[Ans: mean]**
11. Determine Q1. C = [7, 8, 8, 8, 6, 7, 4, 5, 6, 9, 4, 5, 6, 6, 7, 7, 8, 8, 8, 9] **[Ans: 6]**
12. Determine Q3 of D = [7, 8, 8, 8, 6, 7, 4, 5, 6, 9] **[Ans: 8]**
13. Determine the five number summary of E = [7, 8, 8, 8, 6, 7, 4, 5, 6, 9]
    [Ans: 4, 6, 7, 8, 9]
14. Determine the five number summary of F.

F = [89.3, 84.5, 87.5, 83.2, 86.6, 88.8, 84.4, 90.0, 88.5, 87.0, 88.3, 84.2, 85.6, 87.9, 88.0, 84.7, 83.2, 82.2, 87.9, 86.3, 86.5, 85.5, 83.9, 87.8]

[Ans: 82.2, 84.45, 86.55, 87.95, 90.0]

15. Calculate the variance of A, assuming that A is a *sample*.

A = [7.5, 8.1, 8.3, 8.4, 6.2, 7.8, 4.9, 5.4, 6.4, 9.7, 10.1, 10.4, 11.2, 12.9, 13.1]

[Ans: 6.345 unit squared]

16. Calculate the variance of B, assuming that B is a *population*.

A = [7.5, 8.1, 8.3, 8.4, 6.2, 7.8, 4.9, 5.4, 6.4, 9.7, 10.1, 10.4, 11.2, 12.9, 13.1]

[Ans: 5.922 unit squared]

17. Calculate the standard deviation of A, assuming that A is a *sample*.

A = [27, 41, 23, 56, 76, 54, 53, 49, 50, 92, 47, 23, 56, 65, 71, 73, 76, 77]

[Ans: 19.636 unit]

18. Calculate the standard deviation of B, assuming that B is a *population*.

B = [200, 201, 204, 207, 210, 189, 198, 210, 199, 214, 193, 194, 193, 200, 204, 210]

[Ans: 7.052 unit]

"There are no problems, just pauses between ideas." - Anonymous