

Assignment - Chapter 4

Complete the following problems related to Chapter 4. Upload to Canvas a single pdf containing your work before the deadline.

1. The table below shows the average monthly temperatures (in degrees Fahrenheit) for two cities over the past five years. **Calculate by hand** the mean and standard deviation of the monthly temperatures for each city and interpret the mean and standard deviation in context of the problem. Round to the nearest hundredth of a degree.

Year	City A	City B
1	70.0	60.0
2	72.0	62.0
3	74.0	64.0
4	76.0	66.0
5	78.0	68.0

You can use technology (e.g., WolframAlpha) to check your answer, but show all the steps by hand.

2. Researchers at a health and wellness center collected data on the self-reported number of hours of exercise per week for 16 adults in a fitness program. **Calculate by hand, the median, Q1, Q3, and IQR of this dataset.**
{12, 3, 14, 8, 5, 10, 7, 11, 9, 2, 15, 6, 18, 13, 16, 5}
3. Explain in a sentence or two why including a 2-hour marathon time in a dataset that includes the times of middle-aged recreational runners would skew the data. Which measure of center and spread should we use to describe this dataset, and why?
4. The dataset 35, 37, 39, 41, 45, 46, 49 represents the ages of dart players on the US national team. The team consists of experienced players who have been competing in national and international tournaments. This dataset has a standard deviation of approximately 5.1. What does it mean? Interpret the meaning of the standard deviation in the context of the problem.
5. The following values are the weights in pounds of individuals on a local college wrestling team: 180, 185, 190, 195, 200, 205, 210, 215, 220, 225
 - (a) Describe the shape (symmetry) of this dataset.
 - (b) Which measure of center and spread should be used to describe this dataset?
 - (c) **Using technology**, calculate the appropriate measure of center and spread for this dataset, and interpret it in context of the problem.
6. A group of college students were asked how many hours they study per day and the result is listed in the dataset 0, 1, 1, 2, 2, 3, 3, 4, 4, 5, 6, 7, 8, 10, 12.

- (a) Describe the shape (symmetry) of this dataset.
- (b) Which measure of center and spread should be used to describe this dataset?
- (c) **Using technology**, calculate the appropriate measure of center and spread for this dataset, and interpret it in context of the problem.