Measures of Central Tendency and Stem-and-Leaf Plot Quiz Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date\_\_\_\_\_\_\_

1. What are the three measures of central tendency? \_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_
2. Find the mean, median, mode and range of the data. 62, 48, 37, 45, 50, 65, 48, 54, 48, 52, 40, 51

mean\_\_\_\_\_\_\_\_\_\_\_\_\_\_ median\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ mode\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ range\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. What is an “outlier” in a set of data and how does it affect the measures of central tendency? (Which measure does it affect the most and why? EXPLAIN!)

4. The average wait times for 10 different rides at an amusement park are 65, 21, 17, 52, 25, 17, 11, 22, 60, and 44 minutes. Which measure of central tendency would the park advertise to show that the wait times for its riders are short? Explain.

5. The table below shows daytime high temperatures for the previous week. Which measure of central tendency BEST represents the data? Find this measure and explain WHY this best represents the data.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Day | Sun.  | Mon. | Tues. | Wed. | Thurs. | Fri. | Sat. |
| Temperature (F) | 84 | 83 | 89 | 90 | 91 | 85 | 80 |

6. Nikko earned the following amounts raking leaves: $15, $10, $12, $8, and $17. If he drops the lowest amount he has earned raking leaves, which of the following statements would be true?

a.) The mean decreases and the median increases b.) The mean and the median BOTH increase

1. The mean is unchanged and the median increases d.) The mean and the median BOTH decrease
2. Karen talked on the phone for 25 minutes, 39 minutes, 28 minutes, and 20 minutes over the last 4 days. If she talks for 34 minutes on the next day, which of the following statements would be true?

a.) The mean increases and the median decreases b.) The median is unchanged and the mean increases

c.) Both the mean and the median decrease d.) Both the mean and the median increase

8. Matthew’s math test scores this semester were 80, 76, 94, 90, 88, 92, 88, and 96. Which measure of central tendency might he want to use to describe his test scores? Find the measure and explain.

9. Can a set of data have more than one mode? \_\_\_\_\_\_\_\_\_\_\_\_ Explain!

 Can a set of data have more than one median? \_\_\_\_\_\_\_\_\_\_\_\_\_ Explain!

10. Create a stem-and-leaf plot using the following information. Then use your graph to answer the questions.

Softball wins per season: 24, 49, 40, 51, 38, 50, 39, 18, 44, 23, 31, 35, 50, 39, 47, 22, 24, 24, 36, 27

Find the mean, median, mode and range of the data.

mean\_\_\_\_\_\_\_\_\_ median\_\_\_\_\_\_\_\_\_\_ mode\_\_\_\_\_\_\_\_\_ range\_\_\_\_\_\_\_\_\_\_\_

What was the team’s highest number of win in a season?

What interval represents most of their wins? How do you know?

What was the team’s least number of wins in a season?

How many seasons are represented in the stem-and leaf plot? How do you know?

What is an advantage of using a stem-and-leaf plot to organize your data?

Bonus: Explain what a box-and-whisker plot is. Create a box-and-whisker plot below using the following data.

Quiz Scores: 87, 55, 60, 62, 78, 98, 73, 64, 85, 88, 80, 78, 82, 90, 85, 82, 92, 90, 85