

Sections 7.2 and 7.4 Worksheet
Descriptive Statistics and Variation

Name _____

1. Without actually doing the calculations, decide which of the following two sets of data will have the greater standard deviation. Explain why.

5, 8, 9, 10, 12, 16 or 8, 9, 9, 10, 10, 11

2. Of the two sets of data, which would you expect to have the larger standard deviation? Explain.

2, 4, 6, 8, 10 or 102, 104, 106, 108, 110

3. Find the mean, median, range, and standard deviation for the following sets of data.

a. 6, 6, 10, 12, 3, 5

c. 6, 6, 6, 6, 6

b. 4, 0, 3, 6, 9, 12, 2, 3, 4, 7

d. 47, 45, 24, 56, 76, 12

4. Would you use the mean, median or mode to give a fair representation of the “average” in the following situations?

a. Builders planning houses are interested in the average size of an American family.

b. The grade point average for students at Bailey High School.

c. The average family income in Texas.

d. The average height of a 16-year-old boy.

5. The mean is the most “sensitive” average since it is affected by any change in the data.

a. Determine the mean, median, and mode for 1, 2, 3, 4, 4, 7, 11.

b. Now change the 7 to a 10 in the same list. Which averages will be affected by this change?

6. The State of Texas decided to give all state employees a \$1000 salary increase for the 2006 budget year. How did this increase affect the mean salary of state employees? How did this increase affect the standard deviation of the salaries of state employees in Texas? If all state employees were given a 3% increase in salary, how would the mean and standard deviation be affected?

7. The average waiting time in line at the drive-through at both Fidelity Bank and First State Bank is three minutes. However the standard deviation at Fidelity is 1.5 minutes while at First State Bank, it is 0.75 minutes. Which bank has better customer service in your opinion? Explain your answer statistically.