Review of Univariate Statistics | Nov 2018

You and your partner are required to complete the following worksheet. Show necessary work in order to earn full credit for this assignment.

1. Determine the mean and median of the following data sets:

(a) Set of Raw Data for Leon's discus throws in training

22.45 m, 23.47 m, 19.58 m, 21.40 m, 22.49 m, 21.75 m, 27.03 m, 26.00 m, 24. 73 m, 24.00 m

(b) Frequency Table for Matt's Homework Grades this year

Score on 5	Frequency
0	6
1	2
2	1
3	7
4	2
5	4

(c) Grouped Data Set for Isabel's 200m sprint training times

Time Intervals	Frequency
$28 \leq t < 30$	2
$30 \leq t < 32$	5
$32 \leq t < 34$	4
$34 \leq t < 36$	8
$36 \leq t < 38$	9
$38 \leq t < 40$	2

2. Here are the results of Chris' last 5 tests in Math class: 76%, 65%, 82%, 91%, and 80%.

   a. Chris has one more test to write and he would like to have a test average of 80% over his 6 tests. What should his test score be on his 6th test in order to get his test average to be his desired 80%?

   b. From his 6 class tests, what is the maximum test average he could get?

3. Txavi is preparing for the math Semester Exam and is worried about his math grade. His current grade in Math is 76.3% and he would like to get a B- in Math this year, so he wants at least an 80% average in Math this year. If the score on the Final Exam is weighted as 20% of the final course grade, what does Txavi need to score on his Final Exam to finish with an 80% as his course grade?

In Exercise 4 - 9, order the data from least to greatest. Then find the mean, median, mode and range of the data.

4. Number of inches of rain that fell on 14 towns in a 50 mile radius during a three day period: 8, 4, 7, 6, 5, 6, 7, 8, 9, 10, 11, 5, 4, 8

5. Cost of admission to a ballgame at 20 different stadiums:
   \$4.25, \$3.75, \$5.00, \$5.25, \$4.00, \$4.50, \$5.00, \$3.75, \$5.25, \$6.25, \$5.75, \$6.00, \$5.50, \$5.75, \$6.25, \$6.50, \$7.00, \$6.25, \$6.50, \$6.25.

6. Number of states 20 people have visited.: 5, 15, 2, 10, 30, 26, 2, 3, 20, 22, 14, 48, 18, 10, 8, 9, 12, 40, 15, 15.

7. Number of students in 25 different 11th grade classes: 12, 17, 13, 5, 7, 20, 24, 18, 20, 21, 14, 18, 19, 8, 13, 25, 20, 21, 4, 10, 20, 21, 16, 14, 20.

8. A baseball team scored the following number of runs in its games this season: 6, 2, 5, 9, 11, 4, 5, 8, 6, 7, 5. There is one more game in the season. If the team wants to end the season with an average of at least 6 runs per game, what is the least number of runs the team must score in the final game of the season?

9. The table shows the number of nations represented in the Summer Olympic Games from 1960 through 2004. Find the mean, median, mode and range of the data. Which do you think best represents the data? Explain.

Year	Nations
1960	83
1964	93
1968	112
1972	121
1976	92
1980	80
1984	140
1988	159
1992	169
1996	197
2000	199
2004	201

10. Create a frequency table and a histogram using the given information. Then describe the graphs of the data. Here are Test scores for a high school biology test

81, 77, 63, 92, 97, 68, 72, 88, 78, 96, 85, 70, 66, 95, 80, 99, 63, 58, 83, 93, 75, 89, 94, 92, 85, 76, 90, 87

Interval	Frequency
60-69	
70-79	
80-89	
90-99	

11. Five workers on an assembly line have hourly wages of \$8.00, \$8.00, \$8.50, \$10.50, and \$12.00. If the hourly wage of the highest paid worker is raised to \$20 per hour, how are the mean, median and mode affected? Explain.

12. Is the mean of a group of numbers always, sometimes or never a number in the group? Explain.

13. Roger Maris's regular-season home run totals for his eleven year career are 14, 28, 16, 39, 61, 33, 23, 26, 13, 9, 5. Find the mean, median, and mode. How representative of the data is the mean? Explain.

14. A statistician was entering Roger Maris's data from #4 above into a spreadsheet. The statistician made a small error and instead of entering the 11th number as 5, she accidentally entered the number 50. Explain how this error will affect the median and mean of Roger Maris's data.

15. Suppose your mean on 4 math tests is 78. What score would raise the mean to 80?

16. The median height of the 21 players on a girls' soccer team is 5 ft 7 in. What is the greatest possible number of girls who are less than 5 ft 7 in? Suppose three girls are 5 ft 7 in tall. How would this change your answer to the first part of this question?