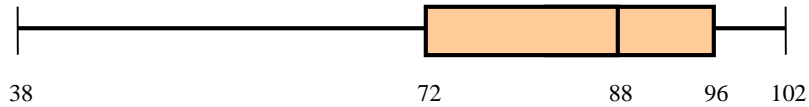


18.2 Box & Whisker Worksheet

For questions 1 – 6, refer to the box & whisker graph below which shows the test results of a math class.

Test Scores (as %) for 6th Period

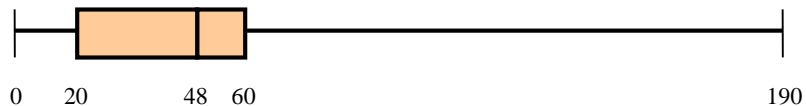


- _____ 1. What was the high score on the test?
- _____ 2. What percent of the class scored above a 72?
- _____ 3. What was the median score on the test?
- _____ 4. What percent of the class scored between 88 & 96?
5. Do you think that this test was too hard for the students? Explain.

6. Would you expect the mean to be above or below the median? Explain.

For questions 7 – 11 refer to the box & whisker graph below that shows how much time was spent per night on homework for sophomore class at a certain high school during September.

Average Minutes Per Night Spent On Homework

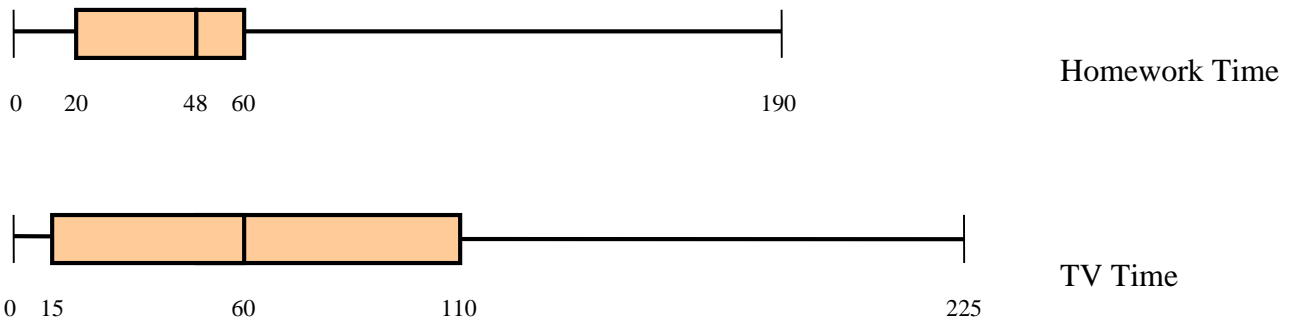


- _____ 7. What percent of the sophomores spend more than 60 minutes on homework per night?
- _____ 8. What is the range of times that the middle 50% of the sophomores spend on homework per night?

- _____ 9. How many sophomores do not do homework?
- _____ 10. What percent of the sophomores spend less than 20 minutes per night on homework?
11. Would you expect the mean number of minutes per night to be higher or lower than the median? Explain.

For questions 12 – 23, refer to the box & whisker graphs below that compare homework time per night with TV time per night for the same group of sophomores.

TV & Homework Minutes per Night



- _____ 12. What percent of the sophomores watch TV for at least 15 minutes per night?
- _____ 13. What is the 3rd quartile for the TV time data?
14. Is it more common for a sophomore at this high school to spend more than 1 hour on homework or more than 1 hour watching TV? Explain.

For questions 15 – 23, identify if each statement is true, false, or cannot be determined.

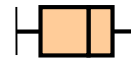
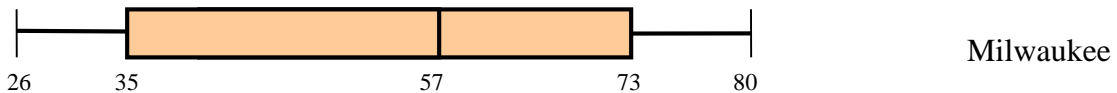
- _____ 15. Some sophomores didn't watch TV that month.
- _____ 16. The TV box & whisker graph contains more data than the homework graph.
- _____ 17. 25% of the sophomores spend between 48 & 60 minutes per night on homework.

- _____ 18. 15% of the sophomores didn't watch TV that month.
- _____ 19. In general, these sophomores spend more time watching TV than doing homework.
- _____ 20. The TV data is more varied than the homework data.
- _____ 21. The ratio of sophomores who spend more than 110 minutes per night watching TV to those who spend less is about 2:1.
- _____ 22. 225 sophomores watch TV.
- _____ 23. Twice as many sophomores watch TV for more than 1 hour than do homework for more than 1 hour.
24. Suppose that one family kept track of how many DVDs they rented each month for a two year period. The numbers for each month are shown in the table below. Make a box & whisker graph from this data.

J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
3	5	2	8	1	5	0	3	6	4	9	15	3	6	4	1	10	3	8	7	2	9	0	11

For question 25, refer to the box & whisker graphs below that show the average monthly high temperatures for Milwaukee, Wisconsin & Honolulu, Hawaii.

Average Monthly High Temperatures



80 81 84. 87 88 Honolulu

25. Write a short paragraph comparing the temperatures in both cities. Remember spread and measures of central tendency.

26. In the table below, the average monthly temperatures for Pullman and Seattle are shown. Draw a box & whisker graph (using the same scale) for each city from the data. Then write a short paragraph summarizing what your graphs tell you.

Month	Pullman Averages	Seattle Averages
January	34.5	44.7
February	40.5	50.1
March	47.0	53.4
April	55.9	59.4
May	64.4	66.7
June	71.2	71.2
July	81.6	76.9
August	81.9	76.3
September	72.8	71.0
October	59.8	61.3
November	43.7	52.0
December	35.9	47.1

For questions 27 – 35, refer to the following data that shows the total number of points scored in each of the rose bowls from 1970 until 2006.

Year	Total Points	Year	Total Points	Year	Total Points	Year	Total Points
1970	13	1980	33	1990	27	2000	26
1971	44	1981	29	1991	60	2001	58
1972	25	1982	28	1992	48	2002	51
1973	59	1983	38	1993	69	2003	48
1974	63	1984	54	1994	37	2004	42
1975	35	1985	37	1995	58	2005	75
1976	33	1986	73	1996	73	2006	79
1977	20	1987	37	1997	37	2007	50
1978	47	1988	37	1998	37		
1979	27	1989	36	1999	69		

27. Make a box & whisker graph for the total points scored in each decade. Make sure your 4 graphs are drawn with the same scale so you can compare them.

Refer to your box & whisker graphs to answer the following questions.

- _____ 28. In which decade is the total points scored the most consistent?
- _____ 29. In which decade is the total points scored the most diverse?
- _____ 30. In which decade is the largest number of total points scored?
- _____ 31. In which decade is the 3rd quartile the highest?
- _____ 32. In which decade is the median the highest?
- _____ 33. In which decade is the 1st quartile the highest?
- _____ 34. In which decade is the outlier the most dramatic? Explain.

35. What is the general trend that your 4 box & whisker graphs reveal?

36. Come up with two data sets that each have 5 elements, each have a mean & a median of 9, but whose box & whisker graphs would be dramatically different.