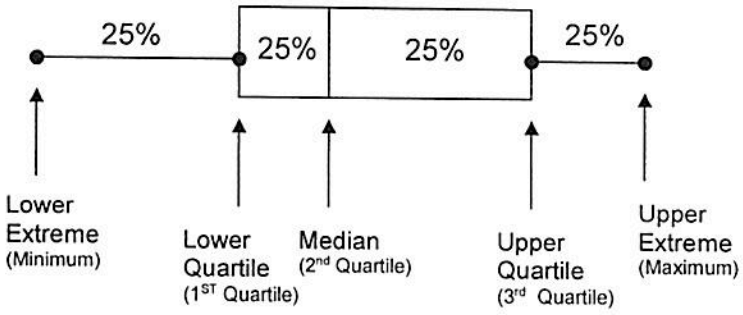
Algebra 1B Date:

7.4 Box and Whisker Plots



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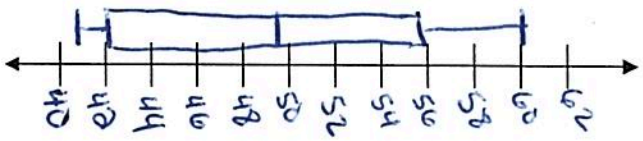
1. Given the set of data: 41, 42, 42, 45, 49, 50, 55, 56, 59, 60

   a. Find the following:
      1. Lower extreme (Minimum) 41
      2. Lower quartile (first quartile) 42
      3. Median (second quartile) 49.5
      4. Upper quartile (third quartile) 56
      5. Upper extreme (Maximum) 60

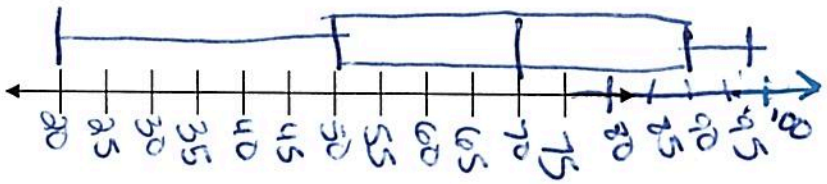
   b. Draw a box and whisker plot using the number line below.



   c. Find the following:
      1. Range 60 - 41 = 19
      2. Interquartile Range 56 - 42 = 14

2. Mary has 7 quiz grades: 98, 20, 70, 68, 50, 80, and 92. Draw a box and whisker plot using the number line below.

min = 20
Q1 = 50
med = 70
Q3 = 92
max = 98



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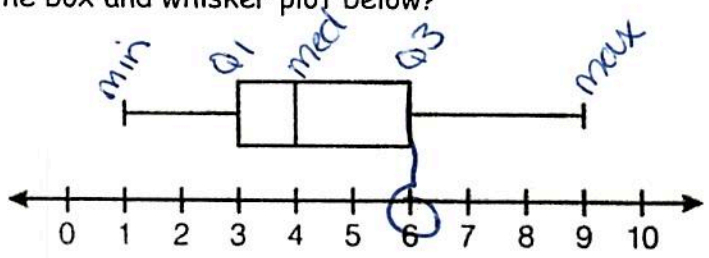
3. Which conclusion can be made using the box and whisker plot below?

(1) The median is 5
(2) The lower quartile is 1
(3) The upper quartile is 6
(4) The interquartile range is 8



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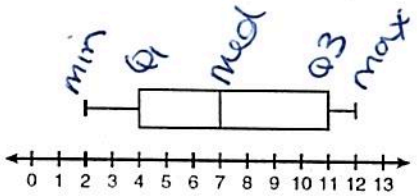
4. Based on the box-and-whisker plot below, which statement is *false*?

(1) The median is 7.
(2) The range is 12.
(3) The first quartile is 4.
(4) the third quartile is 11



12 - 2
10

5. Construct a box-and-whisker plot for the given data.

56, 32, 54, 34, 23, 67, 23, 45, 12, 32, 34, 24, 36, 47, 19, 43

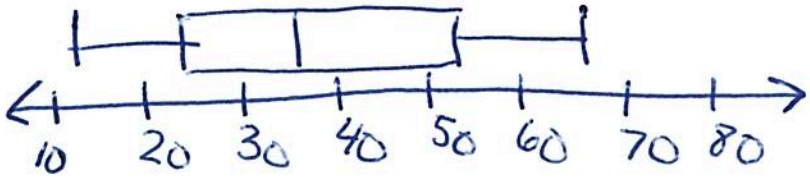
min = 12

Q_1 = 23.5

med = 34

Q_3 = 50.5

max = 67



6. Construct a box-and-whisker plot for the given data.

8, 3, 13, 5, 4, 1, 5, 3, 10, 9, 2, 8, 15, 4, 8, 8, 4, 8

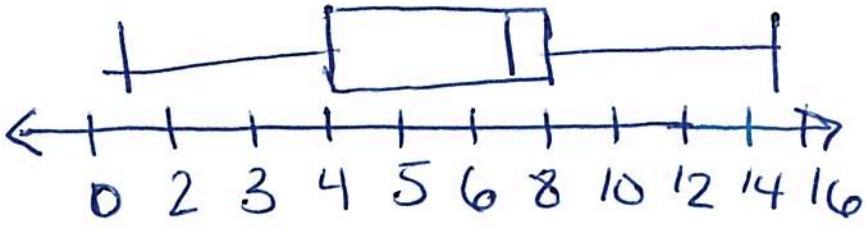
min = 1

Q_1 = 4

med = 6.5

Q_3 = 8

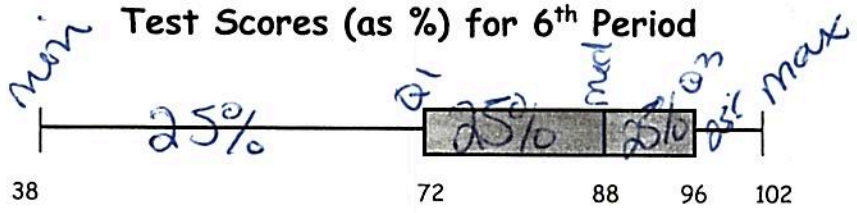
max = 15



Algebra 1B

7.4 Box and Whisker Plots — Homework

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



102 1. What was the high score on the test?

75% 2. What percent of the class scored above a 72?

88 3. What was the median score on the test?

25% 4. What percent of the class scored between 88 & 96?

5. Do you think that this test was too hard for the students? Explain.

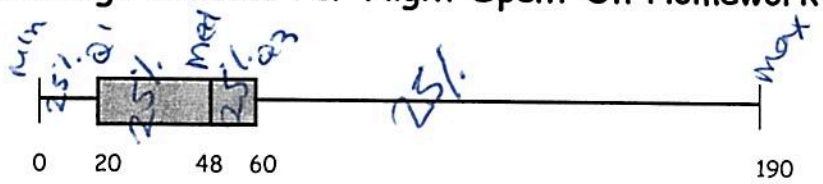
No b/c the majority of the students scored a 72 or higher

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

Below b/c the score 38 will shift the mean to decrease

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



25% 7. What percent of the sophomores spend more than 60 minutes on homework per night?

20-60 minutes 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? we do not know this from the data

25% 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.

higher b/c the 190 minutes will shift the mean to increase.