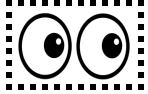


Box and Whisker Plot



Terms:

1. Box and Whisker Plot: a graph that breaks data into four parts (quartiles).



- Goal:** I will know how to identify the 5-key parts of a box and whisker plot.
I will create a box and whisker plot given a data set.

Explanation/Rationale: Mrs. Ruminski graded the latest science test; the current unit was a difficult one! Mrs. Ruminski wants to create a graph that will give her a general idea of how her students did on this very difficult subject matter. A box and whisker plot will allow Mrs. Ruminski to see how her students performed by breaking the class performance into quarters! (What spread did the top 25% of my students score in? At least 50% of my students scored ?)



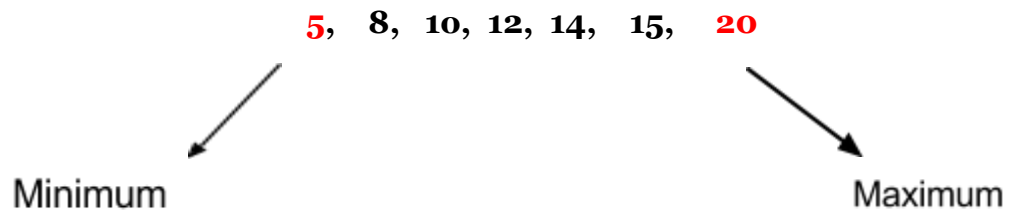
- Steps:** Use the following data set to create a box and whisker plot:

20 ,10, 15, 8, 14, 12, 5

1. Order data values from least to greatest

5, 8, 10, 12, 14, 15, 20

2. Identify the **Minimum** value and **Maximum** value in your data set (they become your whisker points).



Notes and Handouts

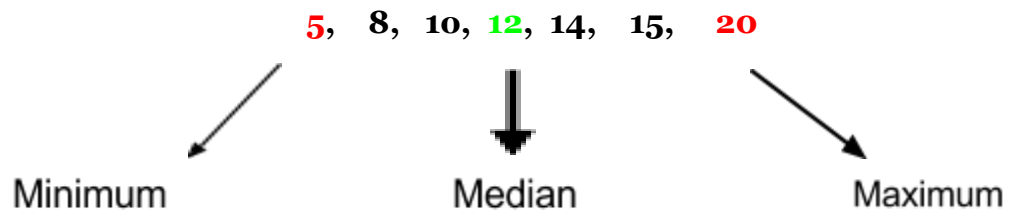
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Unit 3: Graphs and Data Analysis

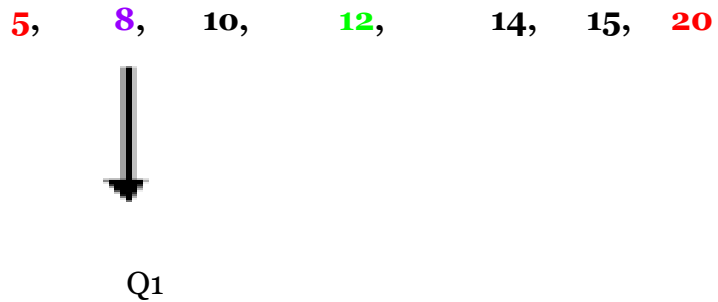
Math6

Period: _____

3. Determine the median of your data set. The **Median** is the middle number in the data set.



4. Determine Quartile 1 (Q1) by finding the median of the front half of the data set.



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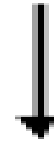
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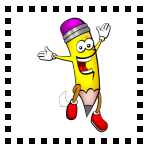
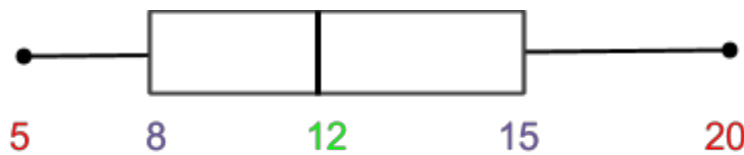
5. Determine Quartile 3 (Q3) by finding the median of the back half of the data set.

5, 8, 10, 12, 14, 15, 20



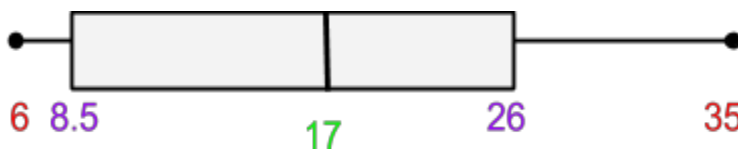
Q3

6. Now you have the 5 key values needed to create a box and whisker plot!



Examples:

1. Data set: 6, 8, 9, 14, 17, 20, 23, 29, 35



Min = 6
Q1 = 8.5
Median = 17
Q3 = 26
Max = 35

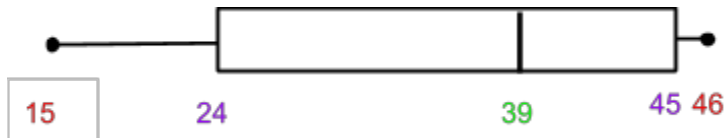
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2. Data set: 15, 24, 36, 42, 45, 46

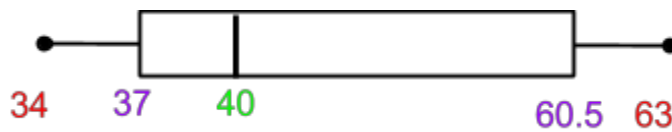


Min = 15
Q1 = 24
Median = 39
Q3 = 45
Max = 46



3. Data set: 58, 40, 63, 34, 40,

_____, _____, _____, _____, _____



Min = 34
Q1 = 37
Median = 40
Q3 = 60.5
Max = 63

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YOU GOT THIS:

1. Data set: 13, 15, 16, 20, 23, 25, 30

Min= _____

Q1 = _____

Median = _____

Q3 = _____

Max = _____

2. Data set: 45, 49, 51, 56, 60, 64, 80

Min= _____

Q1 = _____

Median = _____

Q3 = _____

Max = _____

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3. Data set: 98, 56, 76, 83, 62

_____, _____, _____, _____, _____

Min= _____

Q1 = _____

Median = _____

Q3 = _____

Max = _____

The interquartile range (i.q.r.) of a box and whisker plot ($q_3 - q_1$) is a measure of variability. It helps show the spread of a group of data by breaking it down into quartiles, or fourths. Each quartile has 25% of the data in it.

How much data is in the left whisker? _____

How much data is in the left side of the box? _____

How much data is in the right side of the box? _____

How much data is in the entire box? (iqr) _____

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How much data is in the right whisker? _____