

Data and Statistics Assessment

ACMSP248 - Determine quartiles and interquartile range



Name:

Score:

Teacher:



Assessment



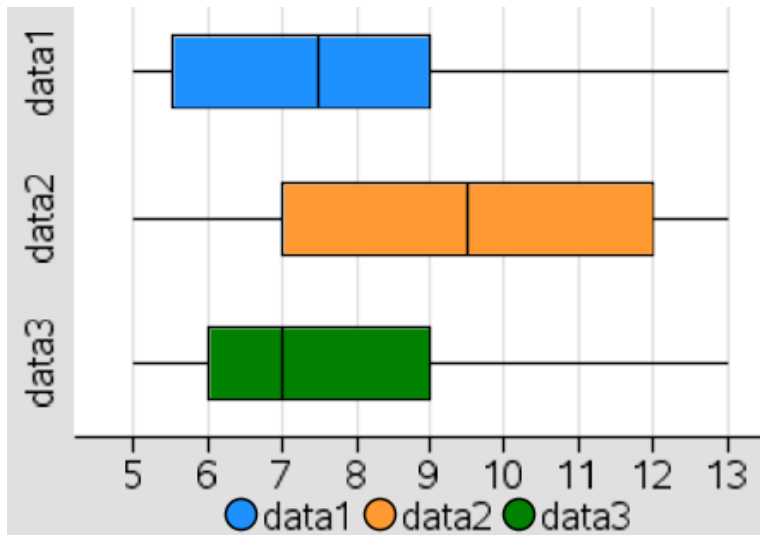
TI-Navigator



Student



30 min



Q.1. Which data set has the largest interquartile range?

- a) Data 1 b) Data 2 c) Data 3 d) All three have the same e) None of these

Q.2. Which data set must have approximately 25% of its data in the interval [6, 7]?

- a) Data 1 b) Data 2 c) Data 3 d) All three e) None of these

Q.3. For each data set the data values contained within the interquartile range are added. Select the most accurate statement

- a) Data1 must have the largest sum b) Data2 must have the largest sum c) Data1 must have the largest sum d) All three are equal e) None of these

Q.4. Which one of the following statements about Q_1 (the first quartile) is correct.

- a) $Q_1(\text{data1}) = Q_1(\text{data2}) = Q_1(\text{data3})$
- b) $Q_1(\text{data1}) > Q_1(\text{data2}) > Q_1(\text{data3})$
- c) $Q_1(\text{data3}) > Q_1(\text{data2}) > Q_1(\text{data1})$
- d) $Q_1(\text{data2}) > Q_1(\text{data1}) > Q_1(\text{data3})$
- e) $Q_1(\text{data2}) > Q_1(\text{data3}) > Q_1(\text{data1})$

Questions 5 & 6 refer to the following data

data4 = {1,2,4,4,6,6,6,7,7,8,9,**a**}

Note: The position of '**a**' does not imply anything about its value.

Q.5. If $Q_3 = 7$ for data4, then the value of **a** could be:

- a) 2
- b) 4
- c) 5
- d) 7
- e) All of these

Q.6. If the interquartile range for Data4 is equal to 3 then the value for **a** could **not** be:

- a) 3
- b) 4
- c) 5
- d) 6
- e) 7

Q.7. Data that is **more than $1.5 \times \text{IQR}$ past Q_3** is called an **outlier**. If a dataset has an $\text{IQR}=10$ and $Q_3=25$, then possible **outliers** is/ are

- a) 40 and 41
- b) 40, 41 and 60
- c) 41
- d) 40
- e) All of these

Q.8. If the median =12, $Q_1=8$ and $Q_3=15$. The IQR value is

- a) greater than the value of Q_1
- b) less than the value of Q_3
- c) equal to the median value
- d) between the values of Q_1 and Q_3
- e) less than the value of Q_1

Q.9. Fifteen students were surveyed on the number of pets they had and 14 said they had two pets, whilst the other student had three. Which one of the following is **not** correct

- a) $\text{IQR} = 0$
- b) $Q_1 = \text{median} = Q_3$
- c) $Q_1 + Q_3 = \text{median}$
- d) $\text{mean} < \text{median}$
- e) None of these

Q.10. A dataset {2,4,6,8,10,12} has $\text{IQR}=6$. If another value, 9 is added to the dataset, then

- a) the median will change
- b) Q_3 will change
- c) Q_1 will change
- d) the IQR will increase
- e) All of these