

Quiz_1



What is the range associated with the following dataset?

1, 5, 10, 3, 8, 12, 4, 1, 2, 8

11

Reset Quiz



Provided the values below, what is the value of the first quartile?

Remember the first quartile is the median number (middle number) of the first half of the numbers when put in ranked order. Ranked order for this dataset is 1,1,2,3,4...

1, 5, 10, 3, 8, 12, 4, 1, 2, 8

2

Reset Quiz



Provided the values below, what is the value of the third quartile?

1, 5, 10, 3, 8, 12, 4, 1, 2, 8

8

Reset Quiz



Provided the values below, what is the value of the median? (this is the same as the second quartile)

1, 5, 10, 3, 8, 12, 4, 1, 2, 8

4.5

Reset Quiz



Provided the values below, what is the value of the median? (this is the same as the second quartile)

5, 10, 3, 8, 12, 4, 1, 2, 8

5

Reset Quiz



Provided the values below, what is the range? (The range should just be a single number)

5, 10, 3, 8, 12, 4, 1, 2, 8

11

Reset Quiz



Provided the values below, what is the the value for the first quartile?

5, 10, 3, 8, 12, 4, 1, 2, 8

2.5

Reset Quiz



Provided the values below, what is the the value for the third quartile?

5, 10, 3, 8, 12, 4, 1, 2, 8

9

Reset Quiz

Quiz_2

Quiz Question

If we measure the variance associated with our sales in dollars for each month for 3 years, what are the units associated with the variance?

☐ Dollars

☐ Years

☐ Dollars per Year

☒ Dollars Squared



☐ Dollars per Month



For the following set of data provide the value of the **variance**.

Remember to find the variance we first find the mean average of the values, then subtract the mean from each value, then square each of these values, then add them up, then divide by the number of values. (Round your answer to two decimal places at the end of your calculation - don't round along the way.)

1, 5, 10, 3, 8, 12, 4

13.551

Reset Quiz



For the following set of data provide the value of the **standard deviation**.

Remember the standard deviation is the square root of the variance (Round your answer to two decimal places at the end of your calculation.)

1, 5, 10, 3, 8, 12, 4

3.68117

Reset Quiz

Quiz_3

Quiz Question

Assume d1 and d2 are datasets both measured in the same units. We know that the standard deviation of d1 is 5 and the variance of d2 is 36, which of the following are certainly true. Mark all that apply.

Remember the Standard Deviation is the square root of the variance. So if the Variance is 4 the Standard Deviation would be 2

- | | |
|--|---|
| <input type="checkbox"/> The mean is larger for d1 than for d2. | |
| <input checked="" type="checkbox"/> The variance for d2 is larger than for d1. | ✓ |
| <input checked="" type="checkbox"/> The standard deviation for d2 is larger than for d1. | ✓ |
| <input type="checkbox"/> The median for d2 is larger than for d1. | |
| <input type="checkbox"/> The range for d2 is larger than for d1. | |

Quiz Question

If a dataset has a standard deviation of zero, which of the following MUST be true?

- | | |
|---|---|
| <input type="radio"/> All the data points must be zero. | |
| <input checked="" type="radio"/> All the data points must be the same. | ✓ |
| <input type="radio"/> We made a calculation error because it is not possible for the standard deviation to be zero. | |

Submit

Quiz Question

For each of the below: If the statement is **true**, mark the box next to the statement.

- | | |
|--|---|
| <input checked="" type="checkbox"/> If two datasets have the same variance, they will also have the same standard deviation. | ✓ |
| <input type="checkbox"/> If I have two investment options with the same mean return, it really doesn't matter which I invest in. | |
| <input type="checkbox"/> If I have two investment options with the same standard deviation associated with the return, they will also have the same max possible return. | |

Quiz_4

✓

What is the mean return for Investment 1? (Write your answer as a percentage without the percentage sign - Ex: 9% should be reported as 9 or 93% is reported as 93.)

5

Reset Quiz

✓

What is the mean return for Investment 2? (Write your answer as a percentage without the percentage sign - Ex: 9% should be reported as 9 or 93% is reported as 93.)

5

Reset Quiz

Quiz Question

Using the information above, mark all of the below that are **true** statements.

☒ The risk associated with investment 1 is lower than the risk associated with Investment 2. ✓

☒ The standard deviation associated with Investment 1 is smaller than the standard deviation associated with Investment 2. ✓

☐ Knowing the mean return amount across all the years for each investment provides us with all of the information necessary to understand which investment we should choose.

Submit

Quiz Question

Based on the observed data, which of the above two investments has the best opportunity of earning more than 7%?

☐ Investment 1

☒ Investment 2 ✓

☐ Neither.

☐ We cannot tell.

Quiz_5

✓ These are the correct matches.

Term	Value
n	13
median	7
first quartile	3
third quartile	13.5
mean	8.4
mode	3

✓ These are the correct matches.

Term	Value
interquartile range	10.5
range	20
variance	33.9
standard deviation	5.8
minimum	2
maximum	22

Quiz_6

✔ These are the correct matches.

Shape	Comparison
Right-skewed	Mean is greater than the Median.
Left-skewed	Mean is less than the Median.
Symmetric	Mean is equal to the Median.

Quiz Question

Check all of the below that must be true.

<input type="checkbox"/> For every dataset the mean equals the median, so every data set is normally distributed.	
<input checked="" type="checkbox"/> Normally distributed data must have a mean equal to the median.	✔
<input type="checkbox"/> All data sets are normally distributed.	
<input type="checkbox"/> Data must be distributed either right-skewed or left-skewed.	
<input checked="" type="checkbox"/> Histograms and box plots are both used to plot quantitative data. They cannot be used to plot categorical data.	✔
<input checked="" type="checkbox"/> A box plot relates directly to the 5 number summary.	✔

Quiz_7

✓ These are the correct matches.

Sepal Length	Iris Type
The largest Range	Virginica
The smallest Interquartile Range	Setosa
Median is approximately 5	Setosa
Third quartile is approximately 6.3	Versicolor
Approximately Symmetric	All
The largest sepals on average.	Virginica

Quiz Question

Using the same flower data, select all of the below statements that **MUST** be true.

- ☐ All setosa flowers have a shorter sepal length than versicolor flowers.
- ☐ All virginica flowers have larger sepal length than setosa flowers.
- ☒ More than 75% of the virginica flowers have a larger sepal length than the largest setosa flower. ✓
- ☒ More than 50% of setosa flowers have larger sepal length than the shortest versicolor flower. ✓
- ☐ More data was collected on versicolor flowers than on virginica flowers.
- ☐ More data was collected on setosa flowers than on virginica flowers.

Quiz_8

What is the name of the above plot?	
<input type="radio"/> Bar Chart	
<input checked="" type="radio"/> Box Plot	✓
<input type="radio"/> Histogram	
<input type="radio"/> Pie Chart	

Submit

Quiz Question What is the shape of the distribution?	
<input type="radio"/> Right skewed	
<input checked="" type="radio"/> Left skewed	✓
<input type="radio"/> Symmetric	
<input type="radio"/> Bi-modal	

Quiz Question

What is the name of the above plot?

☐ Bar Chart

☐ Box Plot

☒ Histogram



☐ Pie Chart

Submit

Quiz Question

What is the shape of the above distribution?

☐ Right skewed

☐ Left skewed

☐ Symmetric

☒ Bi-modal

**Quiz Question**

Select the true statement for the box-plot above.

☒ The mean is less than the median.



☐ The mean is greater than the median.

☐ The mean is approximately equal to the median.

☐ It is impossible to tell the relationship between the mean and median.

Quiz_9

✓ These are the correct matches.

Statement	Histogram
Mean is greater than the median.	Histogram 1
Data has higher variance.	Histogram 1
Binwidth is equal to 0.5.	Histogram 2
The range is approximately 5.5.	Histogram 2
Distribution is left-skewed.	Neither
The mean is approximately equal to the median.	Histogram 2

Quiz_10

Quiz Question

If we know the following about heights for the accountants in our company and the IT people in our company:

- The mean height of accountants is 67.84 in.
- The mean height of IT staff is 69.76 in.
- The standard deviation of heights for accountants is 4.5 in.
- The standard deviation of heights for IT staff is 3.2 in.

Which of the below statements are definitely true? **Select all that apply.**

<input type="checkbox"/>	All accountants are taller than all IT staff.	
<input checked="" type="checkbox"/>	On average, accountants are shorter than IT staff.	✓
<input checked="" type="checkbox"/>	There is more variability in the heights of the accountants than the heights of the IT staff.	✓
<input type="checkbox"/>	There is less variability in the heights of the accountants than the heights of the IT staff.	
<input type="checkbox"/>	The distribution of heights for accountants is normally distributed.	

Quiz_11



These are the correct matches.

Description	Term
5.5 inches	Parameter
6 inches	Statistic
All the bagels at our bagel shop.	Population
All the bagels at our competitor's bagel shop.	Population
The 100 bagels from the competitor's bagel shop.	Sample



These are the correct matches.

Description	Term
A numeric summary of a sample.	Statistic
A numeric summary of a population.	Parameter
Drawing conclusions regarding a population using information from a sample.	Inference
Drawing conclusions regarding a sample using information from a population.	None
A subset of a population.	Sample
Our entire group of interest.	Population
Frequently we do not know this value, so we must try and estimate.	Parameter

Quiz_12

✔ These are the correct matches.

Term	Description
Population	All Udacity students
Parameter	We cannot know for sure.
Sample	5,000 Udacity students
Statistic	6.8 hours of sleep