

INVESTIGATING THE EFFECT ON THE MEAN OF ADDING AN EXTRA DATA ITEM

QUESTION 1.

Calculate the mean of the data: 4, 5, 6, 7 & 8 manually. Type in your answer below.

QUESTION 2.

Enter the data: 4, 5, 6, 7, 8 in the yellow boxes in the GeoGebra file, then click "Raw Data Calculations".

Does the result agree with your own calculation from Q1?

Yes

No

QUESTION 3.

We will now add an extra element to our dataset. This extra element has a value of 0.

Calculate the mean of: 4, 5, 6, 7, 8, 0 manually and type the answer below.

QUESTION 4.

Click on "Modified Data Calculations" in the GeoGebra file to confirm the mean of the new dataset.

Does this agree with the value you calculated?

Yes

No

QUESTION 5.

How has the mean of the dataset been affected by adding in an extra item with value 0?

It hasn't affected it at all.

The mean has been reduced.

The mean has increased.

QUESTION 6.

Change the data in the yellow boxes in the GeoGebra file to values of your choosing.

Is the mean of this dataset affected in the same way by adding in an extra item with value 0?

- Yes - the mean decreases again.
- No - the mean of the dataset increases.
- There was no change so I don't know.

QUESTION 7.

For any dataset, if you add in an extra item with value of 0, what effect will this have on the mean?

- The mean will decrease.
- The mean will stay the same.
- It depends on how many values are in your dataset.
- The mean will increase.

QUESTION 8.

A set of data has 20 items. The mean of the data is 15. If I add in an extra data item, which has a value of 0, what will happen to the mean?

- The mean will be more than 15.
- The mean will be less than 15.
- I can't say as I don't know the value of each data item.

QUESTION 9.

A set of data has 21 items, one of which is 0. The mean of the data is 42. If I remove this item which has a value of 0, what can I say about the mean of the new dataset?

- The mean will be more than 42.
- The mean will be less than 42.
- I can't say as I don't know the value of each data item.