

How can I use my TI-84 calculator to find the interquartile range?

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The TI-84 calculator is a powerful tool that can assist in finding the interquartile range of a set of data. To use the calculator for this purpose, first enter the data into a list. Then, use the built-in functions to calculate the median, first quartile, and third quartile. The interquartile range can be found by subtracting the first quartile from the third quartile. This feature of the TI-84 calculator simplifies the process of finding the interquartile range and provides accurate results. It is a useful tool for statistical analysis and can save time and effort in manual calculations.

Find Interquartile Range on a TI-84 Calculator

The interquartile range, often denoted IQR, is a way to measure the spread of the middle 50% of a dataset.

It is calculated as the difference between the first quartile (Q1) and the third quartile (Q3) of a dataset.

Note that *quartiles* are simply values that split up a dataset into four equal parts.

The IQR is often used to measure the spread of values in a dataset because it's known to be resistant to outliers. Since it only tells us the spread of the middle 50% of the dataset, it isn't affect by unusually small or unusually large values.

This makes it a preferable way to measure dispersion compared to a metric like the range, which simply tells us the difference between the largest and the smallest values in a dataset.

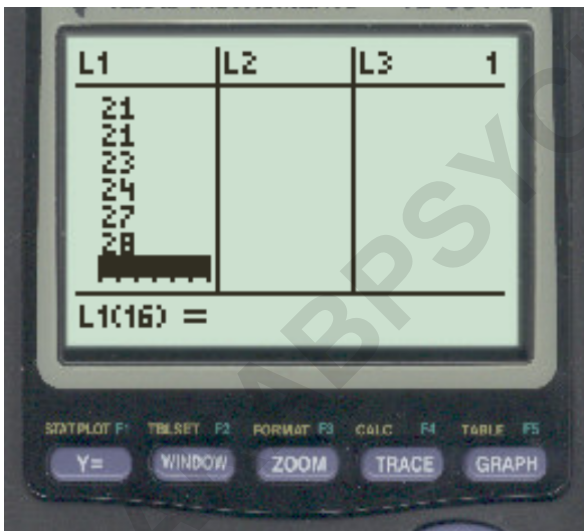
The following step-by-step example shows how to calculate the IQR for the following dataset on a TI-84 calculator:

Dataset: 4, 6, 6, 7, 8, 12, 15, 17, 20, 21, 21, 23, 24, 27, 28

Step 1: Enter the Data

First, we will enter the data values.

Press Stat, then press EDIT. Then enter the values of the dataset in column L1:



Step 2: Find the Interquartile Range

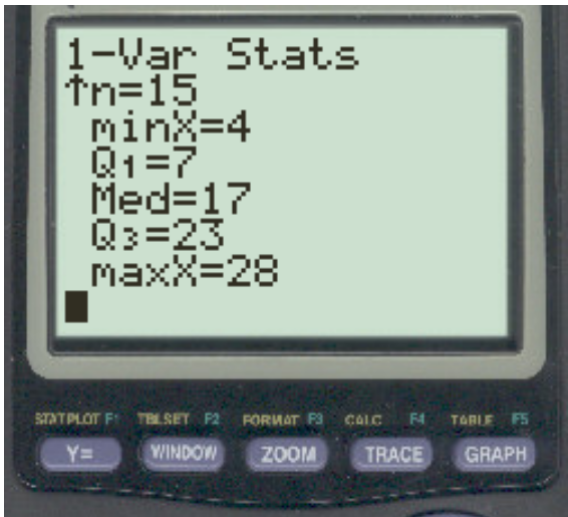
Next, press Stat and then scroll over to the right and press CALC.

Then press 1-Var Stats.



In the new screen that appears, press Enter.





From this screen we can observe the values for the first quartile (Q1) and the third quartile (Q3) of the dataset:

First quartile (Q1): 7 Third quartile (Q3): 23

The interquartile range is calculated as $Q3 - Q1$, which would be $23 - 7 = 16$.

This tells us that the spread of the middle 50% of values in the dataset is 16.