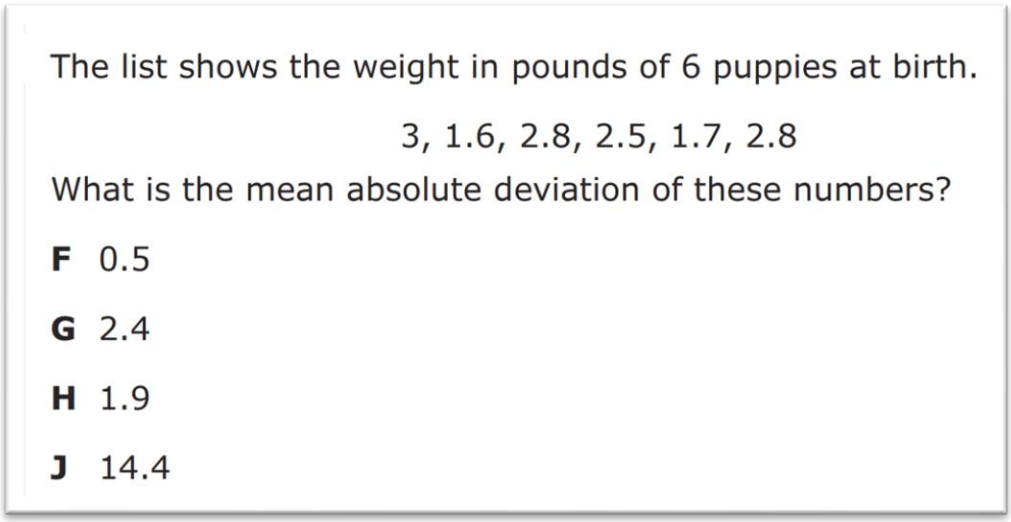
# Finding Mean Absolute Deviation

## Tutorial Overview

In this tutorial, you will learn how to calculate the mean absolute deviation for a given set of data using the TI-Nspire™ CX. Follow the steps to solve problems similar to the one below from the 2022 STAAR 8th Grade Math Released Test (item 30).


The list shows the weight in pounds of 6 puppies at birth.

3, 1.6, 2.8, 2.5, 1.7, 2.8

What is the mean absolute deviation of these numbers?

**F** 0.5

**G** 2.4

**H** 1.9

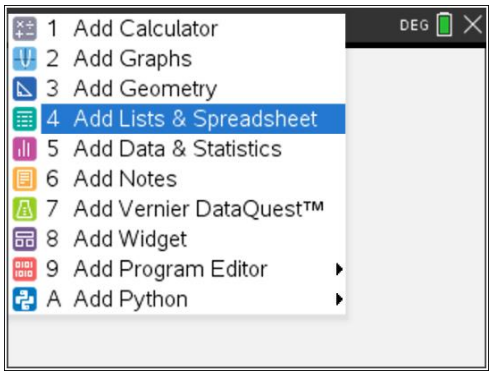
**J** 14.4



## Finding Mean Absolute Deviation

**Step 1**: Create a Lists & Spreadsheet application page.

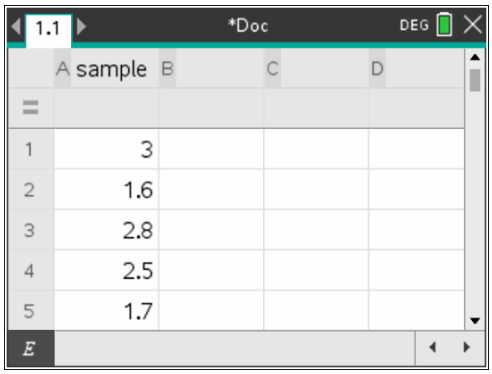
Press [on], select **1 New Document**, and **4 Add Lists & Spreadsheet.**




**Step 2**: Enter the given data.

Label column A by pressing ▲ on the Touchpad and typing *sample*. Move the cursor to cell A1 and enter the data in column A.

*Note*: Pressing [enter] or ▼ will move the cursor to the next cell.



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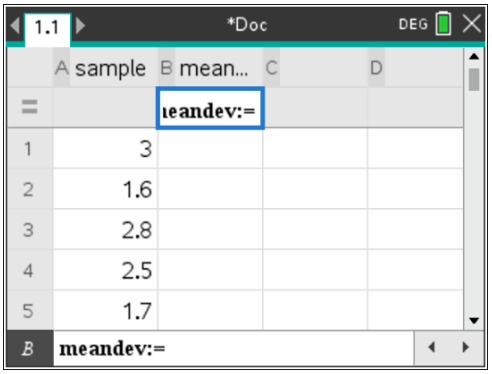
**Step 3**: Calculate the absolute deviations for the data.



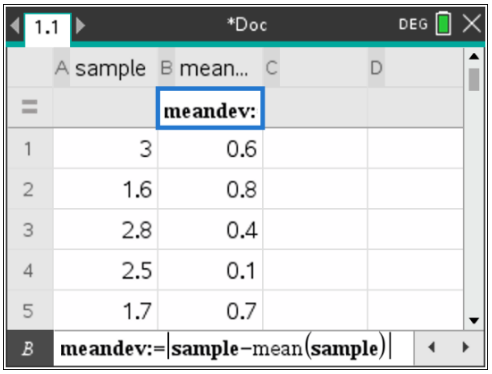

Move to the cell at the top of column B, type $meandev$, and press enter. The cursor will be in the row marked with =.

Press = and type this formula: **abs(sample-mean(sample))**

Pres enter and column B will automatically be filled with the absolute value of the mean deviations for each data value.

Notice down at the bottom of the lists, it changes abs to the symbol: l sample – mean(sample) l.

This formula calculates the mean of the first list we called sample and subtracts it from each data value. It then takes the absolute values of the differences to make all values positive.

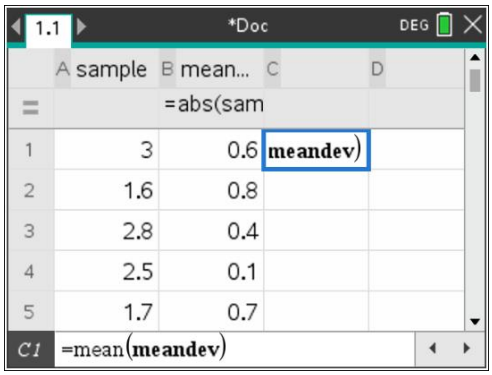



**Step 4**: Calculate the mean absolute deviation.

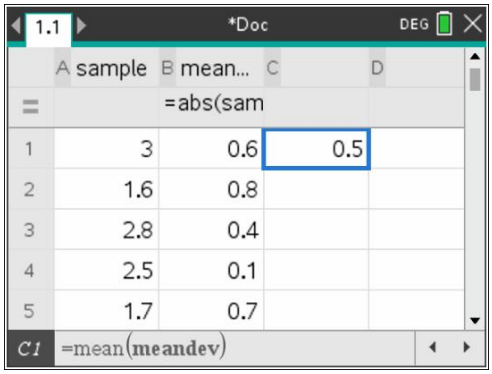
To find the mean of the list named meandev, move to cell C1 and type **=mean(meandev)**.

Notice the formula for cell C1 appears at the bottom of the lists.

Press enter to calculate the mean absolute deviation.




The mean absolute deviation value indicates the average distance between each data value and the mean is 0.5.

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Notice the mean, or average, of the sample is an answer choice. This is NOT the mean absolute deviation.