

Possible Solutions

The table shows the number of contacts six people each have stored in their cell phone.

Person	Number of Contacts
Walter	112
Jose	104
Victor	93
Heather	154
Sandy	135
Sara	98

What is the mean absolute deviation for this set of data?

There is a three-step process for finding the absolute mean deviation for a set of numbers. The first step is to find the mean of the numbers by adding the number together and dividing by the number of data points in the set of data, in this case 6. The next step is to subtract each data point from that mean and take the absolute value of the difference. The last step is to find the average of the new set of data. This is the absolute mean deviation. This will be a relatively small number if the data is close to the original mean; it is a larger number if there is more of a spread from the original mean.

Step 1

Find the mean.

$$112 + 104 + 93 + 154 + 135 + 98 = 696$$

$$696 \div 6 = 116$$

Step 2

Find the difference of each value.

$$116 - 112 = 4$$

$$116 - 104 = 12$$

$$116 - 93 = 23$$

$$116 - 154 = -38$$

$$116 - 135 = -19$$

$$116 - 98 = 18$$

Step 3

Find the sum of the absolute value of each of the differences.

$$4 + 12 + 23 + 38 + 19 + 18 = 114$$

Step 4

Divide the sum by the number of values.

$$114 \div 6 = 19$$

The mean absolute deviation is 19.

Another Solution

Step 1

Find the mean.

$$112 + 104 + 93 + 154 + 135 + 98 = 696$$

$$697 \div 6 = 116$$

Step 2

Find the difference of each value.

$$116 - 112 = 4$$

$$116 - 104 = 12$$

$$116 - 93 = 23$$

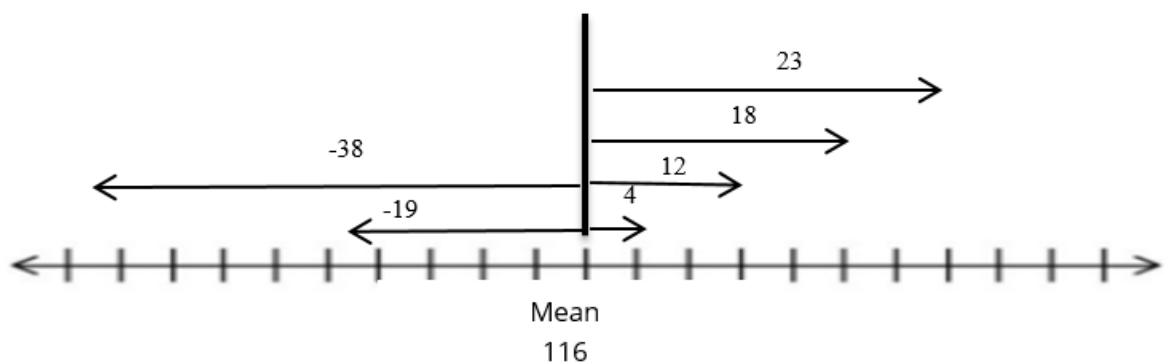
$$116 - 154 = -38$$

$$116 - 135 = -19$$

$$116 - 98 = 18$$

Step 3

The relationship between the data and the mean of the data can be represented on a number line. The data in this number set is not close to the mean, so there is a large mean absolute deviation for this data.



Intervals count by 4

Step 4

Find the sum of the absolute value of each of the differences.

$$4 + 12 + 23 + 38 + 19 + 18 = 114$$

Step 5

Divide the sum by the number of values.

$$114 \div 6 = 19$$

The mean absolute deviation is 19.