

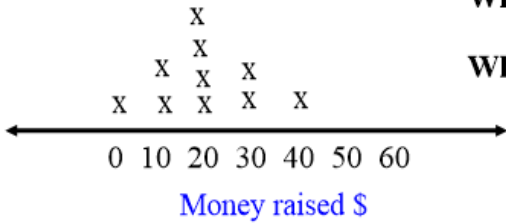
Name \_\_\_\_\_

Date \_\_\_\_\_

**Aim: How can we measure the spread of a data set? What is the M.A.D.?**

**The line plot shows the results of asking 10 students from class how much money they collected for a fundraiser.**

**Chorus**



What is the spread of distribution?

What is the mean?  
median?  
mode?

**Chorus Fundraiser**

(Distance from the mean) or Deviation

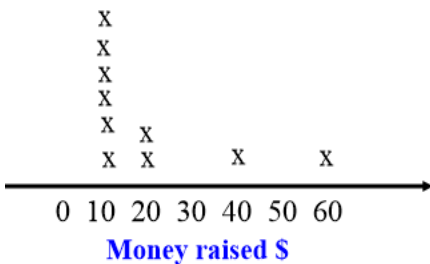
Data	Data - Mean	Data - Mean
0		
10		
10		
20		
20		
20		
20		
30		
30		
40		

Another way to measure the spread of data is to compare the average distance of each data point from the mean. This is known as the \_\_\_\_\_ or \_\_\_\_\_.

Take the average of the third column. **M.A.D. = \_\_\_\_\_**

**Band Fundraiser** (Distance from the mean) or Deviation

**Band**



Data	Data - Mean	Data - Mean
10		
10		
10		
10		
10		
20		
20		
40		
60		
60		

What does this number mean?

Take the average of the third column. **M.A.D. = \_\_\_\_\_**

(Distance from the mean) or  
Deviation

Data	Data - Mean	Data - Mean
82		
95		
65		
100		
80		
55		
96		


Take the average of the third column.  M.A.D. = \_\_\_\_\_

What does this number mean?

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To find the MAD:

1. Find the mean.
2. Subtract the mean from each data value.(deviation)
3. Find the absolute value of the deviation.
4. Find the average of these absolute deviations.

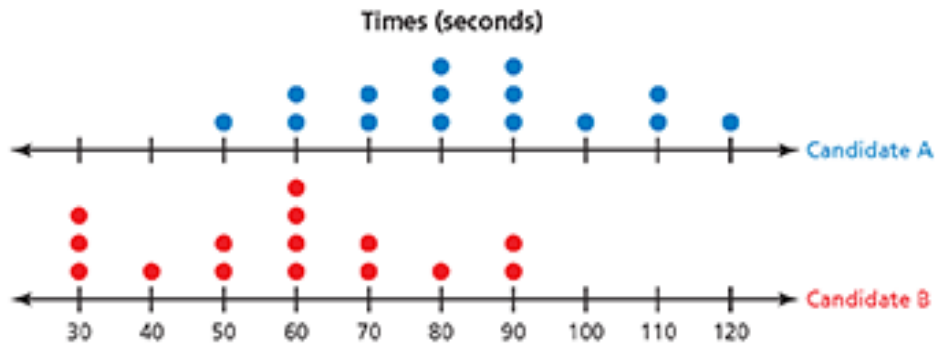
 Larger M.A.D.s imply that the values are farther apart.  
Smaller M.A.Ds imply that the values are closer together.

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**Problem set:**

1. Test scores were 70%, 73%, 75%, 85%, 95%, 97%, and 100%. The average is 85%. What is the Mean Absolute Deviation?

2. The double dot plot shows the time that each candidate in a debate spent answering each of 15 questions.



Since both graphs are approximately symmetric, find the mean and the MAD to describe the data.

Candidate A	Candidate B
Mean =	Mean =
MAD =	MAD =