

# Mean Absolute Deviation

**Mean Absolute Deviation**, or **MAD**, is a number that measures the variability of a data set, or how spread out the data values are.



**\* Let's try it!** Find the MAD for the following data set:  
10, 12, 18, 19, 21

<p><b>First</b>, find the mean of the data set. Add all of the values, and then divide that sum by the number of values in the data set.</p>	$\text{Mean} = \frac{10 + 12 + 18 + 19 + 21}{5} = \frac{80}{5} = 16$
<p><b>Next</b>, calculate the distance each data point is from the mean. To find each distance, you can use a number line.</p>	
<p><b>Last</b>, find the mean of those distances. Add all of the distances, and then divide that sum by the number of values in the data set.</p>	$\text{MAD} = \frac{6 + 4 + 2 + 3 + 5}{5} = \frac{20}{5} = 4$

Find the **mean** and **MAD** for each data set. Show your work.

<p style="text-align: center;">2, 2, 3, 5, 8</p> <p style="text-align: right;">Mean: _____</p> <p style="text-align: right;">MAD: _____</p>	<p style="text-align: center;">4, 5, 9, 11, 26</p> <p style="text-align: right;">Mean: _____</p> <p style="text-align: right;">MAD: _____</p>
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**Keep going!** Find the mean and MAD for each data set. Show your work.

<p style="text-align: center;">11, 14, 19, 23, 33</p> <p style="text-align: center;">Mean: _____</p> <p style="text-align: center;">MAD: _____</p>	<p style="text-align: center;">26, 28, 31, 32, 39, 42</p> <p style="text-align: center;">Mean: _____</p> <p style="text-align: center;">MAD: _____</p>
<p style="text-align: center;">17, 17, 18, 18, 20, 22, 23, 25</p> <p style="text-align: center;">Mean: _____</p> <p style="text-align: center;">MAD: _____</p>	<p style="text-align: center;">29, 47, 64, 78, 93, 93, 97, 99</p> <p style="text-align: center;">Mean: _____</p> <p style="text-align: center;">MAD: _____</p>

**Challenge yourself!** Why do you think the data set in the last problem has a larger MAD than the other data sets on this page? \_\_\_\_\_

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