Mean Absolute Deviation (MAD)

To find the MAD

1. Find the mean of the data.
2. Subtract the mean from each data point and take absolute value
3. Add those absolute values of those difference
4. Divide that total by the number of data points.

$$MAD = \frac{1}{n}\sum_{i=1}^{n}\left|x_i - \bar{x}\right|$$

Example: Find MAD for 65, 75, and 100.

The mean is 80.

$|65 - 80| = |-15| = 15$; $|75 - 80| = |-5| = 5$; $|100 - 80| = |20| = 20$

Find the Mean Absolute Variation (MAD)

1. 60, 80, 100

2. 70, 80, 90

3. 80, 80, 80

4. 50, 60, 70, 80, 90

5. 40, 50, 60, 70, 80, 90, 100

6. 80, 70, 90, 65, 100, 85

7. 30, 45, 50, 60 65, 75, 95, 85, 100

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$|65 - 80| = |-15| = 15$; $|75 - 80| = |-5| = 5$; $|100 - 80| = |20| = 20$

$$MAD = \frac{15+5+20}{3} = \frac{40}{3} = 13\frac{1}{3}$$

Find Mad for the following:

1. 60, 80, 80, 100

2. 60, 70, 80, 80, 90, 100

3. 80, 80, 80, 80, 80, 80

5. 55, 60, 65, 70, 75, 80, 85

6. 7, 9, 10, 14, 15, 17

7. 1, 13, 3, 11, 8, 6, 9, 5, 2, 12

8. 10, 20, 37, 38, 42, 45, 48, 50, 52, 55, 58, 62, 63, 80, 90