

Lesson 5: Watch Your Calculations

- Let's calculate mean, median, mean absolute deviation (MAD), and interquartile range.

5.1: Math Talk: Find the Mean

Find the mean of each data set.

40, 40, 40, 44

40, 40, 40, 36

40, 40, 40, 100

40, 40, 40, 0

5.2: Watch Your Steps



The high school principal wants to know which tenth grade students can be enrolled in an advanced literature course based on their current reading scores. The reading scores are on a scale of 0–800, with a score of 490 considered qualified for the advanced literature course. Here are the students' scores:

500	525	520	525	525	500	500	520
520	500	230	270	200	300	300	300
315	345	345	400	400	400	450	450
470	515	550	550	550	600	600	625
625	700	720	720	800	600	200	

List 1 is a list of measures of center and measures of variability, and List 2 describes the steps you take to calculate the measures.

- Match each measure from List 1 with the way it is computed in List 2.
- Compute each measure for the given list of reading scores.

- Which measures tell you about the center of the data, and which tell you about the variability?

List 1:

1. Median

2. Interquartile range

3. Mean absolute deviation

4. Mean

List 2:

A. Add up all of the values in a data set, then divide by the number of values in the set.

B. The difference between the first and the third quartiles.

C. Find the distance between the mean and each value in the data set. Then, find the mean of those distances.

D. List the values in the data set in order, then find the middle value. If there are two “middle values,” find the mean of those two values.

Based on the values, would you say the class is qualified for advanced literature? How does the variability affect your answer?

5.3: Row Game: Calculations

Work independently on your column. Partner A completes the questions in column A only and partner B completes the questions in column B only. Your answers in each row should match. Work on one row at a time and check if your answer matches your partner’s before moving on. If you don’t get the same answer, work together to find any mistakes.

row	column A	column B
1	Calculate the mean 1, 1, 1, 2, 100	Calculate the mean 20, 20, 20, 20, 25
2	Calculate the mean 90, 86, 82, 83.5, 87	Calculate the mean 100, 96, 93.5, 90, 49
3	Find the median 9, 4, 10, 1, 6	Find the median 6, 11, 12, 2, 4
4	Calculate the IQR 13, 20, 12, 14, 19, 18, 11, 15, 16	Calculate the IQR 2, 5, 8, 9, 1, 3, 10, 4, 6
5	Calculate the IQR 55, 50, 52, 49, 34, 36, 40, 46	Calculate the IQR 40, 43, 52, 50, 30, 36, 42, 59
6	Calculate the MAD 1.75, 2.20, 2.50, 2.55, 2.75, 2.80, 3.00, 4.45	Calculate the MAD 2.75, 3.20, 3.50, 3.55, 3.75, 3.80, 4.00, 5.45