



GRADE 7 · STATISTICS & PROBABILITY · HOMEWORK

COMPARING TWO DATA DISTRIBUTIONS

Today's goal: I can measure the difference between the centers of two numerical data distributions by expressing it as a multiple of a measure of variability, informally assess the degree of visual overlap of two numerical data distributions with similar variabilities and interpret the mean absolute deviation (MAD) of a set of data.



Pick your peppers!

Everyone does Mild & Medium. Then climb as high as you can.



Mild

Tan the Turtle



Medium

Digit the Fox



Spicy

Blaze the Dragon



Extra Spicy

Pi the Owl

WATCH MR DJ SOLVE

Find the mean of 16, 17, 18, 19, 20.

1 Sum 90, divide by 5 → 18.

Answer: 18



REMEMBER Separation = gap between means ÷ MAD. Under 1 MAD is weak and heavily overlapping; 2 or more is a clear difference. The MAD is the average distance of a value from the mean.



FAMILY CORNER

No need to remember this math yourself! Ask your student to teach you Mr DJ's example, then try the first Mild problem together.



MILD

Tan the Turtle: Slow and steady. Warm up!

1 Find the mean of 12, 13, 14, 15, 16.

Answer

2 What is the gap between the means?

Answer



Careful on #1! The slip Mr DJ sees most: Guessed the middle value.



MEDIUM

Digit the Fox: Stretch your brain.

3 Find the MAD of the first group.

- Answer

4 Find the MAD of 5, 10, 15, 20, 25.

- Answer

SPICY

Blaze the Dragon: Bring the heat!

5 Express the gap in MADs. Is the difference strong or weak?

- Answer

- 6 The group 9, 14, 19, 24, 29 has mean 19; the group above has mean 15. Find the gap and express it in MADs.

Answer



EXTRA SPICY

Pi the Owl: Big-brain challenge.

- 7 Both pairs on this sheet have a gap of 4. Explain, using your two answers, why one difference is convincing and the other is not.

Answer



How did this sheet feel?



Easy for me



Just right



Made me think

Stuck? Watch Mr DJ explain it

"Mean, Median, Mode, and Range Explained Clearly" on
YouTube: [youtube.com/@MathWithMrDJ](https://www.youtube.com/@MathWithMrDJ)

Brain break: daily puzzles

Three new math puzzles every day, free:
puzzles.mathwithmrdj.com