



Comparing two data distributions

GRADE 7 MATH

Name _____

Date _____

Work in order. Always find both means and the MAD before drawing a conclusion. One skill: **comparing distributions**.

WORKED EXAMPLE

Separation = gap between means $\div$ MAD. Roughly: under 1 MAD means the groups overlap heavily and the difference is weak; 2 MADs or more means they are clearly distinct. The MAD itself is the average distance of a value from its mean.

1. Find the mean of 4, 5, 6, 7, 8.

FLUENCY

Show your thinking

Answer

2. Find the mean of 7, 8, 9, 10, 11.

FLUENCY

Show your thinking

Answer

3. What is the gap between the two means?

FLUENCY

Show your thinking

Answer

4. Find the MAD of the first group.

APPLICATION

Show your thinking

Answer

5. Express the gap as a multiple of that MAD. Is the difference strong or weak?

REASONING

Show your thinking

Answer

6. Find the MAD of 2, 6, 10, 14, 18.

APPLICATION

Show your thinking

Answer

7. The group 5, 9, 13, 17, 21 has mean 13; the group above has mean 10. Find the gap, then express it in MADs.

REASONING

Show your thinking

Answer

8. Compare your answers to questions 5 and 7. Which pair of groups is more clearly separated?

REASONING

Show your thinking

Answer

9. A student compares two groups, finds means of 50 and 53, and concludes the groups are clearly different. What have they not checked, and why does it matter?

REASONING

Show your thinking

Answer