



Comparative inferences about two populations

GRADE 7 MATH

Name _____

Date _____

Work in order. Always report the gap in MADs before any conclusion, and say whether it is about the samples or the populations. One skill: **comparative inferences**.

WORKED EXAMPLE

Two random samples → compare means → divide the gap by the MAD → then conclude. Under 1 MAD, the gap is inside the ordinary variation and supports no claim. Above 2 MADs, it is larger than the natural wobble and supports a claim about the **populations**.

1. Sample A has mean 14 and sample B has mean 18. What is the gap?

FLUENCY

Show your thinking

Answer

2. Sample A is 12, 13, 14, 15, 16. Find its MAD.

APPLICATION

Show your thinking

Answer

3. Express the gap as a multiple of that MAD.

APPLICATION

Show your thinking

Answer

4. Is that above or below 2 MADs? What does it let you conclude?

REASONING

Show your thinking

Answer

5. A different sample A is 4, 9, 14, 19, 24, still with mean 14. Find its MAD.

APPLICATION

Show your thinking

Answer

6. Express the same gap of 4 as a multiple of this new MAD.

APPLICATION

Show your thinking

Answer

7. What can you conclude now, and how does it differ from question 4?

REASONING

Show your thinking

Answer

8. Using the mean of 14, estimate the total for a population of 200.

APPLICATION

Show your thinking

Answer

9. A student writes: “Sample B had a higher mean, so population B is higher.”
Explain what is missing from this reasoning.

REASONING

Show your thinking

Answer