Name_____ Date_____ Period_____

LESSON 2-9 · SESSION 2 · PRACTICE · FORM B

Comparing Data Sets Using MAD

Learning target – I can compare two data sets that share a mean by comparing their mean absolute deviations. · 6.SP.B.5c

REMEMBER

- Two sets can share a mean and still have different MADs. The **mean** is the center; the **MAD** is the spread.
- The set with the **smaller MAD** is steadier (more consistent). If the MADs are given, just compare them.

WORKED EXAMPLE

Baker A made 8, 9, 11, 12 cookies per tray. Baker B made 4, 8, 12, 16. Both means are 10. Who is steadier?

Step 1 A's distances: 2, 1, 1, 2. MAD = 6 ÷ 4 = 1.5.

Step 2 B's distances: 6, 2, 2, 6. MAD = 16 ÷ 4 = 4.

Step 3 1.5 < 4, so Baker A is steadier.

Answer **Baker A**

WORDS **variation** *(variación)* · **consistent** *(consistente)* · **mean absolute deviation** *(desviación media absoluta)*

PRACTICE

show your work · label units

1. **Snack Sales.** Both stands have a mean of 64. **Stand 1:** 58, 62, 66, 70. **Stand 2:** 46, 60, 68, 82.

a. Stand 1 MAD: ___ **b.** Stand 2 MAD: ___ **c.** Steadier: ____

2. **Two Trails.** Both means are 30 min. **Trail A:** 22, 27, 33, 38. **Trail B:** 25, 28, 32, 35.

Hint *Work one trail at a time: distances first, then average.*

a. Trail A MAD: _____

b. Trail B MAD: _____

c. More predictable: _____

Show your work.

3. **Same MAD.** Set G has mean 80 and MAD 4. Set H has mean 40 and MAD 4. Priya says the sets are identical. Is she right?

Hint *The mean is the center; the MAD is the spread.*

Show your work.

Answer_____

4. **Picking a Team.** Team P averages 75 points with MAD 12. Team Q averages 75 points with MAD 2. Which team is more reliable?

Show your work.

Team_____

5. **Garden Beds.** Both means are 49 cm. **Bed 1:** 42, 46, 52, 56. **Bed 2:** 33, 45, 53, 65.

a. Bed 1 MAD: _____

b. Bed 2 MAD: _____

c. More even: _____

Show your work.

6. **Same Mean, Same MAD.** Set J is 32, 36, 44, 48. Set K is 34, 34, 46, 46. Both means are 40.

Hint *Find each MAD on its own, then look at the values.*

a. MAD of J: _____

b. MAD of K: _____

c. Are the sets the same? Explain. _____

Show your work.

7. **Choose a Supplier.** Supplier 1: mean 6 days, MAD 0.5 day. Supplier 2: mean 5 days, MAD 2.5 days. Which would you pick to meet a deadline? Why?

Hint *Weigh the faster average against how reliable each is.*

Show your work.

Supplier_____

8. Two Archers. Both archers have a mean score of 7. Archer 1: 6, 8, 8, 6. Archer 2: 3, 10, 4, 11.

a. Archer 1 MAD: _____

b. Archer 2 MAD: _____

c. Pick an archer for a tie-breaking shot. Explain. _____

Show your work.

FIND THE ERROR

explain the mistake, then fix it

9. Mateo's Work. Mateo wrote: "Set R has the larger mean, so Set R must have the larger MAD." Explain his mistake.

_____

_____

TEST PRACTICE

choose the best answer

10. Equal means and unequal MADs mean the sets differ in –

A center **B** spread **C** size **D** total

11. For data that is roughly symmetric, the best pair of measures is –

A median and IQR **B** range and mode **C** mean and MAD **D** median and range

SELF-CHECK CODE

find your answer · copy its letter into that problem's box · spell a math word

14 Z	1 E	5.5 S	10 U	44 Q	11 B	5 L	3.5 O	6 T	4 A

#1a	#1b	#2a	#2b	#5a	#5b	#6a	#8a

CHECK YOURSELF ☐ I can do this on my own ☐ I need a little help ☐ I have a question about #___