Name_____ Date_____ Period_____

LESSON 2-9 · SESSION 1 · PRACTICE · FORM B

Finding Mean Absolute Deviation (MAD)

Learning target – I can find the mean absolute deviation of a data set and explain what it measures. · 6.SP.B.5c

REMEMBER

- **MAD** (mean absolute deviation) = the mean of the distances from the mean.
- Steps: find the **mean**, find each value's **distance** from it (never negative), then **average** the distances.
- If all values match, the MAD is 0. A **small** MAD means values sit close to the mean.

WORKED EXAMPLE

Four plants grew 3, 7, 8 and 10 cm. Find the MAD.

Step 1 Mean: 28 ÷ 4 = 7.

Step 2 Distances from 7: 4, 0, 1, 3.

Step 3 Sum = 8, and 8 ÷ 4 = 2.

Answer **MAD = 2 cm**

WORDS **mean absolute deviation** *(desviación media absoluta)* · **deviation** *(desviación)* · **absolute value** *(valor absoluto)* · **spread** *(dispersión)*

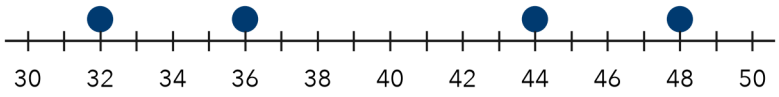
PRACTICE

show your work · label units

1. Spelling Quiz. The mean of 11, 14, 18, 22 and 25 is 18. Complete the table. Then find the MAD: _____

Value	11	14	18	22	25
Distance from 18					

2. Gym Visits. The dot plot shows the visitors to a gym on four evenings.



Visitors

a. Mean: _____ visitors

b. MAD: _____ visitors

3. Afternoon Temps. Four afternoon temperatures were 61, 64, 68 and 71°F. Find the MAD.

Hint *Find the mean first. Measure each distance from it.*

Show your work.

Answer_____ °F

4. **All the Same.** Four values are 40, 40, 40, 40. Kenji says the MAD cannot be found. Is he right?

Hint *Find each value's distance from the mean.*

Show your work.

MAD_____

5. **Reading a MAD.** Six bus rides have a mean of 30 minutes and a MAD of 2 minutes. What does the MAD tell a rider?

Show your work.

Meaning_____

6. **Homework Pages.** Five students turned in 10, 16, 22, 24 and 28 pages. Find the mean and the MAD.

Hint *Measure distances from the mean, not from 0.*

Show your work.

Mean, MAD_____

7. **Missing Distance.** Four values have mean 60 and MAD 6. Three distances from the mean are 3, 7 and 5. Find the fourth distance.

Hint *MAD × 4 gives the total of the distances.*

Show your work.

Distance_____

8. **Two Groups.** Free throws made — Group 1: 5, 7, 9, 11. Group 2: 2, 8, 9, 13. Both means are 8.

a. MAD of Group 1: _____

b. MAD of Group 2: _____

c. What does the MAD tell you that the mean does not? _____

Show your work.

FIND THE ERROR

explain the mistake, then fix it

9. **Tobias's Work.** For 26, 28, 34, 36 (mean 31), Tobias added −5, −3, +3, +5 and reported a MAD of 0. Explain his mistake and find the MAD.

_____

_____

TEST PRACTICE

choose the best answer

10. A deviation is the distance between a value and the —

A mean **B** median **C** greatest value **D** range

11. A smaller MAD means the data is –

A more spread out

B larger

C closer to the mean

D negative

SELF-CHECK CODE *find your answer · copy its letter into that problem's box · spell a math word*

28 X	0 R	5.6 A	3 E	4.8 Z	3.5 E	4.4 A	9 G	6 V	14 Q

#1	#2b	#3	#4	#6	#7	#8b

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