Name_____ Date_____ Period_____

LESSON 2-6 · SESSION 1 · PRACTICE · FORM A

Median and Outliers

Learning target – I can explain why the median is a better measure of center than the mean when a data set has an outlier. · 6.SP.B.5d

REMEMBER

- An **outlier** is a value far from all the others. It can be very high or very low.
- An outlier **pulls the mean** toward it. The **median** stays in the middle of the group.
- With an outlier, the median is the better measure of a **typical** value.

WORKED EXAMPLE

Car counts: 44, 39, 41, 47, 43, 45, 120.

Step 1 Order: 39, 41, 43, 44, 45, 47, 120.

Step 2 Outlier: 120. Median: 44 (the 4th value).

Step 3 Mean: 379 ÷ 7 ≈ 54, greater than 6 of the 7 counts.

Answer **Typical Saturday: about 44 cars (the median)**

WORDS **outlier** *(valor atípico)* · **median** *(mediana)* · **mean** *(media)*

PRACTICE

show your work · label units

1. Car Wash. Seven weekends brought 44, 39, 41, 47, 43, 45, 120 cars.

Hint *Order first. The outlier is far from all the others.*

a. Outlier: ___

b. Median: ___

c. Typical value to report: ___

2. Field Goals. Seven kicks went 33, 36, 35, 38, 34, 37, 72 yards.

a. Outlier: ___

b. Median: ___

3. Test Corrections. Seven students: 6, 8, 7, 9, 5, 4, 52.

Hint *Does the middle value move?*

a. Median: ___

b. Median if 52 becomes 9: ___

4. Concert Tickets. Seven tickets cost 58, 62, 55, 60, 64, 57, 210 dollars. Find the median price. Why does it describe a typical ticket better than the largest price?

Show your work.

Answer_____ dollars

5. Bigger Outlier. A set of 9 wait times has a median of 48 minutes. Its largest value, 300 minutes, changes to 500 minutes. What happens to the median?

Hint *Does the order of the values change?*

☐ It goes up. ☐ It stays the same. ☐ It goes down.

Why_____

6. Low Outlier. Daily step counts (hundreds): 82, 86, 90, 88, 84, 92, 5.

a. Median: ___ **b.** Median if 5 drops to 1: ___

7. Weekly Tips. Seven days of tips (dollars): 22, 18, 25, 20, 27, 24, 96. The mean is $33.14.

Hint *Compare the mean with most of the values.*

a. Median: _____ dollars

b. Outlier: _____ dollars

c. Which describes a typical day better, the mean or the median? Why?

8. Shop Salaries. Six workers earn $28,000, $30,000, $31,000, $29,000, $32,000 and $210,000.

a. Find the median salary. _____ dollars

b. The mean is $60,000. Why is it misleading?

c. Which measure would you print in a job ad? Why?

Show your work.

FIND THE ERROR

explain the mistake, then fix it

9. Farrah's Work. For 40, 42, 45, 47, 49, 51, 250, Farrah wrote: "The typical value is 250 because it stands out the most." Explain the mistake and give a typical value.

TEST PRACTICE

choose the best answer

10. A value far from the rest of the data is called –

A a median **B** an outlier **C** a quartile **D** a range

11. What is the median of 5, 6, 7, 8, 90?

A 7 **B** 23.2 **C** 90 **D** 6

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

60 L	7 T	36 U	60,000 Z	86 I	44 O	24 E	33.14 Q	30,500 S	96 R

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

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