

Mean, Median, and Mode

Lesson 8-2

Name: _____

Date: _____

Class: _____

Key Vocabulary

Level 1 support

Picture first, then the word, then a plain-language meaning. Say each word out loud.

*Mean of 2, 4, 6: add them ($2+4+6=12$), divide by 3
→ mean = 4*

Mean

The average. Add all the numbers, then divide by how many there are.

*Data: 1, 3, 5, 7, 9 → the middle (3rd) value is 5, so
median = 5*

Median

The middle number when you put them in order.

*Data: 2, 3, 3, 5, 7 → 3 appears twice (most often),
so mode = 3*

Mode

The number that shows up most often.

*Data: 10, 12, 11, 13, 50 → 50 is far from the others,
so 50 is an outlier*

Outlier

A number that is much bigger or smaller than the rest.

*If most values cluster in the center with fewer at the
ends, the distribution is symmetric*

Data distribution

How the data looks: where it sits and how spread out it is.

*8, 9, 10, 11 has low variability (close together); 2,
10, 25, 40 has high variability (far apart)*

Variability

How spread out the numbers are.

Key Ideas & Notes

- You're the stats analyst for the school basketball team.
- Coach needs a report on the team's scoring: in the last 7 games they scored 42, 38, 55, 41, 38, 44, and 40 points.
- Which average best represents the team's typical performance?

Think About It

- What are the highest and lowest scores?
- Do any scores repeat?
- Which score seems like a typical game for this team?

My Notes

Guided Examples

Example 1

Find the mean of: 10, 14, 8, 12, 16

Solution: $\text{Sum} = 10 + 14 + 8 + 12 + 16 = 60$. $\text{Mean} = 60 \div 5 = 12$.

Answer: A. 12

Example 2

Find the median of: 3, 7, 2, 9, 5

Solution: Ordered: 2, 3, 5, 7, 9. The middle value is 5.

Answer: A. 5

Example 3

Find the mode of: 4, 7, 4, 9, 2, 4, 8

Solution: 4 appears three times — more than any other value. $\text{Mode} = 4$.

Answer: A. 4

Write About the Math

The Writing Revolution

I can explain my reasoning using the words mean, median, mode, and outlier.

1. Kernel Sentence subject + verb

Model: Mean is the average. Add all the numbers, then divide by how many there are.
Media es el promedio. Suma todos los números y divide entre cuántos hay.

Write a kernel sentence about mean. Use a subject and a verb.

Escribe una oración base sobre media. Usa un sujeto y un verbo.

2. Sentence Expansion because · but · so

Kernel: Mean matters in math
Media importa en matemáticas

Expand the kernel three ways. Add a reason, a contrast, and a result.

because
porque **Mean matters in math because ____.**
Media importa en matemáticas porque ____.

but
pero **Mean matters in math, but ____.**
Media importa en matemáticas, pero ____.

so
entonces **Mean matters in math, so ____.**
Media importa en matemáticas, entonces ____.

3. Sentence Types 4 ways to write a math idea

Statement
Afirmación

Tell one true fact about mean.
Di un hecho verdadero sobre mean.

Mean ____.

Question
Pregunta

Ask a question about mean.
Haz una pregunta sobre mean.

How does ____ ?
¿Cómo ____ ?

Exclamation
Exclamación

Show excitement about mean.
Muestra entusiasmo sobre mean.

Wow, ____ !
¡Guau, ____ !

Command
Mandato

Tell a partner what to do with mean.
Dile a un compañero qué hacer con mean.

First, ____ .
Primero, ____ .

4. Explain Your Reasoning use a sentence starter

The mean is ____, **the median is** ____.

La media es ____, *la mediana es* ____.

They are different because ____.

Son diferentes porque ____.

I would use the ____ **when** ____.

Usaría la ____ *cuando* ____.

Try It

Solve on your own. Check the answer key when you are done.

1. Find the mean of: 6, 8, 10, 12, 14

- A. 10
- B. 8
- C. 12
- D. 50

Show your work:

2. Data set: 4, 6, 6, 8, 10, 12. What is the median?

- A. 7
- B. 6
- C. 8
- D. 7.67

Show your work:

Stretch Your Thinking

Level 2 enrichment

Challenge task — explain your reasoning in full sentences.

A basketball player scored 15, 18, 16, 42, and 14 points in 5 games. Find the mean and median. Which better represents the player's typical game? Explain how the outlier affects each measure.

Sentence starter: Mean = _____. Median = _____. The _____ better represents a typical game because the outlier (____) pulls the _____ toward it, making it _____ than most scores. The median is not affected because _____.

Show your work:

Reflect — Exit Ticket

Data set: 4, 7, 10, 7, 12. What is the median?

- A. 7
- B. 8
- C. 10
- D. 4

Your answer:

Answer Key & Teacher Guide

1. **Try It 1:** A. 10 — $Sum = 6 + 8 + 10 + 12 + 14 = 50$. $Mean = 50 \div 5 = 10$.
2. **Try It 2:** A. 7 — *With 6 values, the median is the average of the 3rd and 4th values: $(6 + 8) \div 2 = 7$.*
3. **Exit Ticket:** A. 7 — *Ordered: 4, 7, 7, 10, 12. The middle (3rd) value is 7.*

Writing (TWR) — what to look for

- **Kernel sentence:** A complete sentence needs a subject and a verb. Example: Mean is the average. Add all the numbers, then divide by how many there are.
- **Expansion:** *because* gives a reason, *but* shows a contrast or exception, *so* shows a result. Answers vary; each must keep the kernel idea and add the correct kind of detail.
- **Sentence types:** Statement ends with a period, question with "?", exclamation with "!", and a command starts with an action verb (a "bossy" verb).