Mean and Median: What's Typical?

Finding center, spread, and surprises in data



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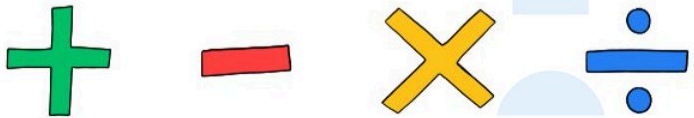
Think, pair, share

One student scores way higher than the rest. What score feels typical for the class?





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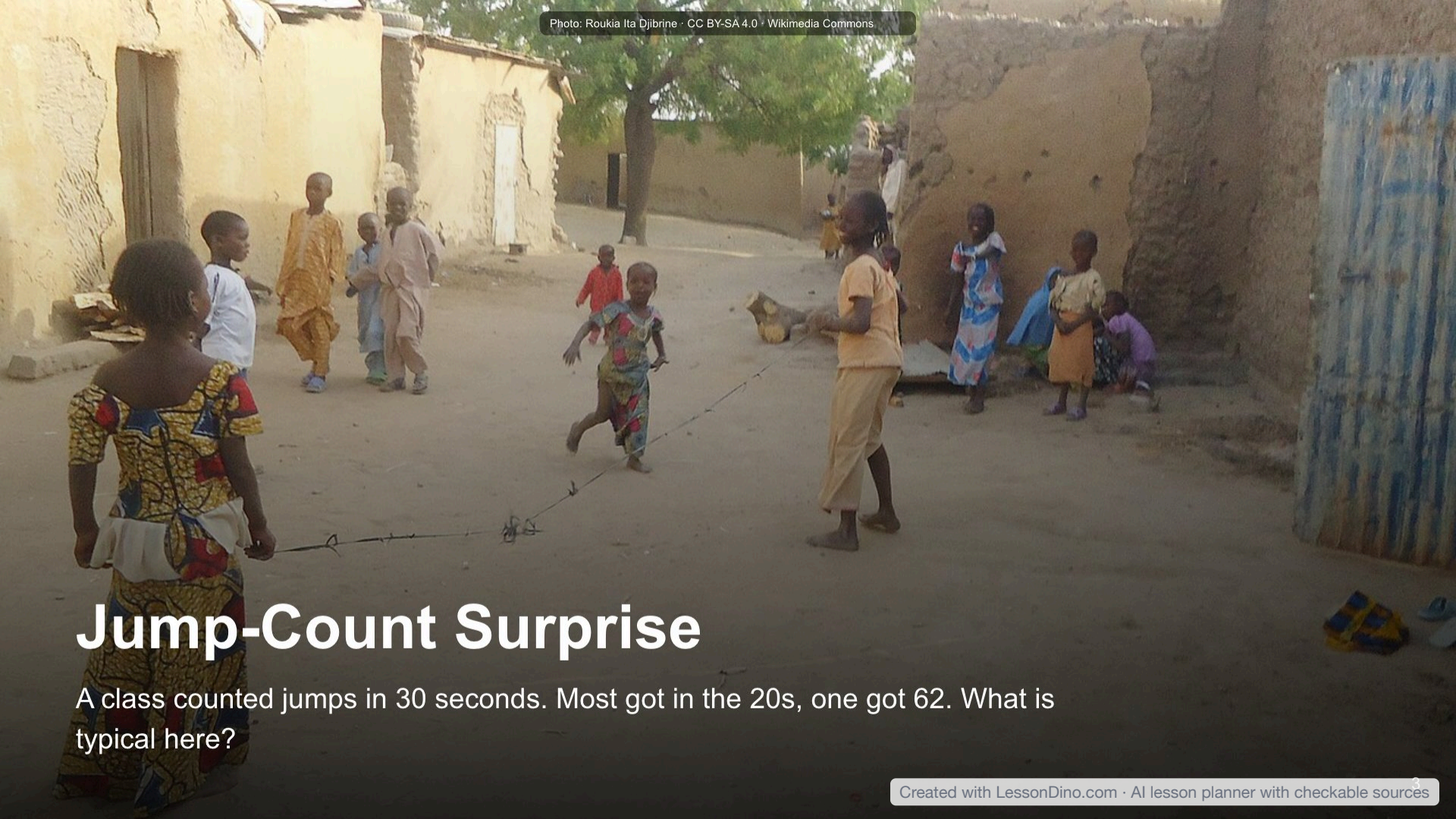

Jump-Count Surprise

A class counted jumps in 30 seconds. Most got in the 20s, one got 62. What is typical here?

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Tools to Describe Data

Mean

Add all values, then divide by how many.

Median

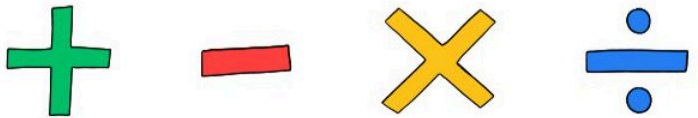
Middle value after ordering smallest to largest.

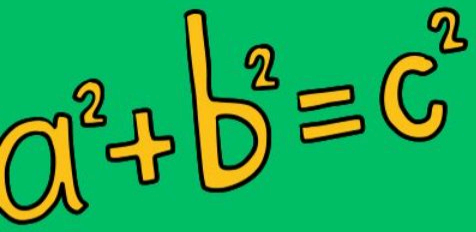
IQR

Range of the middle half; shows typical spread.

MAD

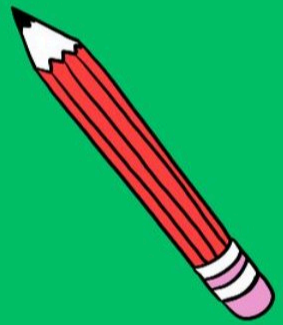
Average distance from the mean; shows spread.





Which Is Fairer Here?

Most jumps are 20–30, one is 62. Which best shows what is typical?



- **A** Mean
- **B** Median
- **C** Report both and explain
- **D** Neither is useful

Vote with your hands, then explain why.

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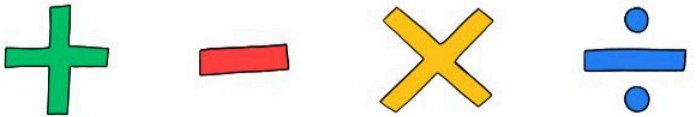
Mean and Median Intro



▶ 0:00 – 3:55

- Listen for finding mean by fair-sharing
- Listen for finding median by ordering



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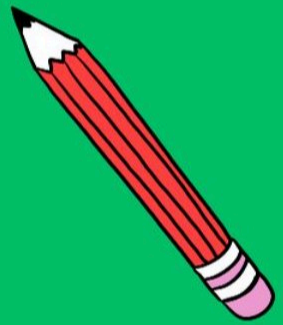
$a^2+b^2=c^2$

Describe Data Like a Statistician

1. Order values smallest to largest
2. Find mean and median for center
3. Find IQR or MAD for spread
4. Describe pattern plus any big outlier in context



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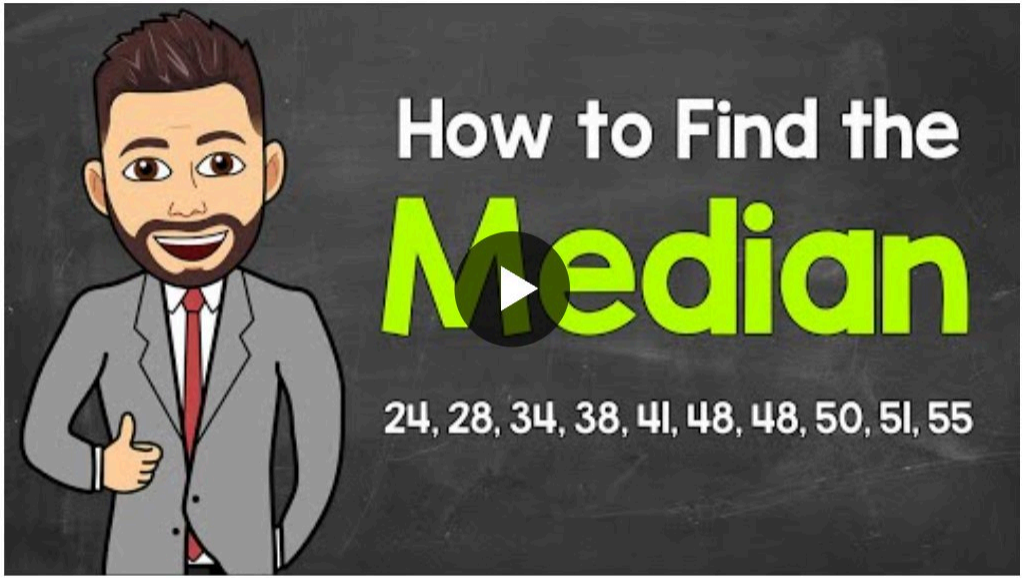
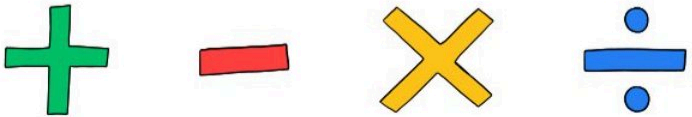
Nailing the Median



▶ 0:00 – 5:00

- Watch how to order numbers first
- Watch what to do with even counts



$a^2+b^2=c^2$

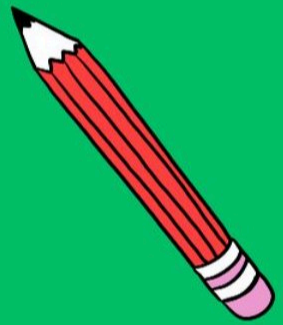
Your task

In pairs, analyze reading minutes: 15, 20, 20, 25, 25, 30, 70.

1. Find mean and median. Find MAD or IQR.
2. Decide overall pattern and striking value.
3. Write 2 sentences using context to explain.

12 min

In pairs



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What Will You Say?

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Center

Median 25, mean about 29.3 show typical reading.

↔️

Spread

MAD about 12 shows times vary a lot.

📈

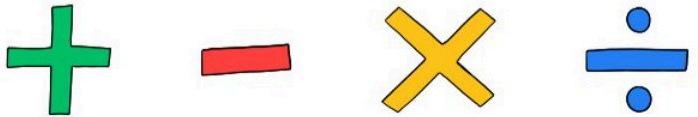
Pattern

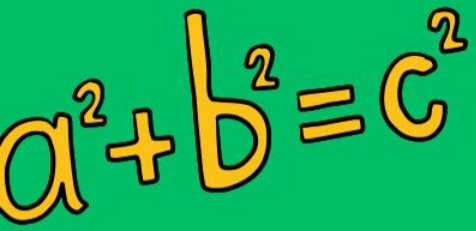
Most cluster from 15 to 30 minutes.

⚡

Deviation

70 is striking; maybe a weekend marathon.





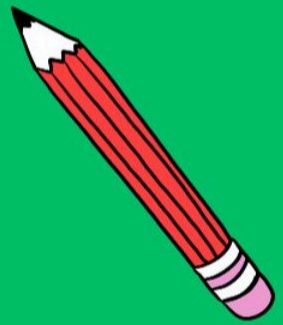
True or false?

You must order data before finding the median.

One very large value pulls the mean up more than the median.

IQR and MAD both describe the center.

Always ignore an outlier when describing data.



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