

**Statistical Reasoning**  
**Measures of Central Tendency**

Key

lexame:

Date:

Class:

Mean vs Median vs Mode Practice

A) Find the mean, median, and mode for each sample data set.

B) Determine which measure of center best represents the population's actual mean and justify your reasoning.

1. 13, 13, 10, 32, 8, 7, 6, 4, 5  
outlier?

Mean: 10.89

Median: 8 ← quantitative data  
with an outlier

Mode: 13

2. Yellow → 20, Pink → 30, Purple → 35, Blue → 24, Green → 36, Orange → 48, None → 48

Mean: 34.43

Median: 35

Mode: 48 (Orange, None) ← categorical

3. 2, 5, 4, 1, 6, 7, 4, 3, 2, 19, 6  
outlier?

Mean: 5.36

Median: 4 ← quantitative data  
w/ outlier

Mode: 2, 4, 6

4. 130, 140, 135, 125, 42, 160, 175

Mean: 129.57

Median: 135 ←

Mode: None

5. Which measure of central tendency do you think gives the best indication of the number of hours the "typical" person spends sleeping each night? Explain.

Median - quantitative, not symmetric

- a. Suppose another person was surveyed who said that he spends 3 hours sleeping at night. How would this affect the mean and median?

Mean: move left

Median: no change

6. The salaries of all adult in a trailer park are calculated. Which unit of central tendency do you think best describes the typical adult trailer park resident?

mean - symmetric

- a. Suppose a millionaire begins experiencing a mid life crisis and moves into the trailer park to get away from his life. How would this affect the mean and median?

Mean: move right

Median: no change

7. The grades of a Stats class are collected for a summary report. Which unit of central tendency best represents how the class is doing as a whole? X

mean (unless we know of outliers)

- a. Suppose a senior college student, who was majoring on statistics, was enrolled into the course at the beginning of the semester. How would this affect the mean and median?

Mean: move right

Median: no change

- b. Suppose a high school AP Stat student was enrolled into the course at the beginning of the semester. How would this affect the mean and median?

Mean: move right

Median: no change

- c. Suppose a student who fell asleep and played on their phone, every day, was enrolled into the course at the beginning of the semester. How would this affect the mean and median?

Mean: move left

Median: no change