

**LESSON**  
**2**

# Data Collection and Analysis

## Practice B: Additional Data and Outliers

Use the table to answer Exercises 1–2.

- The table shows population data for some of the least-crowded states. Find the mean, median, and mode of the data.

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- Alaska has the lowest population density of any state. Only about 1 person per square mile lives there. Add this number to the data in the table and find the mean, median, and mode.

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**Population Densities**

State	People (per mi <sup>2</sup> )
Idaho	16
Nevada	18
New Mexico	15
North Dakota	9
South Dakota	10

Use the table to answer Exercises 3–4.

- The table shows some of the states with the most counties. Find the mean, median, and mode of the data.

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- With 254 counties, Texas has more counties than any other state. Add this number to the data in the table and find the mean, median, and mode.

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- In Exercise 1, which measurement best describes the data? Why is Alaska’s population density an outlier for that data set?

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**State Counties**

State	Number of Counties
Illinois	102
Iowa	99
North Carolina	100
Tennessee	95
Virginia	95

- In Exercise 4, why is the number of counties in Texas an outlier for the data set? Which measurement best describes the data set with Texas included?

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## Answers for Lesson 2

### Practice A

- mean: 10.75; median: 7.5; mode: none
- mean: 21; median: 13; mode: none
- mean:  $8.\overline{66}$ ; median: 9; mode: 9
- mean: 80; median: 9; mode: 9
- the mode
- the median and mode

### Practice B

- mean: 13.6; median: 15; mode: none
- mean: 11.5; median: 12.5; mode: none
- mean: 98.2; median: 99; mode: 95
- mean:  $124.\overline{16}$ ; median: 99.5; mode: 95
- the mean; because it is much lower than the other data
- because Texas has many more counties; the median

### Practice C

- mean: 23.6; median: 23; mode: none
- mean:  $27.\overline{16}$ ; median: 24; mode: none; median
- mean: 183.8; median: 179; mode: none
- mean: 211; median: 186; mode: none; the median
- the range
- The mean will always be greater.

### Review for Mastery

- mean: 28; median: 26; mode: 26  
mean: 25.1; median: 26; mode: 26
- mean: 22.3; median: 16.5;  
mode: 14 and 19.

The median best describes the data.

### Challenge

Some answers depend on student ages. Sample answers are given for age 12.

## Youngest Astronauts

Data Without Your Age:

Mean age: 27                      Median age: 27  
Mode age: 26 and 28

Data With Your Age:

Mean age: 25.125                  Median age: 26.5  
Mode age: 26 and 28

## Oldest Astronauts

Data Without Your Age:

Mean age: 60                      Median age: 58  
Mode age: no mode

Data With Your Age:

Mean age: 54                      Median age: 57  
Mode age: no mode

### Problem Solving

- mean: \$385 million; median: \$404 million; mode: none
- mean: \$421 million; median: \$414 million; mode: none
- D
- F
- C
- H

### Reading Strategies

- Possible answer: You can see that 70 is set apart from the other scores.
- decrease
- Possible answer: The numbers are stacked on top of each other.
- increase
- mode

### Puzzles, Twisters & Teasers

- 0.5 (5 tenths)
- 9
- 3
- 1.6
- If Mode move 5 spaces down

