

Measuring Modes

Answer Key

Name: _____

Date: _____

Vocabulary

Mean - the average of two or more numbers

Median - the middle number in a sorted ascending or descending list

Mode - the most common number that appears in a list

Activity 1

Using the Ari distance application, a book, and all of the shoes of your classmates, measure the lengths of each classmate's shoes and record the measurements on the table provided.

Once you've measured all of the lengths, locate the **mean** value, **median** value, and **mode** value of the data you've collected.



1

(Answers will vary based on class shoe sizes)

Classmate	Shoe Length	Classmate	Shoe Length
Student A	7.5 in	Student I	12.1 in
Student B	8 in	Student J	10.9 in
Student C	5.7 in	Student K	8.6 in
Student D	10.3 in	Student L	8.3 in
Student E	11.3 in	Student M	4.9 in
Student F	6.6 in	Student N	7.5 in
Student G	9.5 in	Student O	9 in
Student H	7.3 in	Student P	8.4 in

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Example Calculations *Example Values are Used*

Sorted List of Measurements 4.9, 5.7, 6.6, 7.3, 7.4, 7.5, 7.5, 8, 8.3

Mean Value Locate the average value of the data =
 $(4.9 + 5.7 + 6.6 + 7.3 + 7.4 + 7.5 + 7.5 + 8 + 8.3) / 9 = 7.0$

Median Value Locate the value in the middle of the sorted data = 7.4

Mode Value Located the value that repeats the most = 7.5

2

(Answers will vary based on the class shoe sizes)

Sorted List of Measurements

4.9, 5.7, 6.6, 7.3, 7.5, 7.5, 8, 8.3, 8.4, 8.6, 9, 9.5, 10.3, 10.9, 11.3, 12.1

Mean Value 8.5

Median Value 8.3 & 8.4

Mode Value 7.5

Activity 2

With the data collected from Activity 1, organize the data first into the chart provided below. Then, create a histogram to visually represent the data.

1

(Answers will vary based on the class shoe sizes)

Shoe Length Range (inches)	Number of Shoes in the Class
0 in. - 2 in.	0
2.1 in - 4 in	0
4.1 in - 6 in	2
6.1 in - 8 in	5
8.1 in - 10 in	5
10.1 in - 12 in	4
12.1 in - 14 in	0

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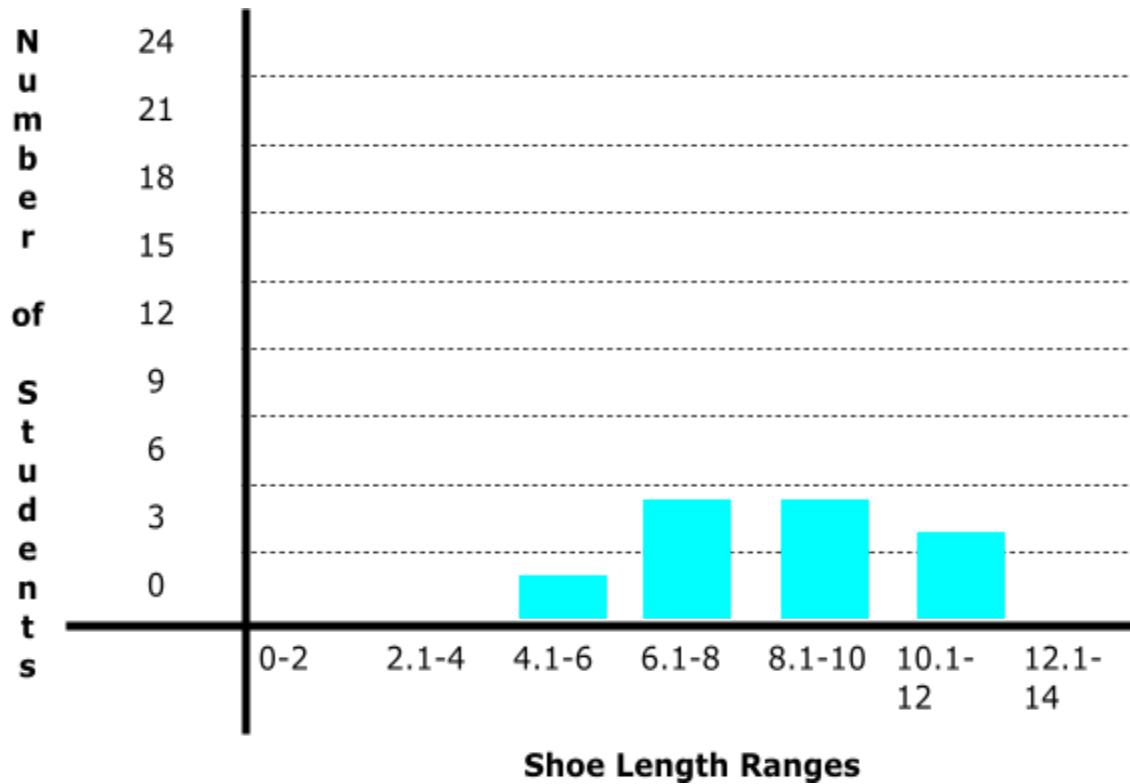
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2

Use the Shoe Length Ranges provided in Part 1 as your x-axis values and create a histogram using your measured shoe length data.

(Answers will vary based on the class shoe sizes)



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Exit Ticket

Please respond to the following prompts.

1. Question 1: What does the mode value represent in the set of data you collected? **The mode value represents the shoe length that was the most common. This could be good information when it comes to manufacturing shoes, as we now know which shoe size is the most common for this age group!**
2. Question 2: Did you correctly predict the range of shoe lengths that had the largest number of shoes? **I did! I based my prediction off of my own shoe size.**
3. Question 3: Based on the data, which shoe size should the company make the most of? **Based on the collected data, the company should manufacture shoes in sizes 6 through 8.**
4. Question 4: What other jobs might use data collection and analysis? **Other jobs that may use data collection and analysis would be any type of manufacturer of goods to determine how many to make, where to sell the goods, and to whom the goods should be sold.**