

10.4

Choosing Appropriate Measures

For use with Exploration 10.4

Learning Target: Determine which measures of center and variation best describe a data set.

- Success Criteria:**
- I can describe the shape of a distribution.
 - I can use the shape of a distribution to determine which measure of center best describes the data.
 - I can use the shape of a distribution to determine which measure of variation best describes the data.

1 EXPLORATION: Using Shapes of Distributions

Work with a partner.

- a. In Section 10.3 Exploration 1(a), you described the distribution of the first digits of the numbers at the right. In Exploration 1(b), you described the distribution of the data set below.

538-	664-
438-	664-
664-	538-
761-	855-
868-	664-
735-	538-
694-	654-
599-	654-
725-	725-
556-	538-
555-	799-
456-	764-
736-	664-
664-	664-
576-	725-

Ages of Cell Phones (years)					
0	1	0	6	4	0
2	3	5	1	1	2
0	1	2	3	1	0
0	0	1	1	1	1
7	1	4	2	2	2

What do you notice about the measures of center, measures of variation, and the shapes of the distributions? Explain.

10.4 Choosing Appropriate Measures (continued)

b. Which measure of center best describes each data set? Explain your reasoning.

c. Which measure of variation best describes each data set? Explain your reasoning.

10.4 Notetaking with Vocabulary

Vocabulary:

Notes:

10.4 Self-Assessment

Use the scale below to rate your understanding of the learning target and the success criteria.



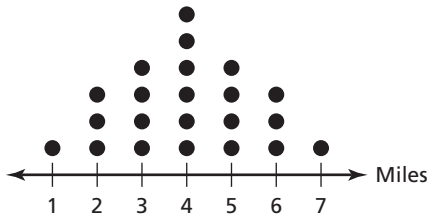
	Rating	Date
10.4 Choosing Appropriate Measures		
Learning Target: Determine which measures of center and variation best describe a data set	1 2 3 4	
I can describe the shape of a distribution.	1 2 3 4	
I can use the shape of a distribution to determine which measure of center best describes the data.	1 2 3 4	
I can use the shape of a distribution to determine which measure of variation best describes the data.	1 2 3 4	

10.4

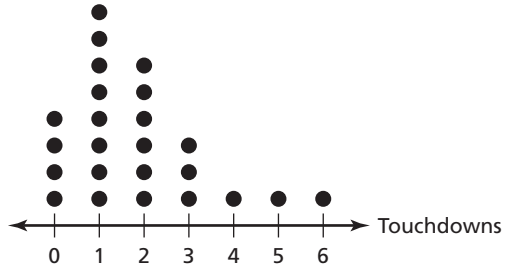
Practice

Choose the most appropriate measures to describe the center and the variation. Find the measures you choose.

1. Daily Running Distances



2. Number of Touchdowns



3. The frequency table shows the completion times of several chefs in a Bake-Off contest.

Completion Times (minutes)	20–24	25–29	30–34	35–39	40–44	45–49
Frequency	3	6	8	8	6	3

- Display the data in a histogram.
 - What are the most appropriate measures to describe the center and variation? Explain.
 - Can you find the exact values of the most appropriate measures that you chose? Explain.
- Construct a dot plot for which the interquartile range is the most appropriate measure to describe the variation of the distribution.
 - You are measuring monthly home sales prices. Would you use the mean to describe the center and the MAD to describe the variation or the median to describe the center and the IQR to describe the variation? Explain your reasoning.