Name _____

17.3 Dot Plots

TEKS Data Analysis—4.9.A

MATHEMATICAL PROCESSES 4.1.C, 4.1.D, 4.1.E

Essential Question How do you make a dot plot with whole numbers and fractional data?

Unlock the Problem

A **dot plot** is a graph that shows the frequency of data along a number line.

Example 1

Scott is training to run a half-marathon. He recorded the distances he ran in a table. Use the data in the table to make a dot plot.

Distance Scott Ran (miles)				
4	8	8	7	5
9	9	9	7	9
9	5	7	8	4

STEP 1

Order the data from the least to the greatest distance.

4, 4, _____, _____, _____, _____, _____, _____,

_____, _____, _____, _____, _____, _____, _____

Draw a number line. Label it with the distances. Write a title below the number line to describe the data.

Label the distances on the number line from the least value of the data to the greatest. The data points for this dot plot will be

_____, _____, _____, _____, _____, and _____.

STEP 2

To represent the data values, place two dots above the 4 on the number line to show how many times Scott ran that distance.

Complete the dot plot by placing the correct number of dots above the distances on the number line.

_____

- **Explain** why a dot plot is a useful way to organize and present data.

_____

_____

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Example 2

Kristen practices her tennis serve every day. She records the amount of time she practices, in fractions of an hour. Use the data in the table to make a dot plot to represent the data.

Time Spent Practicing Serving (hour)				
$\frac{1}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{1}{2}$
$\frac{3}{4}$	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{2}$
$\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{1}{2}$

STEP 1

Order the data from the least to greatest fractional part of an hour. Draw a number line. Label it with the fractions. Write a title below it to describe the data.

The data points should start with the least fraction and end with the greatest fraction. The data points for this dot plot will be _____, _____, _____.

STEP 2

Place a dot above each fraction on the number line to show how many times Kristen spent that time practicing her serve.

Time Spent Practicing Serving

Share and Show

MATH BOARD

1. Use the data in the Distance Biked table to complete the dot plot.

Distance Biked

Distance Biked (km)				
3	5	12	2	1
8	5	8	6	3
11	8	6	4	10
10	9	6	6	6
5	2	1	2	3

2. Make a dot plot from the data in the table.

Number of Siblings				
2	2	1	1	3
4	0	1	1	0
2	2	1	3	4
1	0	0	2	0

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Name _____

3. Make a dot plot using the data in the table.

Size of Water Samples (gallons)				
$\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{3}{4}$	$\frac{1}{2}$
$\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{1}{4}$	$\frac{1}{2}$
$\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{1}{4}$

4. Make a dot plot using the data in the table.

Number of Cars Sold per Month				
11	14	12	12	11
14	16	11	10	14
10	10	11	13	10

Problem Solving Real World

5. H.O.T. **Multi-Step** Martin wants to build some tool boxes for his friends. He plans to use wood that he already has. He listed the different lengths of the wood he has in a table. Use this data to create a dot plot so Martin can easily visualize what lengths of wood he has.

Length of Wood Pieces (ft)			
$2\frac{5}{8}$	$2\frac{3}{8}$	$2\frac{1}{8}$	$2\frac{4}{8}$
$2\frac{2}{8}$	$2\frac{6}{8}$	$2\frac{3}{8}$	$2\frac{2}{8}$
$2\frac{6}{8}$	$2\frac{1}{8}$	$2\frac{5}{8}$	$2\frac{1}{8}$

6. H.O.T. **Use Graphs** **Explain** how you would use the data in the table to make a dot plot. Then represent the data in a dot plot.

Number of CDs Owned				
18	23	16	12	15
12	20	14	18	19
14	15	17	12	15

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Daily Assessment Task

Fill in the bubble completely to show your answer.

7. Some of the students in Jose's class counted the number of animals each of them saw during recess. Jose wants to make a dot plot to represent the data. How many dots will he place above the number 5?

Number of Animals Seen								
5	3	1	7	2	1	3	5	3

Ⓐ 1
Ⓑ 3
Ⓒ 2
Ⓓ 5

8. Sara went to the beach for a week. She recorded the length of the shells she found each day in the table below. She wants to make a dot plot to represent the lengths she recorded. Which shows the way Sara should label the fraction lengths on the number line?

Length of Seashells Found (in inches)								
$\frac{1}{2}$	$\frac{3}{4}$	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$\frac{1}{4}$	$\frac{1}{4}$	1

Ⓐ

Ⓑ

Ⓒ

Ⓓ

TEXAS Test Prep

9. The data in the table shows the lengths of some pieces of carpet that Justin has. He wants to make a dot plot to show the data. How many dots will Justin place above the $3\frac{1}{2}$?

Length of Carpet Pieces (ft)			
$3\frac{3}{4}$	$2\frac{3}{4}$	$2\frac{1}{2}$	$1\frac{1}{4}$
$2\frac{1}{4}$	$3\frac{1}{2}$	$1\frac{1}{2}$	$2\frac{1}{8}$
$3\frac{1}{4}$	$2\frac{1}{8}$	$1\frac{1}{8}$	$1\frac{1}{8}$

Ⓐ 0
Ⓑ 1
Ⓒ 3
Ⓓ 4

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TEKS Data Analysis—4.9.A
MATHEMATICAL PROCESSES 4.1.C, 4.1.D, 4.1.E

Name _____

17.3 Dot Plots

1. Make a dot plot using the data in the table.

Number of Vowels in First Name			
1	2	2	2
3	4	4	5
1	2	2	2
3	3	1	2
2	2	2	2

2. Make a dot plot using the data in the table.

Time Spent Practicing Piano (in hours)			
$\frac{3}{4}$	1	$\frac{1}{2}$	$\frac{3}{4}$
$1\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	1
1	$1\frac{1}{4}$	1	$\frac{1}{2}$
1	$\frac{1}{2}$	1	$\frac{1}{2}$

Problem Solving Real World

3. Jerome took a walk through his neighborhood. He recorded the number of trees he saw in each yard. Use the data in the table to make a dot plot to represent the data.

Number of Trees			
3	0	3	5
4	1	2	0
5	4	4	6
0	5	5	0
1	2	4	2
2	0	1	0

4. Tiffany recorded the amount of time it took her to walk to school each day. Use the data in the table to make a dot plot to represent the data.

Time Spent Walking (in minutes)			
20	18	19	16
18	15	20	18
19	20	15	20
16	19	20	19

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Lesson Check

TEXAS Test Prep

Fill in the bubble completely to show your answer.

5. Mrs. Thompson counted the number of books that students in her class checked out from the library. She wants to make a dot plot to represent the data. How many dots will she place above the number 3?

Number of Books Checked Out								
2	5	4	5	2	3	2	3	2

Ⓐ 6

Ⓑ 3

Ⓒ 9

Ⓓ 2

6. Hector recorded the time he spent watering his yard each day. He wants to make a dot plot to represent the times he recorded. Which shows the way Hector should label the times on the number line?

Time Spent Watering (in minutes)							
16	20	16	18	16	20	19	18

Ⓐ

Ⓑ

Ⓒ

Ⓓ

Use the table at right for 7–8.

7. **Multi-Step** Mr. Davis recorded the grades his students scored on a math test. He wants to make a dot plot to represent the data. How many more dots will he place above the 100 than above the 70, 75, and 80 combined?

Ⓐ 2

Ⓑ 6

Ⓒ 3

Ⓓ 4

Grade Scored on Test			
100	85	90	95
85	95	100	80
100	90	70	100
75	95	100	75
90	100	85	95

8. **Multi-Step** Which statement about the dot plot is NOT true?

Ⓐ Fewer students scored 90 than 95.

Ⓑ More students scored 75 than 80.

Ⓒ More students scored 95 than 80 and 85 combined.

Ⓓ The same number of students scored 85 and 90.

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