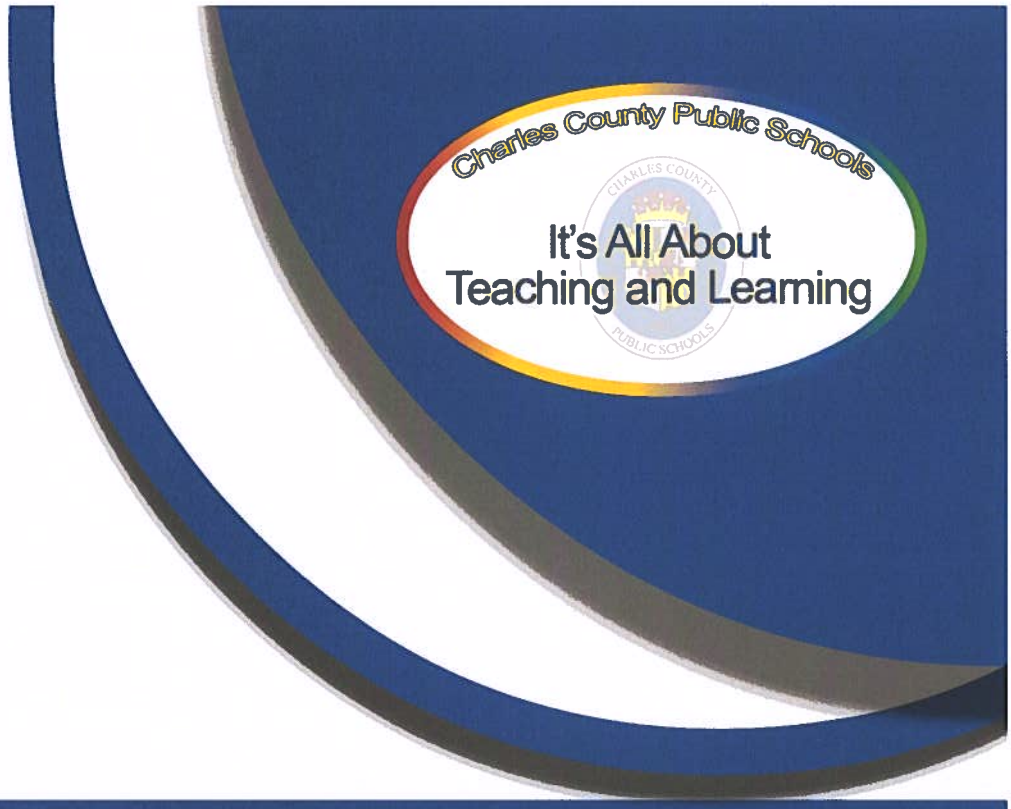
Grade 6 and Grade 6C Math



CHARLES COUNTY PUBLIC SCHOOLS

Grade 6 and Grade 6C Math Weeks 7-8 (May 18 – May 29)

E-Learning

Dear parents,

If your child is participating in distance learning solely through the completion of our instructional packets, you are required to call or email the principal to inform them of your child's participation status, since packet-assignments will not be collected until a later time. Please keep all of your child's work in a safe place until you are notified of when, where and how to submit. Thank you for your attention to this matter.

Estimados padres,

Si su hijo/a está participando en el aprendizaje a distancia completando solamente nuestros paquetes de instrucción, deberá llamar o enviar un correo electrónico al director para informarle sobre el estado de participación de su hijo/a, ya que las asignaciones realizadas en los paquetes no se recopilarán hasta más tarde. Por favor mantenga todo el trabajo de su hijo/a en un lugar seguro hasta que se le notifique cuándo, dónde y cómo presentarlo. Gracias por su atención a este asunto.

Please refer to information in your last packet to help with these assignments.

You may use a calculator for all assignments in this packet.

Statistical Questions: Check-up

Which of the following are statistical questions? Select all that apply.

A. What is the word record for the fastest time to run 1 mile?

B. How many goals does a high school soccer team score in each game?

C. How many runs did the Georgetown Giraffes baseball team score last night?

D. How long does it take a high school student to run a mile?

ANSWER: B and D

Identify the center of each data display.

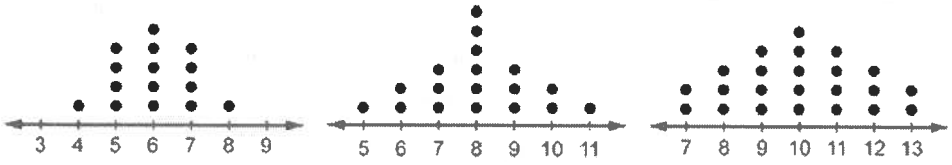
Group 1 Center at ?

Group 2 Center at ?

Group 3 Center at ?

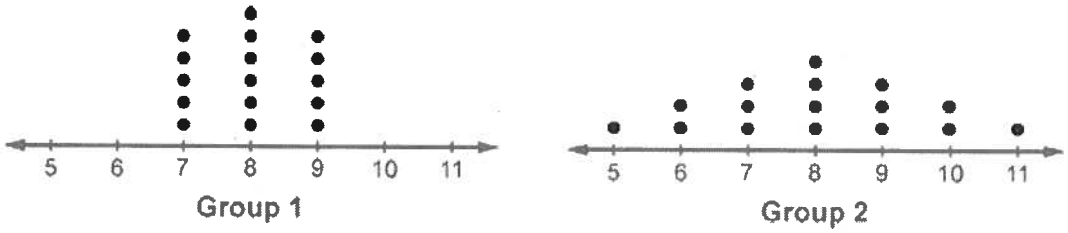
8 10 7 6

ANSWER:



Center at 6 Center at 8 Center at 10

Examine the data displays shown below.



Complete each statement based on the information contained in the displays.

1. Group _____ has a greater spread.
2. The Group 1 data set is spread from a low value of _____ to a high value of _____.

ANSWER: Group 2 has a greater spread. The low value in Group 1 is 7 and the high value is 9.

Study the data shown.

Fill in the missing information in the table.

Center	Spread	Bell-Shaped?	Symmetric?

ANSWER:

Center	Spread	Bell-Shaped?	Symmetric?
18	12 – 24	Yes	Yes

Jamal thinks students typically take about 10 minutes to get to school. He decides to test his idea. He asks his classmates how long it takes them to get to school. He graphs his data on a dot plot.

What should Jamal do to see whether his prediction is correct?

A. Jamal should look at the center of the data.

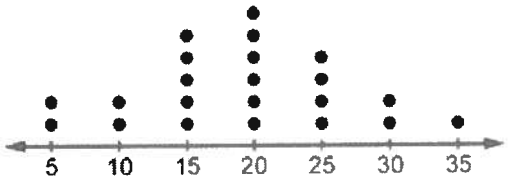
B. Jamal should look at the shortest time it takes for a student to get to school.

C. Jamal should look at the fastest time it takes for a student to get to school.

D. Jamal should see if any stuents take more than 20 mimutes to get to school.

ANSWER: A

Jamal thinks that students typically take about 10 minutes to get to school. He asked 22 of his classmates how many minnutes it takes them to get to school. He made a dot plot of the data.



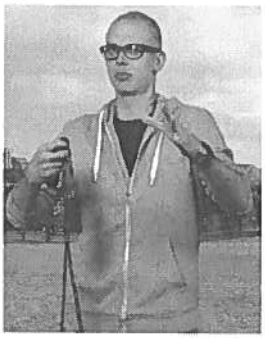
Complete each sentence based on the information in the dot plot.

The typical amount of time it takes a student to get to school is _____ minutes.

The amount of time to get to school is spread from 5 minutes to _____ minutes.

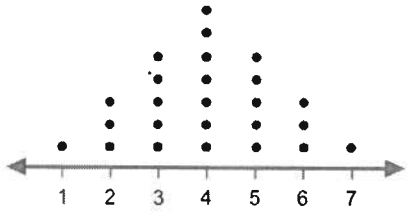
The dot plot suggests that Jamal's guess of 10 minutes is _____ {about right, too low, too high}.

ANSWER: The typical time is 20 minutes. The stread is from 5 minutes to 35 minutes. Jamal's guess was too low.

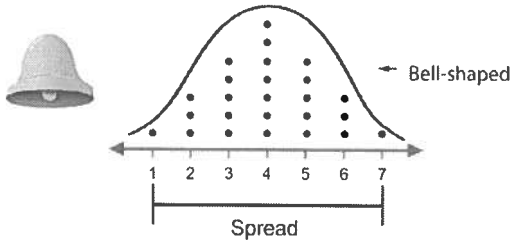


Uggh. Umm, OK, so, I'm enterring a jump-rope contest and I'm not quite ready for it. I wonder: How long can most people jump rope? Hmmmm, aha! That's a statistical question, because it has different answers. I would expect that different people can jump rope for different lengths of time. Because I was curious, I found some data and made a dot plot. Yes I did.

This dot plot shows the length of time that 25 people jumped rope without stopping. The ceenter dots show a typical value. So typically, people can jump rope for about four minutes straight. Whew!! For this data, the samllest amount of time is one minute. And the longest time is seven minutes. All of the other times fall between one and seven minutes. This is the spread.



Time that People Jumped Rope Without Stopping (minutes)

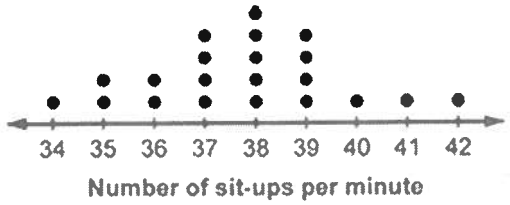


I alos notice the shape of the data. This dot plot is bell-shaped. In this dot plot, the data is also symmetric. If I wer to fold the dot plot along the dots at about the four, the dots would line up. In other words, both sides of the dot plot look about the same.

So what does this data tell me? Well, that I'm not quite as good at jump-roping as the typical person. But I know that I can get better. I just gotta keep practicing.

Practice

Avery guessed that the typical numbeer of sit-ups her classmates could do was 30 in 1 minute. Avery tested this idea by recording how many sit-ups each classmate could do in 1 minute. She made a dot plot of the data.



Answer the following questions based on the information in the dot plot.

1. What is the most common number of sit-ups completed in 1 minute? Explain how you used the dot plot to identify this number.

2. What is the spread of this data set?

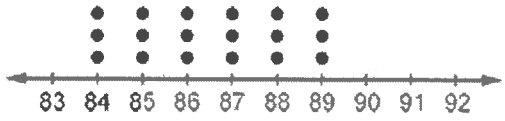
3. According to this data set, is Avery's guess of 30 sit-ups per minute too low, too high, or about right? Explain your answer.

ANSWERS
1. The most common number of sit-ups is 38. There are 21 pieces of data and the middle piece is at 38.
2. The spread of the data is from 34 to 42.
3. Based on the dot plot, Avery's guess was too low. The lowest point on the dot plot is at 34 which is 4 sit-ups above Avery's guess.

MS Math
Grade 6 and Grade 6C
Week 7 – Week 8
May 18 – May 29, 2020

QUIZ – You may use your packets and a calculator to complete this quiz.

1. Which choice describes the shape of the data?



A. Not symmetric; not bell-shaped

B. Not symmetric; bell-shaped

C. Symmetric; not bell-shaped

D. Symmetric; bell-shaped

2. Adam wants to learn more about a college basketball team. Which of the following is a statistical question Adam could ask?

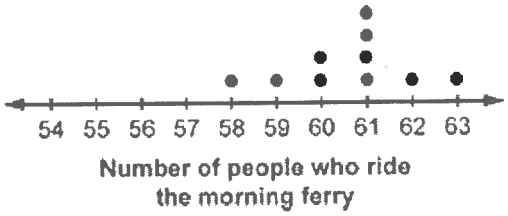
A. What is the name of the head coach?

B. How tall are the players?

C. What are the team colors?

D. What was the final score in the game last night?

3. Rachel looked at how many people ride the morning ferry. She made a dot plot for the data.



According to Rachel's data, what is the typical number of people who rode the ferry?

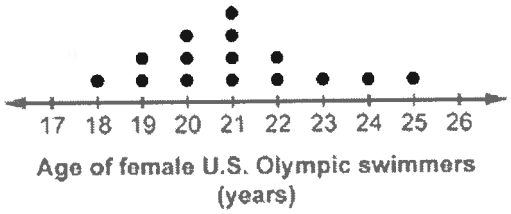
A. 65 people

B. 61 people

C. 63 people

D. 58 people

4. Lawrence did some research on female U.S. Olympic swimmers. He made a dot plot.



According to Lawrence's data, what is the typical age of a female U.S. Olympic swimmer?

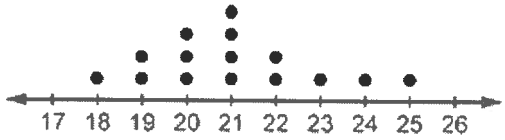
A. 18 years

B. 17 years

C. 26 years

D. 21 years

5. What is the spread of this data?



Age of female U.S. Olympic swimmers (years)

A. 15 to 30 years

B. 21 to 25 years

C. 18 to 21 years

D. 18 to 25 years

YOU HAVE COMPLETED THE QUIZ. THE NEXT LESSON BEGINS ON THE FOLLOWING PAGE.

Dot Plots and Histograms

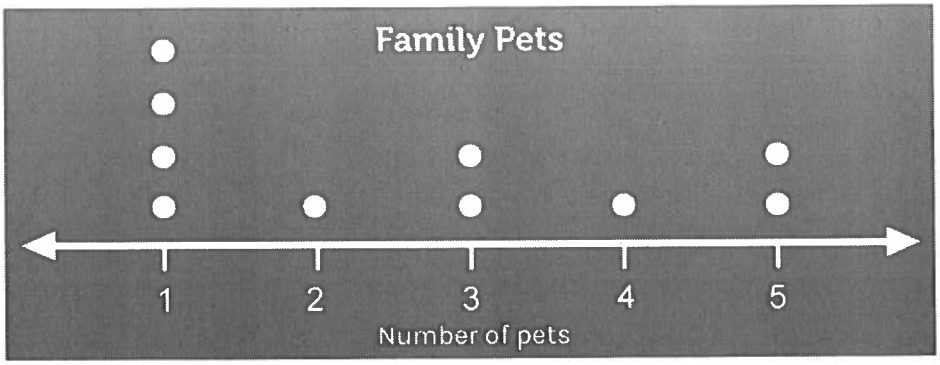
You can use a list, a frequency table, and a dot plot to organize and display the data values, or numbers, in a set.

Ten students were asked how many family pets they have. Their answers are shown in three different ways.

Raw Data	Organized List	Frequency Table
2, 1, 4, 3, 5, 1, 1, 3, 5, 1	1, 1, 1, 1, 2, 3, 3, 4, 5, 5	

Number of family pets	Frequency
1	4
2	1
3	2
4	1
5	2

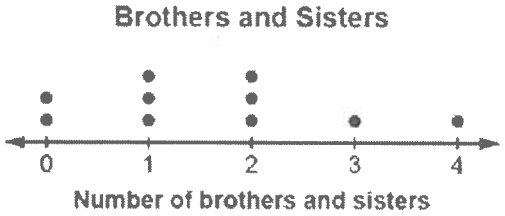
The data can also be displayed in a dot plot.



Each of these data displays shows the individual data points.

Check Your Understanding

Ten students are surveyed about the number of brothers and issters they have. The results are shown in the dot plot.



Complete each sentence based on information in the dot plot.

The greatest number of brothers and issters reported is _____.

A total of _____ students have only 1 brother or sister.

A total of _____ students have 0 brothers or sisters.

ANSWER: The greatest number is 4. 3 students have only 1 brother or sister. 2 students have 0 brothers or sisters.

It can help to organize a list in a frequency table before displaying it in a dot plot.

Ten musicians were asked how many brothers or sisters they have. Their answers are shown in an organized list.

0, 0, 0, 1, 1, 1, 2, 3, 4 4

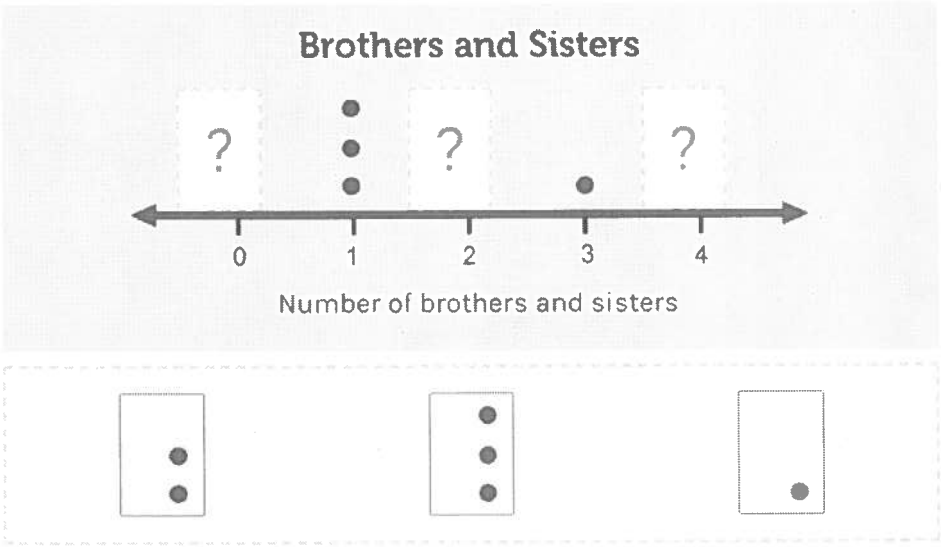
Use this data to complete the frequency table.

# of Brothers or Sisters	Frequency
0	
1	
2	
3	
4	

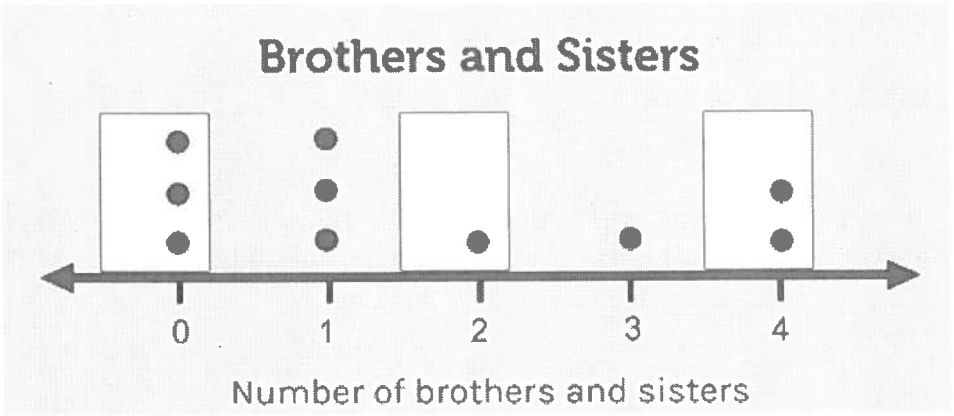
ANSWER:

# of Brothers or Sisters	Frequency
0	3
1	3
2	1
3	1
4	2

Complete the dot plot based on the information in the frequency table.



ANSWER:



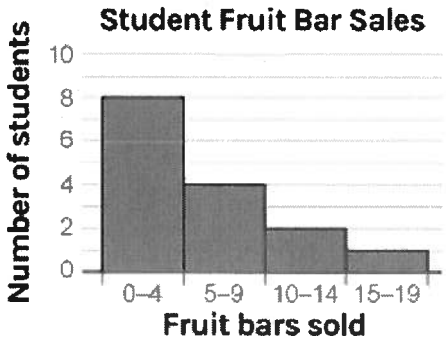
Historgrams use bars to display how data fall into different ranges.

Each bar in a histogram represents a different interval, or range, of values. The bars do not overlap or have gaps between them. A histogram does not display individual data values. So it is particularly useful for organizing large amounts of data.

After the first day of a school fundraiser, 15 students in a class had sold the following number of fruit bars:

3, 0, 1, 7, 10, 16, 5, 6, 11, 4, 3, 5, 3, 1, 2

This data was displayed in a frequency table.



Check Your Understanding

Use the histogram, above, complete each sentence.

_____ invervals are represented.

Each interval shows a range of _____ fruit bars.

The number of students who sold 0 - 4 fruit bars is _____.

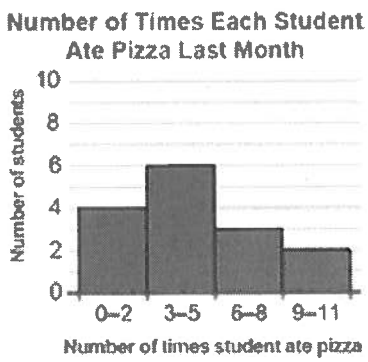
The number of students who sold 15 – 19 fruit bars is _____.

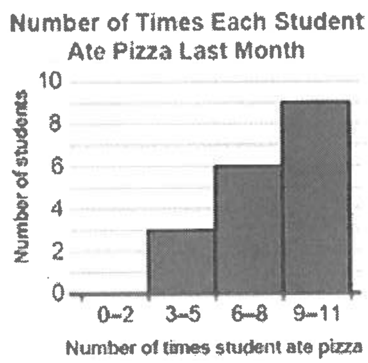
ANSWER: There are 4 intervals represented. Each interval shows a range of 5 fruit bars. 8 students sold 0 – 4 fruit bars. 1 student sold 15 – 19 fruit bars.

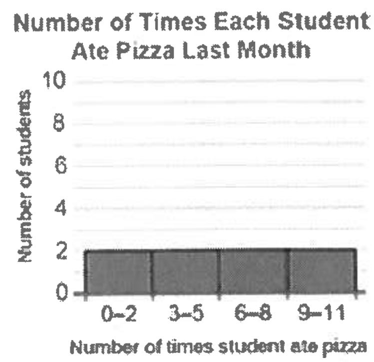
A class is surveyed about the number of times each student ate pizza last month. These are the results:

1, 2, 2, 2, 4, 4, 5, 5, 5, 5, 7, 8, 8, 10, 11

Choose the histogram that represents the data.







ANSWER: The first histogram correctly represents the data.

Devon surveyed 15 students to find out the number of times they played in a sporting event in a month. The results are shown in the tally table. Each bar represents 1 response.

<table>
<tr><th>Number of times</th><th>0</th><th>2</th><th>3</th><th>4</th><th>5</th><th>7</th><th>8</th><th>10</th><th>15</th><th>19</th></tr>
<tr><td>Tally</td><td>|||</td><td>|</td><td>|</td><td>|</td><td>||</td><td>|</td><td>||</td><td>|</td><td>||</td><td>|</td></tr>
</table>

Devon then reorganized the data into a frequency table with intervals.

Times Playing in a Sporting Event Each Month	
Number of times	**Frequency**
0 – 4	6
5 – 9	5
10 – 14	1
15 – 19	3

Finally, he created a histogram with the intervals represented on the x-axis and the frequency represented on the y-axis.

Check Your Understanding

The tally table shows data about the number of phone calls people made in a day.

Number of calls	0	1	2	3	5	6	8	10	11
Tally	I	I	II	III	III	II	I	III	II

Use the tally table to complete the frequency table.

Phone Calls Per Day	
# of Calls in Intervals	Frequency
0 – 2	
3 – 5	6
6 – 8	
9 - 11	5

ANSWER:

Phone Calls Per Day	
# of Calls in Intervals	Frequency
0 – 2	4
3 – 5	6
6 – 8	3
9 - 11	5

The frequency table shows data about the number of phone calls made.

Interval	0 – 2	3 – 5	6 – 8	9 – 11
Frequency	4	6	3	5

Select all statements that describe the histogram that would be created using the frequency table.

A. The inteval for each bar includes 3 numbers.

B. The histogram has 4 bars.

C. The height of the bar for the interval 0 – 2 is 4.

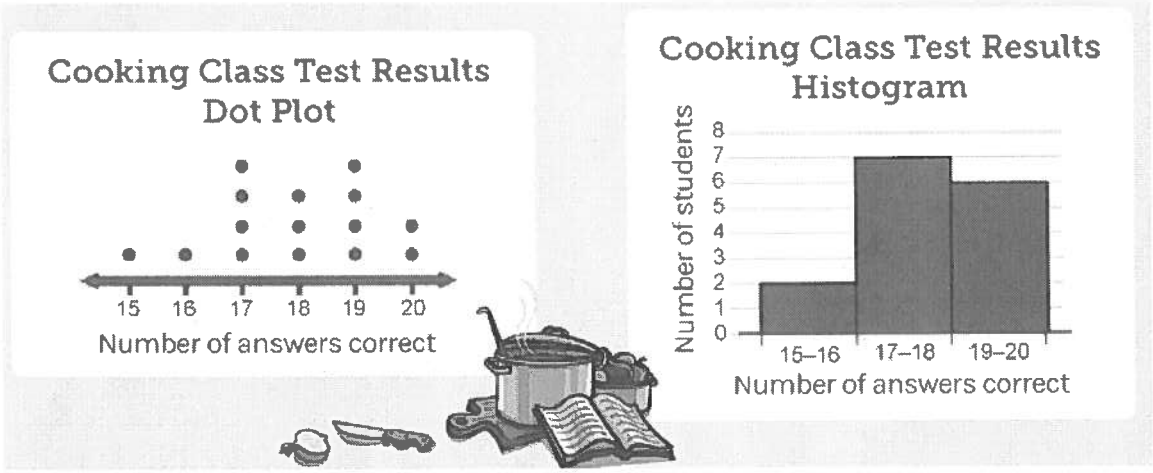
D. The height of each bar is 4.

ANSWER: A, B, C

Dot Plots vs. Histograms

- Use a dot plot when you want to display individual data values.
- Use a histogram when you want to organize large amounts of data into different intervals or ranges.

In a cooking class, 15 students take a test with 20 questions. The results are displayed using a dot plot and a histogram.



Check Your Understanding

Decide whether it is better to use a dot plot or a histogram for each set of data.

Data Description	Display to Use
The final standardized test scores for the entire 6th grade	
The number of family pets for each student in one class	

ANSWER:

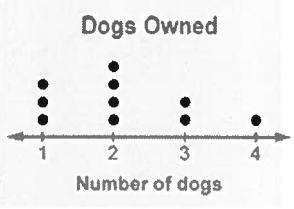
Data Description	Display to Use
The final standardized test scores for the entire 6th grade	Histogram
The number of family pets for each student in one class	Dot Plot

A local government wants to display the ages of the city's citizens. Is it better to organize the data using a dot plot or a histogram? Explain.

ANSWER: Because cities have large populations, it is better to display the data using a histogram.

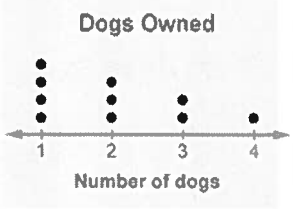
Three groups of dog owners were asked about the number of dogs each person owns. The results were organized into three frequency tables.

Match each frequency table with the correct dot plot.



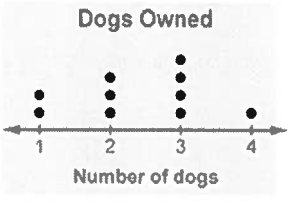
Number of Dogs Owned

Number of Dogs	Frequency
1	2
2	3
3	4
4	1



Number of Dogs Owned

Number of Dogs	Frequency
1	3
2	4
3	2
4	1



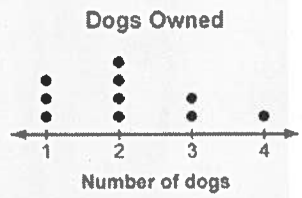
Number of Dogs Owned

Number of Dogs	Frequency
1	4
2	3
3	2
4	1

ANSWER:

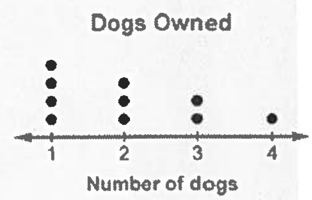
Number of Dogs Owned

Number of Dogs	Frequency
1	3
2	4
3	2
4	1



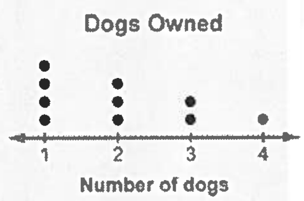
Number of Dogs Owned

Number of Dogs	Frequency
1	4
2	3
3	2
4	1



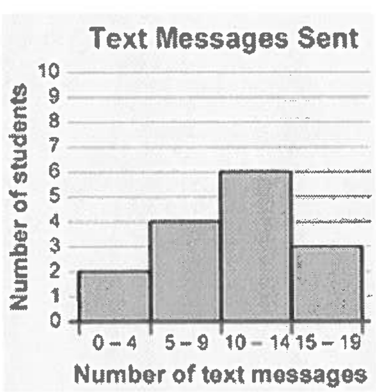
Number of Dogs Owned

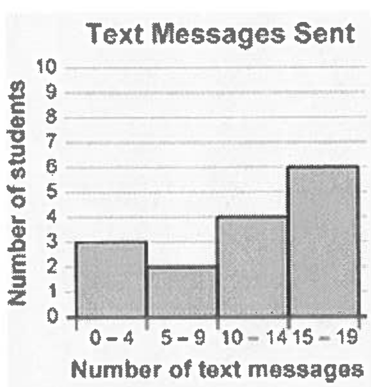
Number of Dogs	Frequency
1	4
2	3
3	2
4	1

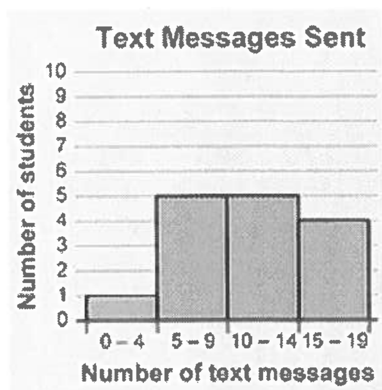


Three groups of students were asked about the number of text messages each of them sends each day.

Match each data set with the correct histogram.



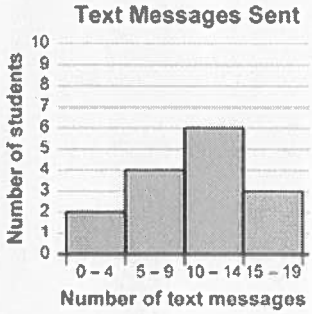




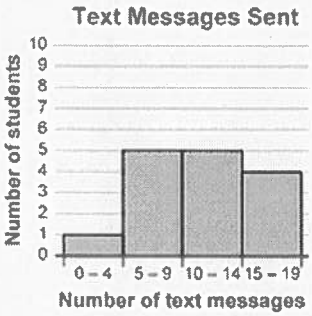
0, 0, 1, 9, 9, 10, 13, 14, 14, 15, 15, 17, 18, 19, 19	0, 4, 7, 8, 9, 9, 10, 10, 10, 14, 14, 14, 15, 19, 19	0, 8, 8, 9, 9, 9, 11, 11, 12, 13, 13, 16, 16, 17, 17

ANSWER:

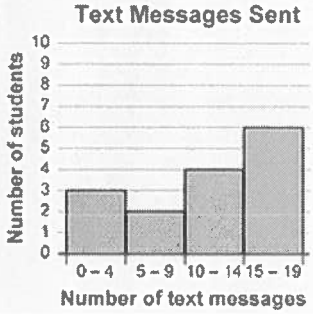
0, 4, 7, 8, 9, 9, 10, 10, 10, 14, 14, 14, 15, 19, 19



0, 8, 8, 9, 9, 9, 11, 11, 12, 13, 13, 16, 16, 17, 17



0, 0, 1, 9, 9, 10, 13, 14, 14, 15, 15, 17, 18, 19, 19



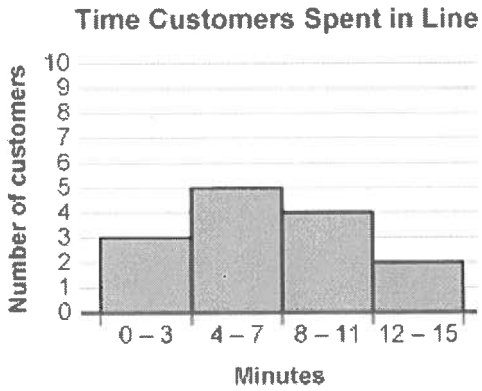
Decide whether a dot plot or a histogram would be more appropriate for the situation.

Situation	Data Display
Display individual values	
Organize data in intervals	
Compare the number of children in a group who ohave lost 3 to 5 teeth with the number of childrenn who have lost 6 to 8 teeth	
Show how many children in a group have lost 4 teeth	

ANSWER:

Situation	Data Display
Display individual values	Dot Plot
Organize data in intervals	Histogram
Compare the number of children in a group who ohave lost 3 to 5 teeth with the number of childrenn who have lost 6 to 8 teeth	Histogram
Show how many children in a group have lost 4 teeth	Dot Plot

Stef conducted a survey and made a dot plot and a histogram to whow her data. However, the histogram is incorrect.



Fill in the blanks to show how Stef can fix the histogram.

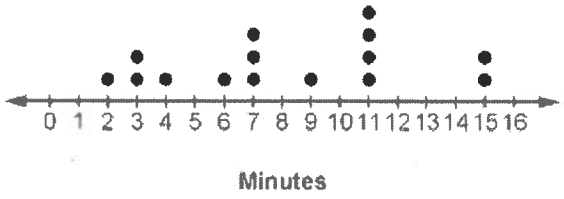
Look at the intervals shown on the _____ {dot plot, histogram}.

For each interval, count the data values shown on the_____ {dot plot, histogram}.

If the height of the _____ {bar, dot plot} does not match the number of values for the interval, change the bar.

ANSWER: Look at the intervals shown on the histogram. Count the data values on the dot plot. If the height of the bar doesn't match, change the bar.

Stef conducted a survey and made a dot plot and a histogram to show her data. However, the histogram is incorrect.



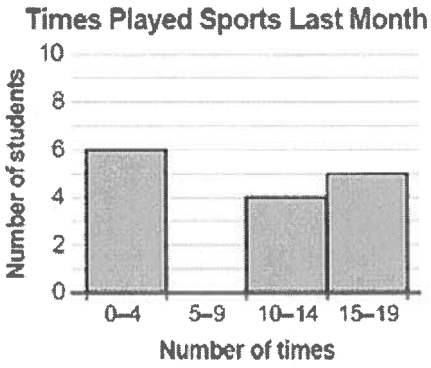
Fill the the blanks to show how Stef can fix the histogram.

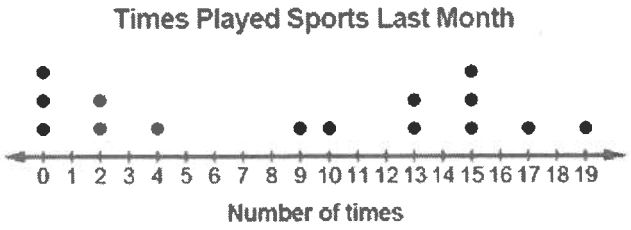
The interval in the histogram that does not match the dot plot data is _____ {4 – 7, 8 – 11, 12 – 15}.

The height of the shaded bar for this interval should be _____ {4, 5, 6}.

ANSWER: The 8 – 11 interval does not match the dot plot. The height should be 5.

Pablo made a dot plot and histogram to show how many times last month each student in a class played sports. However, the histogram is incorrect.





Answer the questions to show how Pablo can fix the histogram to match the dot plot.

1. Is the bar for the interval 0 – 4 correct, or does its height need to change? If it needs to change, describe the change that should be made.

2. Is the bar for the interval 5 – 9 correct, or does its height need to chage? If it needs to change, describe the change that should be made.

3. Is the bar for the interval 10 – 14 correct, or does its height need to chage? If it needs to change, describe the change that should be made.

4. Is the bar for the interval 15 – 19 correct, or does its height need to chage? If it needs to change, describe the change that should be made.

ANSWER; 1. It is correct. 2. It is incorrect. It needs to have a bar that shows 1 piece of data in this interval. 3. It is incorrect. It needs to have a bar that shows 5 pieces of data. 4. It is correct.

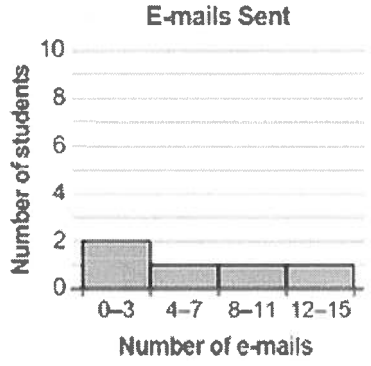
Quiz – You can use a calculator to complete this quiz.

1. A group of students was asked about the number of e-mails they each sent that day. The results are:

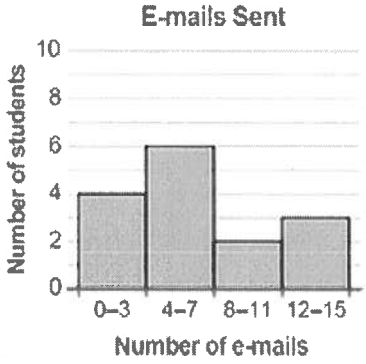
0, 1, 1, 2, 3, 3, 4, 5, 6, 7, 8, 10, 11, 14, 15

Which histogram correctly shows the data set?

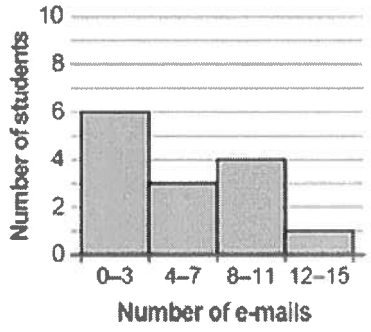
A.



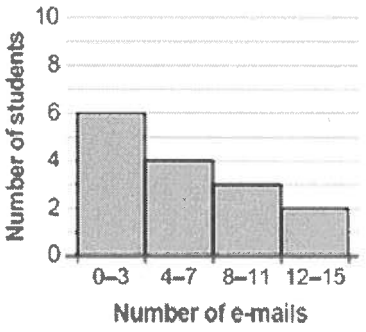
C.



B.



D.

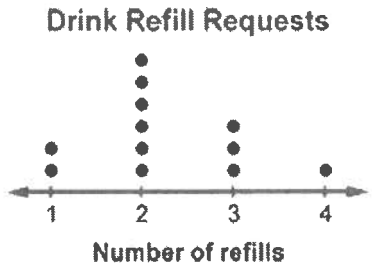


2. An Italian restaurant recorded the numbers of drink refills their customers requested during dinner. The results are shown in the frequency table.

Number of refills	Frequency
1	2
2	6
3	3
4	1

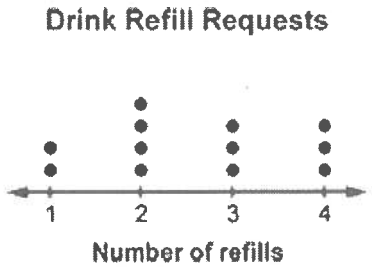
Which dot plot correctly shows the data?

A.

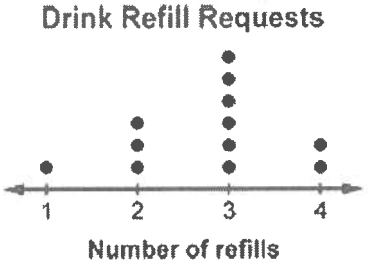


C.

B.



D.

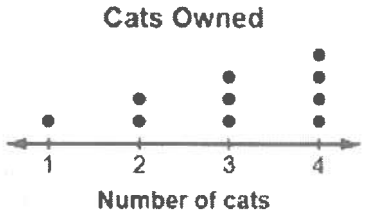


3. A group of cat owners was asked aboutt the number of cots each owns. The results are shown in the frequency table.

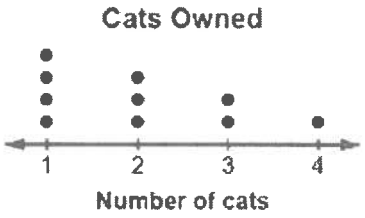
Number of cats	Frequency
1	2
2	3
3	1
4	4

Which dot plot correctly shows the data?

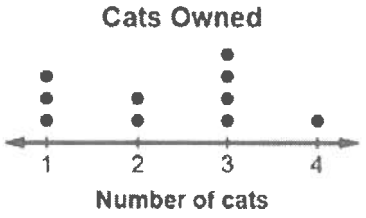
A.



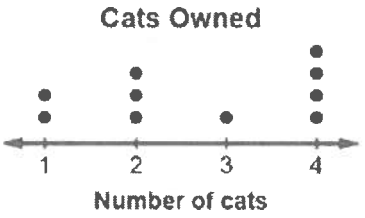
C.



B.



D.

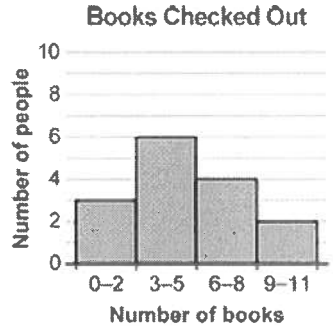


4. People leaving the library were asked how many books they cheked out that day. The results are:

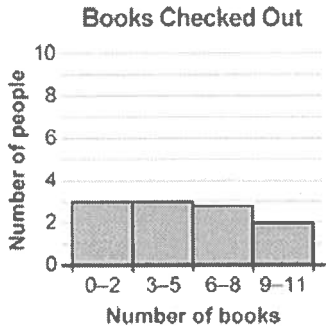
1, 2, 2, 3, 3, 4, 4, 5, 5, 6, 6, 7, 8, 10, 10

Which histogram correctly shows the data set?

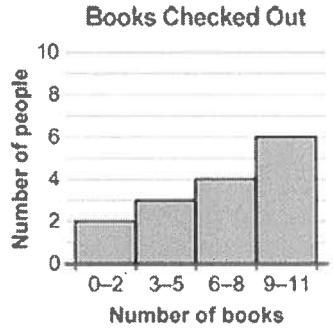
A.



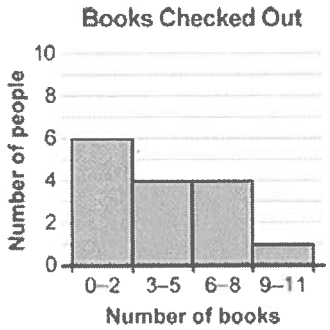
C.



B.



D.



5. Ms. Spencer has 15 students in her class. She asks each student how many siblings they have. She wats to see which number of siblings is the most common in the class.

Would a dot plot or a histogram be a more appropriate way to display the data for this situation?

A. A histogram, beccaue she wants to show all of the individual data values.

B. A dot plot, because she wants to show how the data fall into different intervals or ranges.

C. A histogram, because she wants to show how the data fall into different intervals or ranges.

D. A dot plot, because she wants to show all of the individual data values.

THIS IS THE END OF THE QUIZ