

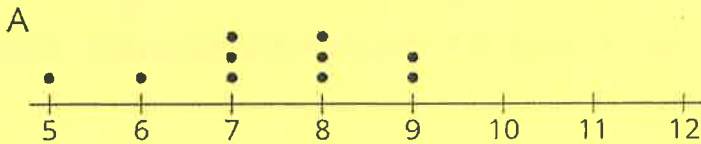
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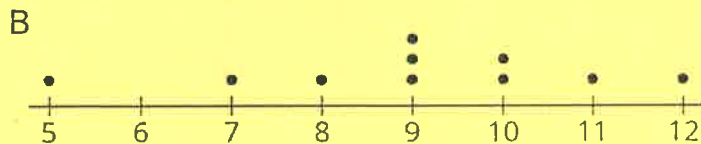
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Unit 8, Lesson 5: Using Dot Plots to Answer Statistical Questions

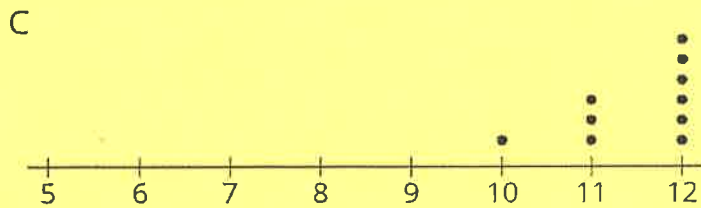
1. Three sets of data about ten sixth-grade students were used to make three dot plots. The person who made these dot plots forgot to label them. Match each dot plot with the appropriate label.



1. Ages in years

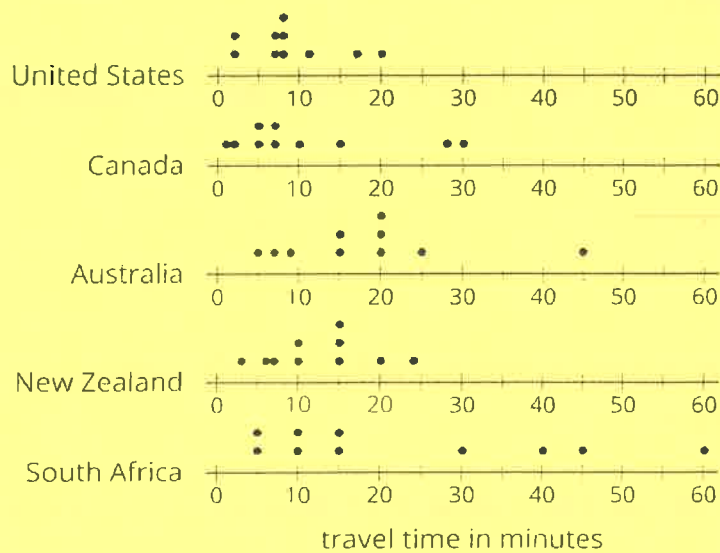


2. Numbers of hours of sleep on nights before school days



3. Numbers of hours of sleep on nights before non-school days

2. The dot plots show the time it takes to get to school for ten sixth-grade students from the United States, Canada, Australia, New Zealand, and South Africa.



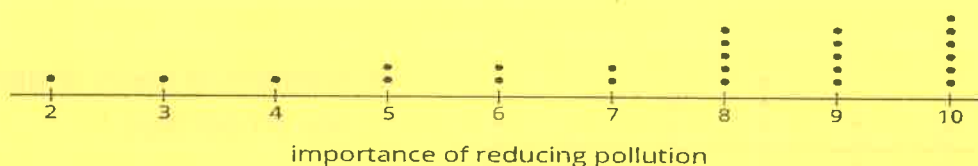
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- a. List the countries in order of *typical travel times*, from shortest to longest.
- b. List the countries in order of *variability in travel times*, from the least variability to the greatest.

3. Twenty-five students were asked to rate—on a scale of 0 to 10—how important it is to reduce pollution. A rating of 0 means “not at all important” and a rating of 10 means “very important.” Here is a dot plot of their responses.



Explain why a rating of 6 is *not* a good description of the center of this data set.

4. Tyler wants to buy some cherries at the farmer’s market. He has \$10 and cherries cost \$4 per pound.

a. If c is the number of pounds of cherries that Tyler can buy, write one or more inequalities or equations describing c .

b. Can 2 be a value of c ? Can 3 be a value of c ? What about -1? Explain your reasoning.

c. If m is the amount of money, in dollars, Tyler can spend, write one or more inequalities or equations describing m .

d. Can 8 be a value of m ? Can 2 be a value of m ? What about 10.5? Explain your reasoning.

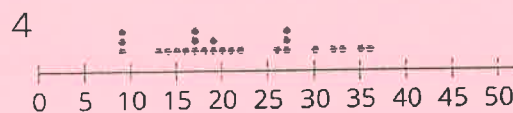
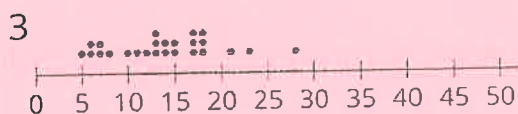
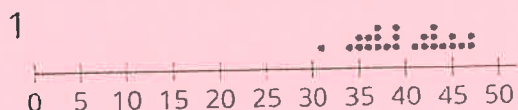
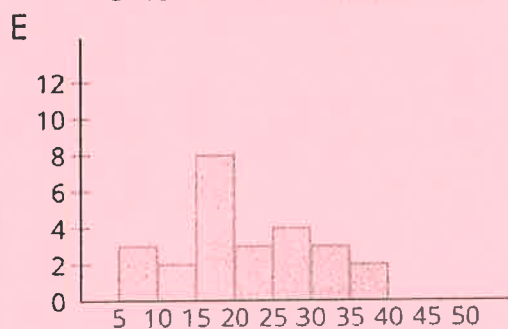
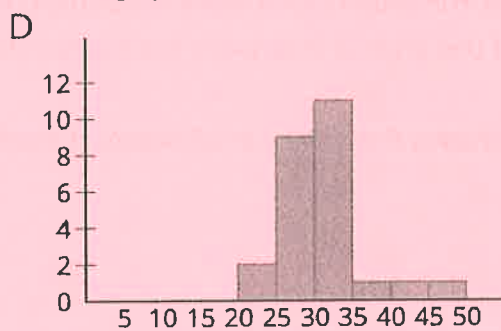
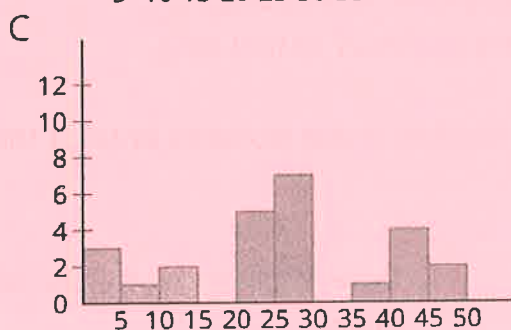
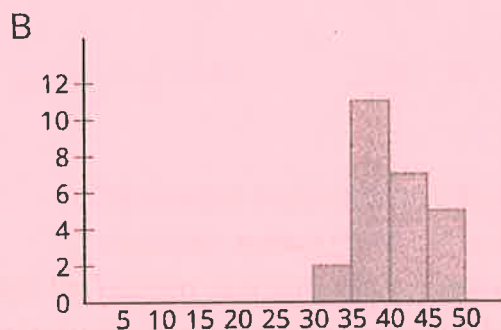
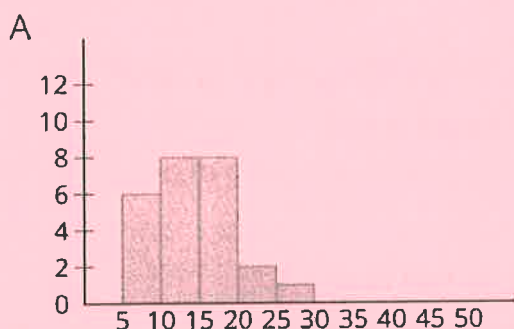
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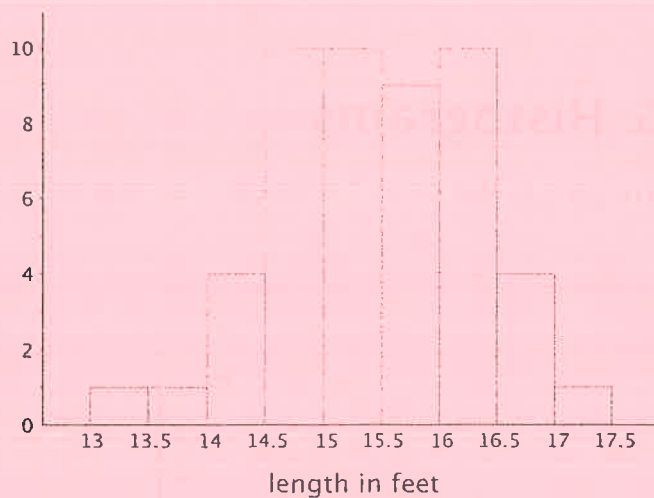
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Unit 8, Lesson 6: Histograms

1. Match histograms A through E to dot plots 1 through 5 so that each match represents the same data set.



2. Here is a histogram that summarizes the lengths, in feet, of a group of adult female sharks. Select **all** the statements that are true, according to the histogram.



- A. A total of 9 sharks were measured.
- B. A total of 50 sharks were measured.
- C. The longest shark that was measured was 10 feet long.
- D. Most of the sharks that were measured were over 16 feet long.
- E. Two of the sharks that were measured were less than 14 feet long.

3. This table shows the times, in minutes, it took 40 sixth-grade students to run 1 mile.

time (minutes)	frequency
4 to less than 6	1
6 to less than 8	5
8 to less than 10	13
10 to less than 12	12
12 to less than 14	7
14 to less than 16	2

Draw a histogram for the information in the table.

4. $(-2, 3)$ is one vertex of a square on a coordinate plane. Name three points that could be the other vertices.

(from Unit 7, Lesson 12)

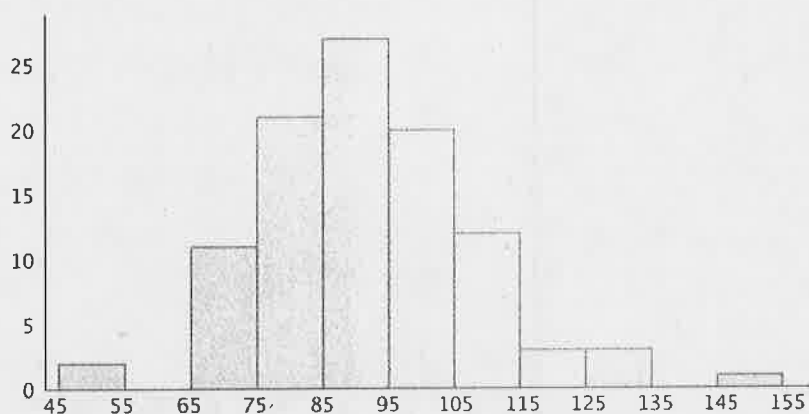
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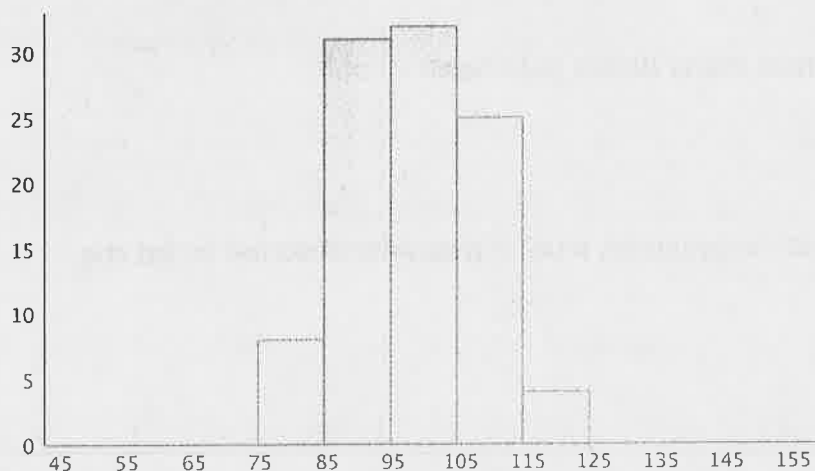
Unit 8, Lesson 7: Using Histograms to Answer Statistical Questions

1. These two histograms show the number of text messages sent in one week by two groups of 100 students. The first histogram summarizes data from sixth-grade students. The second histogram summarizes data from seventh-grade students.



text messages sent per week by sixth-grade students

a. Do the two data sets have approximately the same center? If so, explain where the center is located. If not, which one has the greater center?



text messages sent per week by seventh-grade students

b. Which data set has greater spread? Explain your reasoning.

c. Overall, which group of students—sixth- or seventh-grade—sent more text messages?

2. Forty sixth-grade students ran 1 mile. Here is a histogram that summarizes their times, in minutes. The center of the distribution is approximately 10 minutes.

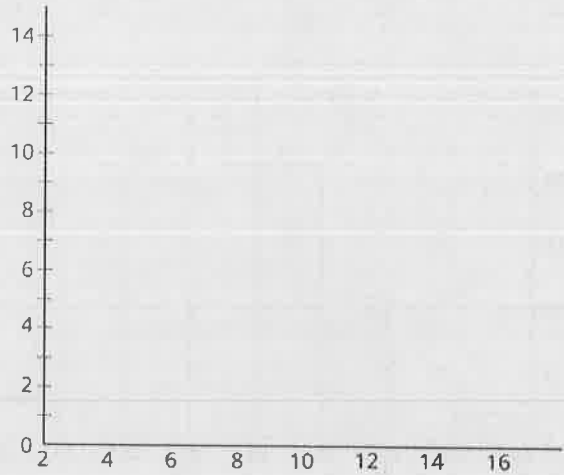
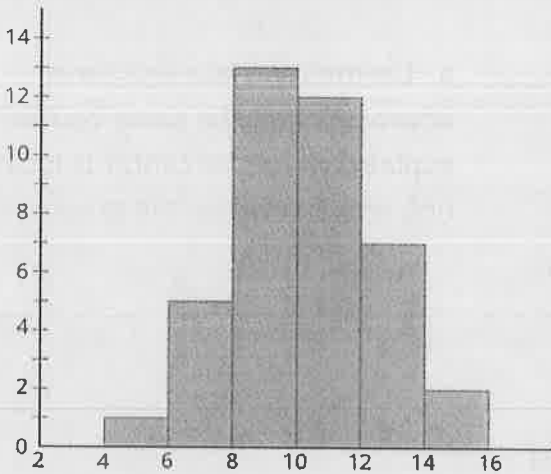
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On the blank axes, draw a second histogram that has:

- a distribution of times for a different group of 40 sixth-grade students.
- a center at 10 minutes.
- less variability than the distribution shown in the first histogram.



3. Jada has d dimes. She has more than 30 cents but less than a dollar.

- a. Write two inequalities that represent how many dimes Jada has.
- b. Can d be 10?
- c. How many possible solutions make both inequalities true? If possible, describe or list the solutions.

(from Unit 7, Lesson 9)

4. Order these numbers from greatest to least: -4 , $\frac{1}{4}$, 0 , 4 , $-3\frac{1}{2}$, $\frac{7}{4}$, $-\frac{5}{4}$

(from Unit 7, Lesson 4)

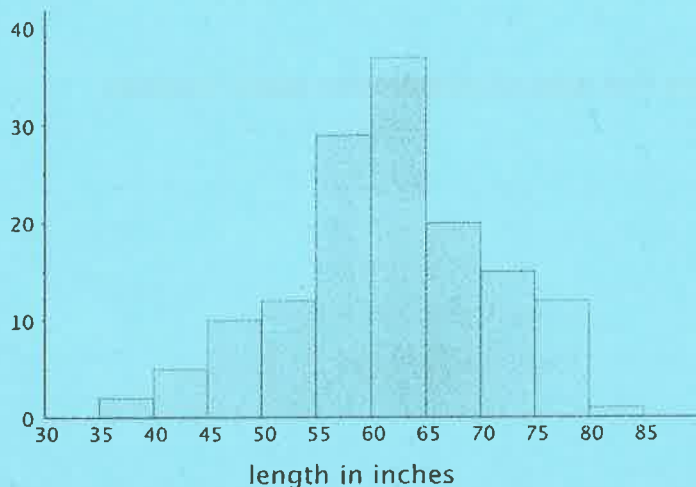
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Unit 8, Lesson 8: Describing Distributions on Histograms

1. The histogram summarizes the data on the body lengths of 143 wild bears. Write a few sentences describing the distribution of body lengths.



Be sure to comment on shape, center, and spread of the distribution.

2. Which data set is more likely to produce a histogram with a symmetric distribution? Explain your reasoning.

- Data on the number of seconds on a track of music in a pop album.
- Data on the number of seconds spent talking on the phone yesterday by everyone in the school.

3. Decide if each data set might produce one or more gaps when represented by a histogram. For each data set that you think might produce gaps, briefly describe or give an example of how the values in the data set might do so.

- a. The ages of students in a sixth-grade class.

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b. The ages of people in an elementary school.

c. The ages of people eating in a family restaurant. The ages of people who watch football.

d. The ages of runners in a marathon.

4. Evaluate the expression $4x^3$ for each value of x .

a. 1

b. 2

c. $\frac{1}{2}$

(from Unit 6, Lesson 15)

5. Jada drank 12 ounces of water from her bottle. This is 60% of the water the bottle holds.

a. Write an equation to represent this situation. Explain the meaning of any variables you use.

b. How much water does the bottle hold?

(from Unit 6, Lesson 7)