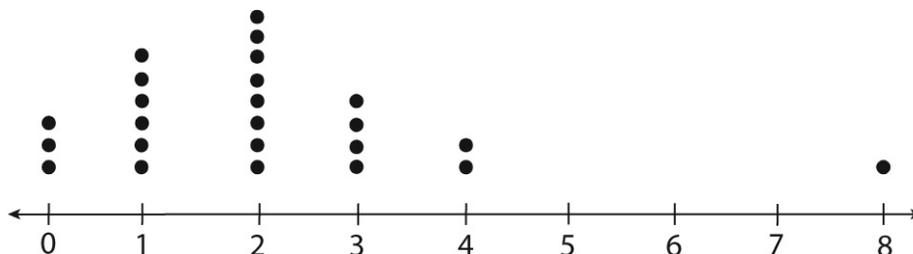


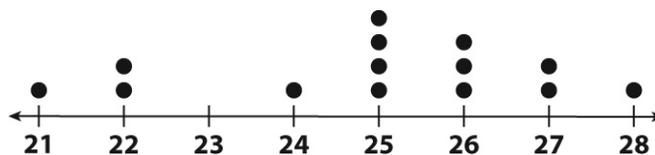
The number of pets owned by each seventh-grade student’s family is shown in the dot plot. Answer the questions. Explain your answers. Show your work.



1.	What number of pets occurs most often?	
2.	What fraction of the class has the number of pets that occurs most often? Express your answer as a percent, too.	
3.	Why is the student’s family that has 8 pets not representative of the class as a whole?	

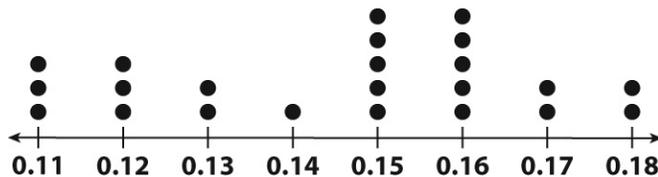
Find the values for each dot plot.

4.



Range =	Median =	Mode =
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5.



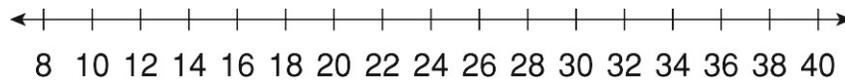
Range =	Median =	Mode =
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Compare the dot plots by answering the questions.

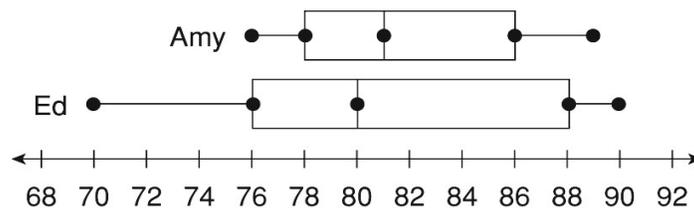


1.	How do the ranges compare?	
2.	Compare the number of elements.	
3.	How do the modes compare?	
4.	How do the medians compare?	
5.	Describe the distribution of the dots in each plot.	

6. Use the data to make a box-and-whisker plot. 24, 32, 35, 18, 20, 36, 12

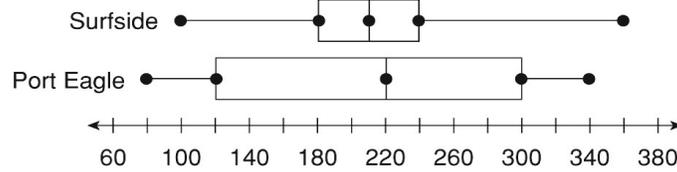


The box-and-whisker plot shows the test scores of two students. Use the box-and-whisker plot for Exercises 2–5.



7.	Which student has the greater median test score?	
8.	Which student has the greater interquartile range of test scores?	
9.	Which student has the greater range of test scores?	
10.	Which student appears to have more predictable test scores? Explain your answer.	

Use the box-and-whisker plot for Exercises 1–3.



The box-and-whisker plot shows prices of hotel rooms in two beach towns.

1.	Which town has the greater median room price?	
2.	Which town has the greater interquartile range of room prices?	
3.	Which town appears to have more predictable room prices? Explain your answer.	

Name the *population* and the *sample* in each exercise. Explain your answer.

- The number of roadrunners born within a 50-mile radius of Lubbock.
- The cars traveling at 75 kilometers per hour between Beaumont and Lufkin.

Name the sampling method that will best represent the whole population in each situation. Explain your answer.

- Student satisfaction with the middle school cafeteria.
 Method A: Survey 40 students in two seventh-grade math classes.
 Method B: Survey 65 students from a list of all students in the school.
 Method _____ best represents the whole population of the school because

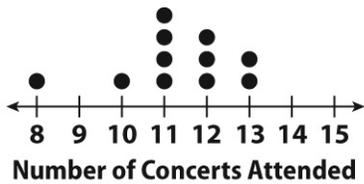
- Predicted winner in an election for town mayor.
 Method C: Telephone 100 randomly-chosen voters who live in the town.
 Method D: Telephone 70 people who have lived in the town for more than 25 years.
 Method _____ best represents the whole population of the town's voters because

Which of these may be biased samples? Explain your answer.

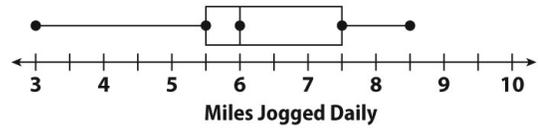
- A town official surveys 50 people in a library to decide if town residents want the library services and facilities expanded.
- A cable television company randomly calls 200 customers and asks them if they are satisfied with their service.

What can you infer about the population from each data set represented below?

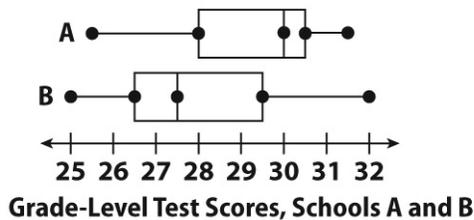
1.



2.



The box plots show the distribution of grade-level test scores of 20 students in School A and 20 students in School B. Use the box plots to do Exercises 3–5. Answer True or False for each statement.



3. The median score at School A is higher than School B.

4. The range of scores at School B is less than the range of scores at School A.

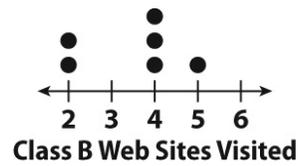
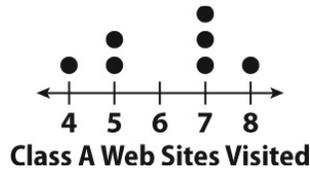
5. 25% of the students at School A got a score greater than 25 but less than or equal to 28.

Solve.

6.	A seventh-grade student chooses a random sample of 50 out of 400 students. He finds that 7 students have traveled outside the United States. The student claims that over 50 of the 400 students have likely traveled outside the United States. Is the student correct? Explain.	
7.	A metal-fabricating company produces 150,000 souvenir tokens each year. In a random sample of 400 tokens, 3 have stamping errors. Predict the total number of coins that will have stamping errors in a year.	

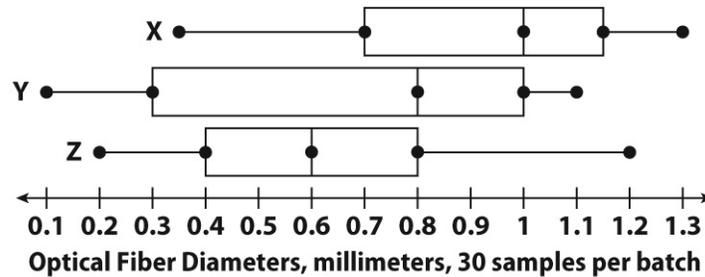
Use the description to complete Exercises 1–3.

Students in two science classes were asked to write a research paper. The students used the Internet to find web sites related to their research topics. Answer the questions about the two classes’ use of the Internet based on the samples in the dot plots.



1.	How do the ranges of visits compare?	
2.	How do the medians compare?	
3.	Compare the two classes’ usage of web sites. Include comments about the distribution of the data and which class has more “average” use of web sites.	

Use the box plots for Exercises 4–7.



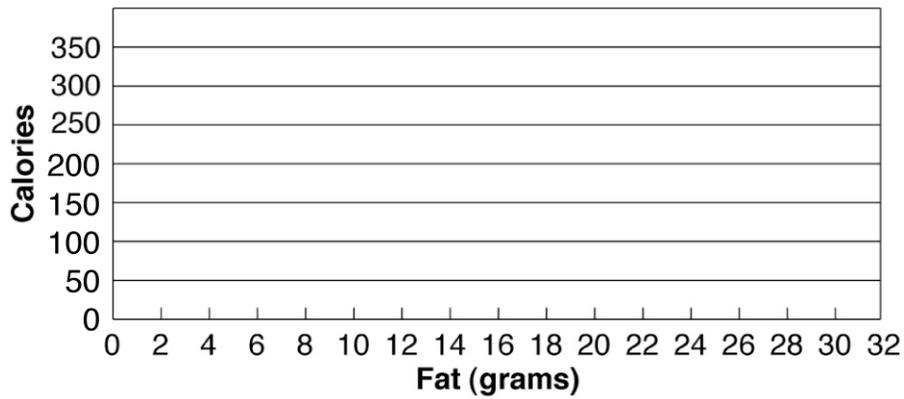
4.	Which batch of fibers has the smallest range of diameters among its samples?	
5.	In which batches are the median and upper quartile the same?	
6.	Which batch of fibers has outliers?	
7.	In which batch are 75% of the samples no greater than 1 millimeter?	

1. Use the given data to make a scatter plot.

Calories and Fat Per Portion of Meat and Fish

Food (Meat or Fish)	Fat (grams)	Calories
Fish Sticks (breaded)	3	50
Shrimp (fried)	9	190
Tuna (canned in oil)	7	170
Ground beef (broiled)	10	185
Roast beef (relatively lean)	7	165
Ham (light cure, lean and fat)	19	245

Calories and Fat Per Portion of Meat and Fish

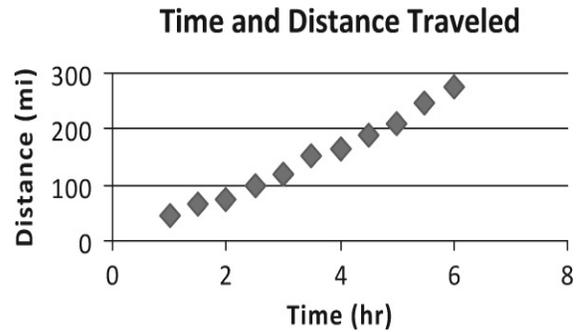


Do the data sets have a positive, a negative, or no correlation?

2.	The size of a bag of popcorn and the price of the popcorn	
3.	The temperature and number of snowboards sold	

Use the scatter plot for Exercises 1–6.

- Does the pattern of association between time (number of hours traveled) and distance (number of miles traveled) appear to be linear or nonlinear? Explain.



- Explain any clustering.
- Identify any possible outliers.
- Write an equation for the line of best fit.
- What does the slope of the line of best fit represent?
- What does the y-intercept of the line of best fit represent?

Find the mean absolute deviation for each data set.

- The number of kittens in 10 litters: 4, 5, 5, 6, 6, 7, 8, 8, 8, and 9

- The number of approved soy-based containers produced in 10 stamping runs of 240 containers: 225, 227, 227, 228, 230, 230, 231, 238, 238, and 240

- Two bowlers bowl the following number of strikes in 9 games.

1st bowler	8	5	5	6	8	7	4	7	6
2nd bowler	10	6	8	8	5	5	6	8	9

10.	What is the mean and the mean absolute deviation of the number of strikes of each bowler?	
11.	What does the mean absolute deviation suggest about each bowler's consistency?	