

Grade 6 · Statistical Questions and Data Displays · Worksheet

Common Core 6.SP.A.1, 6.SP.A.2, 6.SP.B.4, 6.SP.B.5a, 6.SP.B.5b · mathovore.fr

Name: _____ Date: ____/____/____ Score: _____

These 20 problems practice statistical questions and data displays. Students sort statistical and non-statistical questions, read and draw dot plots, histograms, and box plots, and describe a data set by its observations, attribute, and unit.

The last six problems cover choosing a display, a sleep survey, a library, a homework survey, step counters, and a bake sale. Every problem practices Common Core standards 6.SP.A.1, 6.SP.A.2, 6.SP.B.4, and 6.SP.B.5. Write units, label every axis, and describe clusters and any value far from the rest.

Grade 6 Common Core: 6.SP.A.1 · 6.SP.A.2 · 6.SP.B.4 · 6.SP.B.5a · 6.SP.B.5b

Problem 1: Statistical or not

Tell whether each question is a statistical question. Explain each answer in a few words.

- How many minutes does it take each student at Lincoln Middle School to get to school?
- How old is Coach Taylor?
- What is the price of a gallon of milk at Fresh Mart?
- What are the prices of a gallon of milk at stores across Ohio?

Problem 2: Spot the statistical question

Tell whether each question is a statistical question. Explain each answer in a few words.

- How many letters are in Sofia's first name?
- How many hours do sixth graders at Maple Middle School sleep on school nights?
- What was the high temperature in Denver on October 12?
- What are the daily high temperatures in Denver during October?

Problem 3: Describe the measurements

Jamal measured the heights of 12 bean plants with a ruler to the nearest centimeter. The heights were 14, 15, 15, 16, 16, 16, 17, 17, 18, 18, 19, and 22 centimeters.

- State the number of observations.
- State the attribute, the unit, and how the attribute was measured.
- Which height occurred most often, and how many times?

Problem 4: Reading a dot plot

The dot plot shows the number of siblings of 14 students. (a) How many students have exactly 2 siblings? (b) How many have more than 2 siblings? (c) What is the most common number of siblings?

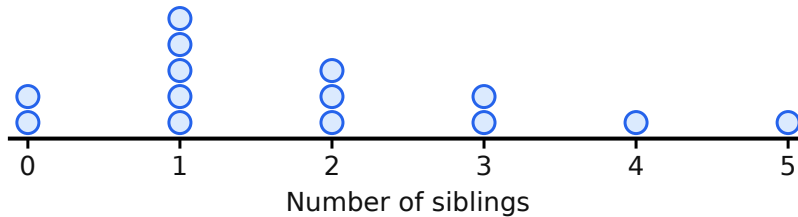
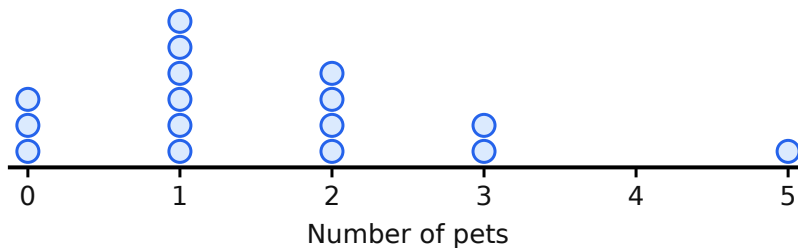


Figure for Problem 4.

Problem 5: Pets dot plot

The dot plot shows the number of pets in the homes of 16 sixth graders. (a) How many students have no pets? (b) How many have fewer than 2 pets? (c) How many have at least 3 pets? (d) What is the most common number of pets?



Pets per student.

Problem 6: Describe the data set

Mei used a ruler to measure the lengths of 10 pencils to the nearest inch. The lengths were 6, 7, 7, 7, 8, 8, 8, 8, 9, and 10 inches. State the number of observations, the attribute, the unit, and how the attribute was measured. Then tell which length occurred most often.

Problem 7: Draw a dot plot

Ten students scored 5, 6, 6, 7, 7, 7, 8, 8, 9, and 10 on a 10-point quiz. Draw a dot plot and describe where the scores cluster and how far they spread.

Problem 8: Reading a histogram

The histogram shows the time, in minutes, that 20 students take to get to school. Each interval includes its left endpoint but not its right endpoint. (a) How many students are shown? (b) How many students take less than 10 minutes? (c) Which interval has the most students? (d) How many students take 15 minutes or more?

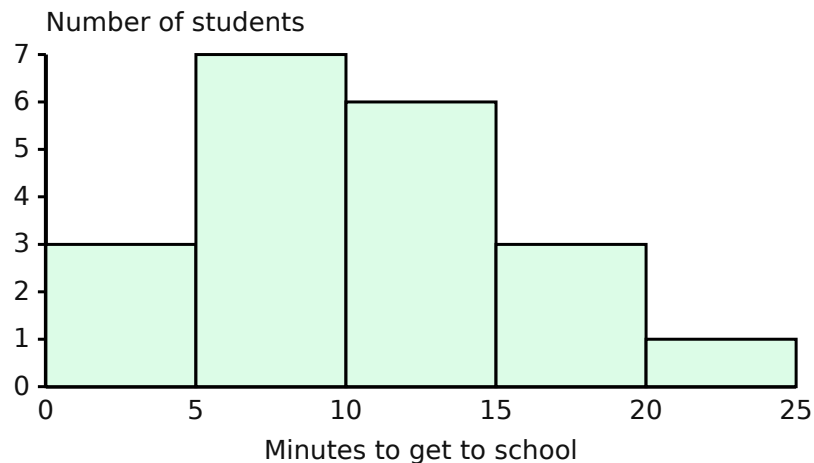
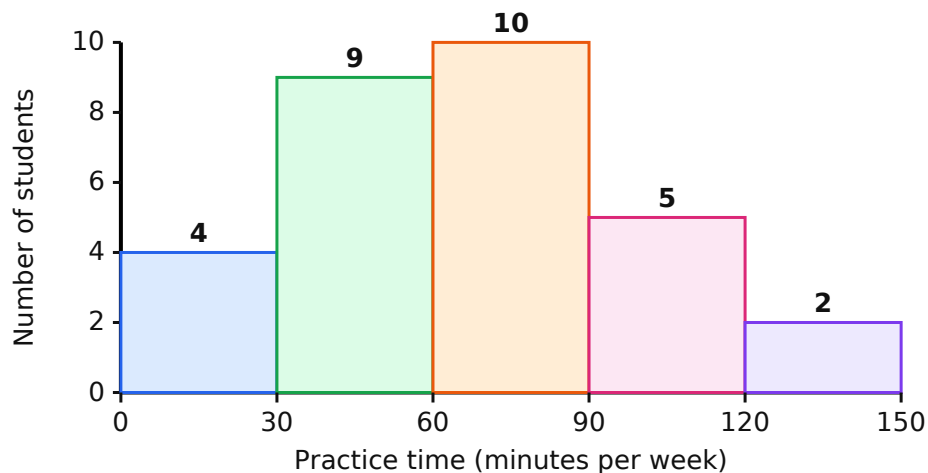


Figure for Problem 8.

Problem 9: Practice time histogram

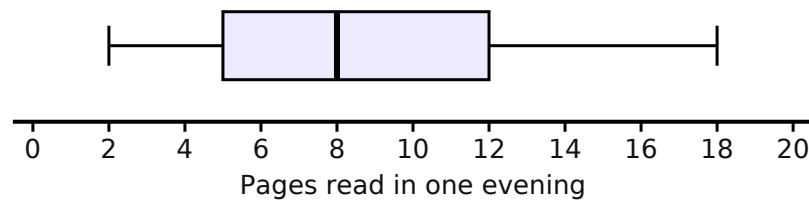
The histogram shows the minutes per week that 30 students practice a musical instrument. Each interval includes its left endpoint but not its right endpoint. (a) How many students are shown? (b) How many students practice less than 60 minutes? (c) Which interval has the most students? (d) How many students practice 90 minutes or more?



Weekly practice time.

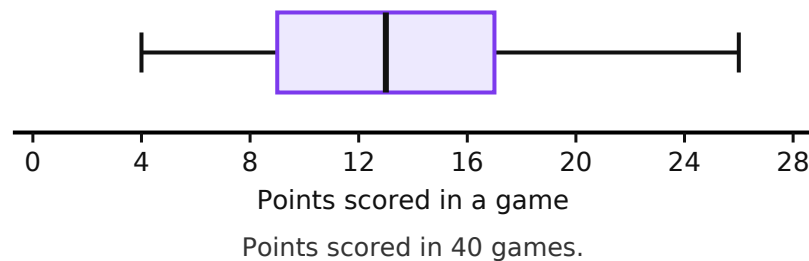
Problem 10: Reading a box plot

The box plot shows the number of pages read in one evening by a class. (a) What is the median? (b) What are the first and third quartiles? (c) Between which two numbers do the middle 50% of the values lie? (d) What are the smallest and largest values?



Problem 11: Points per game box plot

The box plot shows the points a basketball team scored in each of its 40 games. (a) What is the median? (b) What are the first and third quartiles? (c) About how many of the 40 games lie within the box? (d) Between which two numbers do the greatest 25% of the scores lie?



Problem 12: Make a box plot

Sofia counted the customers at her lemonade stand for 11 days: 9, 5, 13, 3, 16, 7, 10, 6, 12, 8, and 15. Find the minimum, Q_1 , median, Q_3 , and maximum. Then draw a box plot.

Problem 13: Quartiles of ten values

Aisha jogged for 14, 9, 21, 12, 17, 11, 25, 15, 10, and 18 minutes on ten days. Find the minimum, Q_1 , median, Q_3 , and maximum. Then draw a box plot.

Problem 14: Make a histogram

Twenty students each did as many push-ups as they could: 3, 4, 6, 7, 7, 8, 9, 10, 11, 11, 12, 12, 13, 14, 14, 15, 16, 17, 18, and 19. Each interval includes its left endpoint but not its right endpoint. Make a frequency table with the intervals 0 to 5, 5 to 10, 10 to 15, and 15 to 20. Then draw a histogram.

Problem 15: Choose the display

Choose the best display for each situation: a dot plot, a histogram, or a box plot. Explain each choice.

- The number of siblings of each of 15 students, with values from 0 to 5.
- The commute times of 60 students, with values from 2 to 85 minutes.
- The median and the quartiles of 40 test scores.

Problem 16: Hours of sleep

The histogram shows hours of sleep for 24 students. Each interval includes its left endpoint but not its right endpoint. (a) How many students were surveyed? (b) What fraction of the students slept 8 hours or more? (c) Describe the shape.

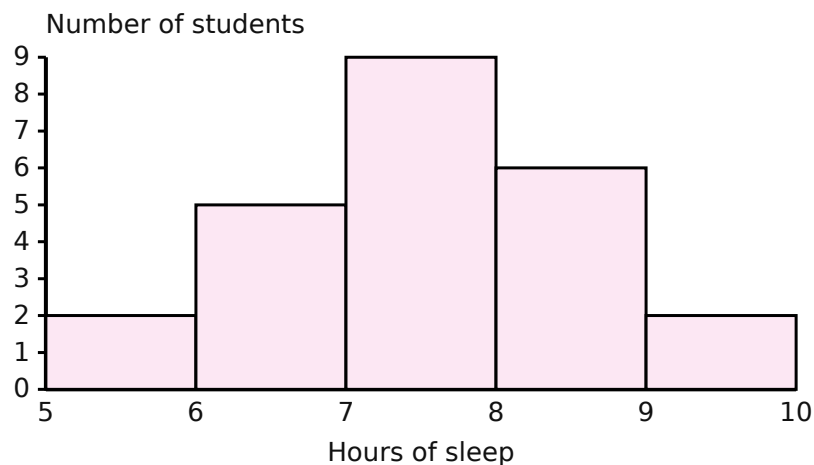
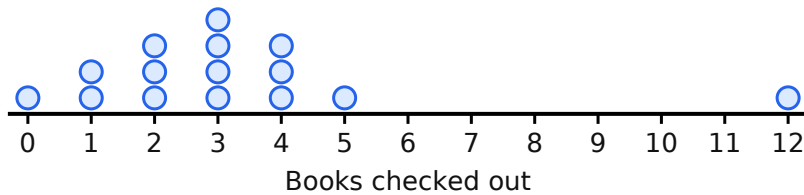


Figure for Problem 16.

Problem 17: Library books dot plot

The dot plot shows how many books each of 15 students checked out of the school library last month.

- How many observations are there?
- State the attribute and the unit.
- Which value is far from the rest of the data?
- Describe the cluster of the other values.
- How many students checked out more than 3 books?



Books checked out by 15 students.

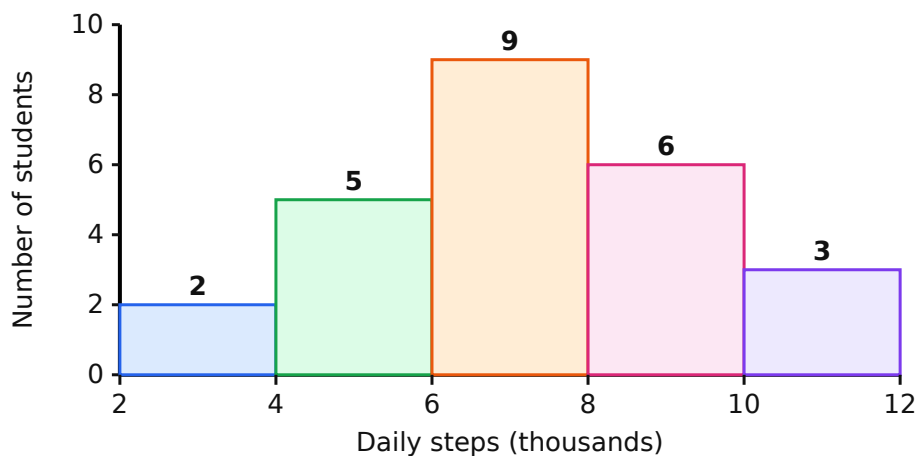
Problem 18: Homework survey

Priya asks 25 students, "How many hours do you spend on homework each week?" and records each answer to the nearest half hour. (a) Is this a statistical question? Explain. (b) State the number of observations, the attribute, the unit, and how it was measured. (c) The answers range from 0 to 14 hours with many different values. Which display is better, a dot plot or a histogram? Explain.

Problem 19: Step counts histogram

A class of 25 students wore step counters for one day. The histogram shows the steps in thousands. Each interval includes its left endpoint but not its right endpoint.

- How many students walked fewer than 8 thousand steps?
- What percent of the students walked 8 thousand steps or more?
- Describe the shape of the data.
- Can the histogram tell whether a student walked exactly 7,000 steps? Explain.



Daily steps for 25 students.

Problem 20: Bake sale spending

The dot plot shows how many dollars each of 12 customers spent at a school bake sale. (a) How many observations are there? (b) State the attribute and the unit. (c) Which value is far

from the rest? (d) Describe the cluster of the other values.

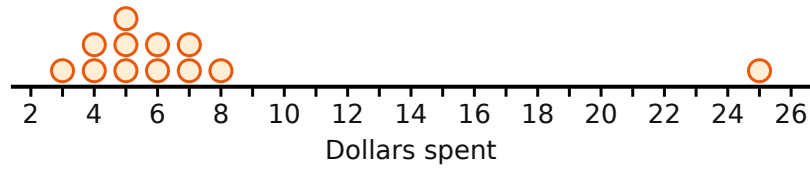


Figure for Problem 20.