

Grade 6 · Statistical Questions and Data Displays · Test Answer Key

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

This answer key gives a full worked solution and a scoring guide for each of the eight questions. The test is worth 20 points. Award partial credit as described, and accept any correct description of a cluster or a 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

Question 1: Statistical questions (2 points)

- a. **Not statistical.** It asks about one person on one day, so there is one answer.
- b. **Statistical.** Different students send different numbers of messages.

Scoring: 1 point for each correct classification with a reason.

Question 2: Write a question (2 points)

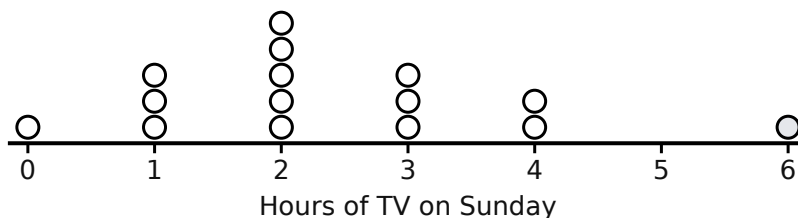
Sample answer: "**How many pets does each student in our sixth-grade class have?**"
The answers will vary from student to student.

Scoring: 1 point for asking about a group instead of one person; 1 point for a question that would produce different numerical answers.

Question 3: Dot plot (3 points)

- a. The dots at 3, 4, and 6 number $3+2+1=6$. **6 students.**
- b. Most of the data cluster from **1 to 3 hours**, with the tallest stack of 5 dots at 2 hours.
- c. The value **6 hours** is far from the rest.

Scoring: 1 point for each part.



Solution figure: the dot at 6 is the value far from the rest.

Question 4: Histogram (3 points)

- a. The intervals 0 to 20 and 20 to 40: $4+9=13$. **13 students.**
- b. The tallest bar has 10 students: **40 to 60 minutes.**
- c. The middle values are the 15th and 16th. The first two intervals hold 13 values, and the first three hold $13+10=23$. So the middle lies in **40 to 60 minutes.**

Scoring: 1 point for each part.

Question 5: Box plot (3 points)

- a. The line in the box is at **24 minutes.**
- b. The box runs from 18 to 33, so the middle half lies between **18 and 33 minutes.**
- c. The least value is **12** and the greatest value is **45.**

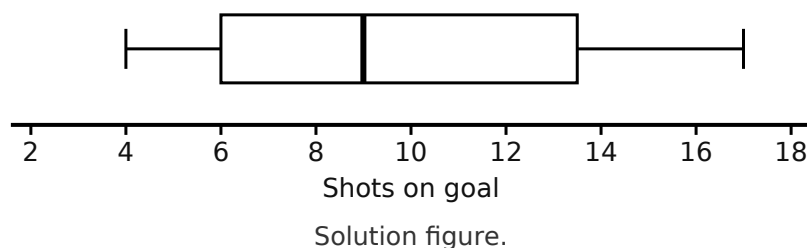
Scoring: 1 point for each part, with units.

Question 6: Draw a box plot (3 points)

- a. Ordered: 4, 6, 6, 8, 9, 11, 12, 15, 17. The median is the 5th value, 9. Lower half: 4, 6, 6, 8, so $Q_1 = \frac{6+6}{2} = 6$. Upper half: 11, 12, 15, 17, so $Q_3 = \frac{12+15}{2} = 13.5$. Minimum 4 and maximum 17.
- b. The box plot is drawn below.

4, 6, 9, 13.5, 17

Scoring: Part (a): 1 point for the median and extremes, 1 point for both quartiles. Part (b): 1 point for a correctly scaled box plot.



Question 7: Describe the data (2 points)

- a. There are **8 observations.** The attribute is **the time to finish the puzzle**, measured in **minutes.**
- b. The value **31 minutes** is far from the others, which are all from 12 to 16.

Scoring: 1 point for each part.

Question 8: Compare displays (2 points)

A dot plot shows every individual value as a dot, so the exact data can be read. A histogram groups the values into intervals and shows only how many values are in each interval.

Scoring: 1 point for a correct fact about a dot plot; 1 point for a correct contrasting fact about a histogram. Accept any accurate comparison.

Total
20 points