

Grade 6 · Statistical Questions and Data Displays · Quiz

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: _____

This quick quiz has ten multiple-choice questions on statistical questions, dot plots, histograms, and box plots. Choose one answer for each question. After you finish, read each explanation to see the common mistake behind the wrong choices.

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

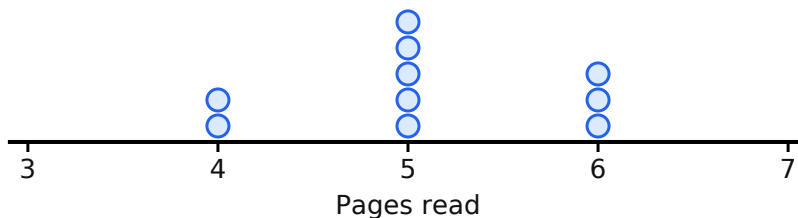
Questions

Question 1

Which question is a statistical question?

- A. How many hours did Ava sleep last night?
- B. How many hours of sleep do sixth graders at Park Middle get each night?
- C. What time does school start tomorrow?
- D. How many students are in room 12 right now?

Question 2

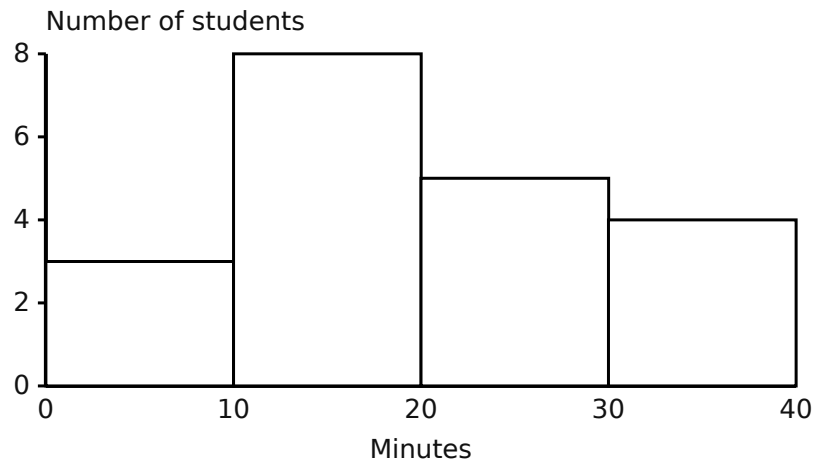


Dot plot for Question 2.

How many observations are shown in the dot plot?

- A. 3
- B. 15
- C. 10
- D. 5

Question 3

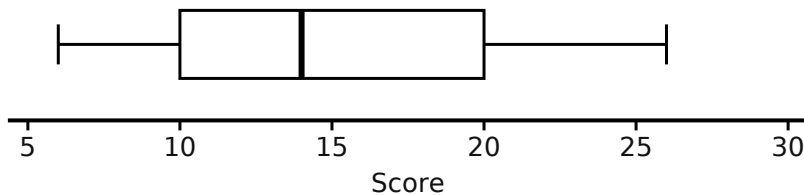


Histogram for Question 3.

How many values are shown in the histogram?

- A. 4
- B. 8
- C. 16
- D. 20

Question 4



Box plot for Question 4.

What fraction of the data lies between Q_1 and Q_3 ?

- A. $\frac{1}{2}$
- B. $\frac{1}{4}$
- C. $\frac{3}{4}$
- D. 1

Question 5

What are Q_1 and Q_3 for the data 2, 4, 6, 8, 10, 12, 14?

- A. $Q_1=2$, $Q_3=14$
- B. $Q_1=4$, $Q_3=12$

- C. $Q_1=6$, $Q_3=10$
- D. $Q_1=4$, $Q_3=14$

Question 6

Which display shows every individual data value?

- A. dot plot
- B. histogram
- C. box plot
- D. both histogram and box plot

Question 7

A student measured the heights of 12 sunflowers in inches. What are the attribute and unit?

- A. 12, inches
- B. sunflowers, feet
- C. inches, height
- D. height, inches

Question 8

A data value that is far from the rest of the data is called

- A. a cluster
- B. an outlier
- C. a peak
- D. a quartile

Question 9

In a histogram, each interval includes its left endpoint but not its right endpoint. In which interval is the value 20 counted: 10 to 20, 20 to 30, or 30 to 40?

- A. 10 to 20
- B. 30 to 40
- C. 20 to 30
- D. both 10 to 20 and 20 to 30

Question 10

In a box plot, what does the line inside the box show?

- A. the mean
- B. the maximum
- C. the median
- D. the range

Answer key

1. **B** – A statistical question expects varying answers from a group. The other questions each have a single answer.
2. **C** – Count every dot: $2+5+3=10$. Counting the number of different values gives 3.
3. **D** – Add the bar heights: $3+8+5+4=20$. The number of bars is 4, and 8 is only the tallest bar.
4. **A** – The box from Q_1 to Q_3 holds the middle half of the data. Each whisker holds one fourth.
5. **B** – The median is 8. The lower half is 2, 4, 6, so $Q_1=4$. The upper half is 10, 12, 14, so $Q_3=12$.
6. **A** – A dot plot has one dot for each value. A histogram and a box plot summarize the data.
7. **D** – The attribute is the quantity measured, height, and the unit is inches. The number 12 is the number of observations.
8. **B** – A cluster is a group of values close together, a peak is the tallest stack or bar, and a quartile divides the data.
9. **C** – The left endpoint belongs to the interval it starts, so 20 is counted in the interval 20 to 30.
10. **C** – The line marks the median, which splits the data into a lower half and an upper half.

Remember:

- A statistical question expects varying answers from a group.
- Describe a distribution by its center, spread, and shape.
- Dot plots show every value, histograms show counts in intervals, and box plots show five numbers.
- A box plot uses the minimum, Q_1 , median, Q_3 , and maximum.
- Always state the number of observations, the attribute, and the unit.