

Grade 6 · Statistical Questions and Data Displays · Worksheet 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

Every solution shows the counts or quartiles used and ends with a clearly marked answer. The solution figures show the dot plots and box plots that students are asked to draw. Compare your own graphs with them, checking the scale, the labels, and the position of each dot.

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

- a. **Statistical.** Each student's time can be different.
- b. **Not statistical.** There is one answer.
- c. **Not statistical.** One store has one price.
- d. **Statistical.** Different stores can have different prices.

Problem 2: Reading a dot plot

- (a) There are 3 dots above 2, so **3 students**.
- (b) More than 2 means 3, 4, or 5 siblings: $2+1+1=4$, so **4 students**.
- (c) The tallest stack is above 1 with 5 dots, so the most common number is **1 sibling**.

Problem 3: Describe the data set

Number of observations: **10 pencils**.

Attribute: **length of a pencil**. Unit: **inches**.

How measured: **with a ruler, to the nearest inch**.

Most often: 8 inches appears 4 times, so the most common length is **8 inches**.

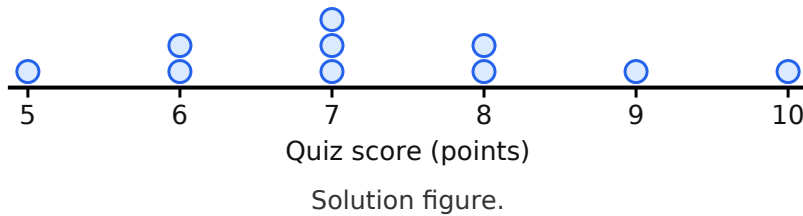
Problem 4: Draw a dot plot

Draw a number line from 5 to 10 and put one dot for each score, stacking repeated scores.

The tallest stack is at 7 with 3 dots. Most scores are from 6 to 8, and all scores are from 5 to

10, so the scores spread over 5 points. There are no gaps.

Number of observations: **10**.



Problem 5: Reading a histogram

(a) $3+7+6+3+1=20$, so **20 students**.

(b) The intervals 0 to 5 and 5 to 10: $3+7=10$, so **10 students**.

(c) The tallest bar has 7 students, so the interval is **5 to 10 minutes**.

(d) The intervals 15 to 20 and 20 to 25: $3+1=4$, so **4 students**.

Problem 6: Reading a box plot

(a) The line in the box is at **8**.

(b) The box runs from **5** to **12**, so $Q_1=5$ and $Q_3=12$.

(c) The middle half of the values lie between **5 and 12**.

(d) The whiskers end at **2** and **18**.

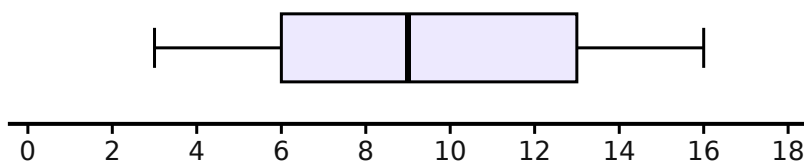
Problem 7: Make a box plot

Order the data: 3, 5, 6, 7, 8, 9, 10, 12, 13, 15, 16.

The median is the 6th value, **9**.

Lower half: 3, 5, 6, 7, 8, so $Q_1=6$. Upper half: 10, 12, 13, 15, 16, so $Q_3=13$.

Minimum **3**, maximum **16**.



Customers per day

Solution figure.

Problem 8: Hours of sleep

(a) $2+5+9+6+2=24$, so **24 students**.

(b) The intervals 8 to 9 and 9 to 10 hold $6+2=8$ students. $\frac{8}{24}=\frac{1}{3}$, so $\frac{1}{3}$ of the students.

(c) The data peak at 7 to 8 hours and fall off evenly on both sides, so the shape is **roughly symmetric** with its center in the 7 to 8 hour interval.

Problem 9: Homework survey

(a) **Yes**. Students will give different answers, so the data vary.

(b) Number of observations: **25**. Attribute: **time spent on homework each week**. Unit: **hours**. Measured by **a survey, to the nearest half hour**.

(c) A **histogram** is better. With 25 values spread over many different numbers, a dot plot would have too many tiny stacks, while a histogram groups the values into intervals and shows the overall shape.

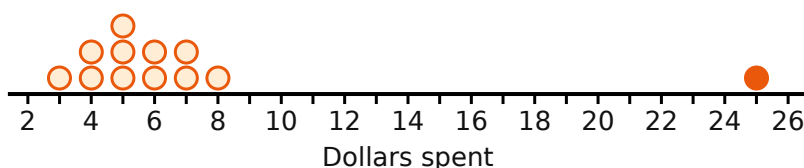
Problem 10: Bake sale spending

(a) There are **12 dots**.

(b) The attribute is **the amount a customer spent**, in **dollars**.

(c) The dot at **\$25** is far from the others.

(d) The other 11 values cluster from **\$3 to \$8**, with the tallest stack of 3 dots at **\$5**. The values spread over **\$5** in the cluster.



Solution figure: the dot at 25 is the value far from the rest.