

Line Plots

A line plot is a number line with an X for each data value. Stack the Xs above the right number, and you can see which values appear most often at a glance.

Term	Meaning
Mode	The value with the most Xs (appears most often)
Range	The largest value minus the smallest value
Total data points	Total number of Xs on the plot

Key Concepts

1. A **line plot** (or dot plot) puts an X above a number line for each data value.
2. The **mode** is the value with the most Xs. (If two values tie, there can be more than one mode.)
3. The **range** is the difference between the biggest and smallest values: largest – smallest.
4. To find the total data points, count every X.

Worked Examples

① How many students read 5 books?

 Count the Xs stacked above 5. (Example: 3 Xs → 3 students.)

 **Answer: 3**

② What is the mode?

 Find the value with the most Xs. (Example: 5 has the tallest stack.)

 **Answer: 5**

③ What is the range?

 Largest value – smallest value. (Example: data from 2 to 6 gives $6 - 2 = 4$.)

 **Answer: 4**

Practice Problems

Use the line plot data to answer.

1. How many students read 3 books? _____
2. How many read 2 books? _____
3. How many read 6 books? _____
4. Total students on the plot? _____
5. How many more read 5 than 4? _____
6. How many read fewer than 4 books?

7. Data: 1,1,2,2,2,3. Mode = ? _____
8. Data: 4,5,5,6,7,7,7. Mode = ? _____
9. Data: 3,4,5,8. Range = ? _____
10. Data: 10,12,15,15. Range = _____ ?
11. Data: 2,2,3,3,3,4. Total data points = ? _____
12. Data: 6,6,6,7,8. How many are 6? _____

Study Tips

- 👉 Each X is one data point. Count every X carefully — a line plot can mislead if you skip a stack.
- 👉 Mode = “most.” If you forget the word, just look for the tallest column.
- 👉 Range = “the spread.” Subtract the smallest from the biggest.

Word Problems

1. A line plot shows pencil lengths: 4 in (3 Xs), 5 in (5 Xs), 6 in (2 Xs). How many pencils were measured in all?

Answer: _____

2. Using the same data, what is the mode and the range?

Answer: _____

Answer Key — with Friendly Explanations

Practice Problems

1. Read the count above 3.

 **Answer:** *Read directly*

2. Read the count above 2.

 **Answer:** *Read directly*

3. Read the count above 6.

 **Answer:** *Read directly*

4. Sum every X on the plot.

 **Answer:** *Total Xs*

5. (# above 5) – (# above 4).

 **Answer:** *Difference*

6. Add Xs above 1, 2, 3 (values fewer than 4).

 **Answer:** *Sum below 4*

7. Most 2's.

 **Answer:** 2

8. Most 7's.

 **Answer:** 7

9. $8 - 3 = 5$.

 **Answer:** 5

10. $15 - 10 = 5$.

 **Answer:** 5

11. 6 values total.

 **Answer:** 6

12. Three 6's.

 **Answer:** 3

Word Problems

1. $3 + 5 + 2 = 10$ pencils.

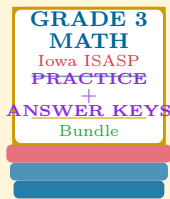
 **Answer:** *10 pencils*

2. Mode 5 in (tallest stack); Range $6 - 4 = 2$ in.

 **Answer:** *Mode = 5, Range = 2*

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