

## 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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