Unit 10 · Data, Line Plots, and Multi-Step Word Problems Cheat Sheet

Unit 10 focus: making and reading line plots with fractions

1 Big Idea

A line plot shows each measurement as an X above a number line. Use it to count, compare, add and subtract.

2 Important Vocabulary

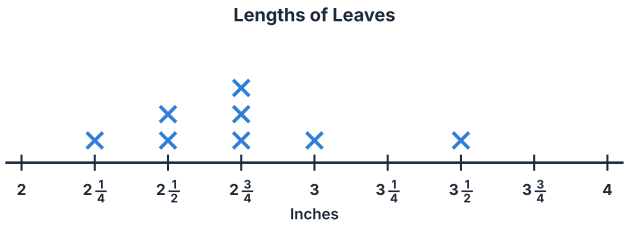
line plot	A graph that shows data as X marks above a number line.	Lengths of pencils
data	Information that has been collected.	The lengths of 10 leaves
scale	The numbers and marks on the number line of a graph.	Marks at every $\frac{1}{4}$ inch
difference	How much greater one amount is than another.	$3\frac{1}{2} - 2\frac{1}{4} = 1\frac{1}{4}$

3 How It Works

The longest leaf is $3\frac{1}{2}$ inches and the shortest is $2\frac{1}{4}$ inches. Find the difference.

Example: Use fourths: $3\frac{1}{2} = 3\frac{2}{4}$
Wholes: $3 - 2 = 1$
Fractions: $\frac{2}{4} - \frac{1}{4} = \frac{1}{4}$
Answer: $1\frac{1}{4}$ inches

4 Visual Model



8 leaves were measured. The most common length is $2\frac{3}{4}$ inches (3 X marks).

5 Remember This · Watch Out!

★ Remember this

- Each X is one measurement. Count every X.
- Tallest stack = most common value. Farthest right = greatest value.

⚠ Watch out!

- **Count X marks, not columns:** three X marks above one number are three measurements
- **Use the same denominator:** rename $\frac{1}{2}$ as $\frac{2}{4}$ before you subtract fourths

6 Try It!

1. Data: $\frac{1}{2}$, $\frac{3}{4}$, $\frac{3}{4}$, 1, $\frac{3}{4}$. How many X marks go above $\frac{3}{4}$?
   Answer: ε
2. Two ribbons are $1\frac{3}{4}$ feet and $2\frac{1}{4}$ feet. What is the total length?
   Answer: ʇǝǝɟ ⊁

Answers are printed upside down. Turn the page to check!

Unit 10 · Data, Line Plots, and Multi-Step Word Problems Cheat Sheet

More practice: multi-step word problems and equations

1 Big Idea

Solve multi-step problems one step at a time. Write an equation with a letter for the unknown, then check with an estimate.

2 Important Vocabulary

multi-step problem	A problem that takes more than one step to solve.	Multiply, then subtract
equation	A number sentence with an equals sign.	$n = 4 \times 25 - 30$
unknown	The amount you need to find, often shown with a letter.	n stands for the number left
reasonable	Makes sense and is close to the estimate.	1,156 is reasonable for 4×289

3 How It Works

Mia buys 4 packs of 25 stickers and gives away 30. How many are left?

Example: $n = 4 \times 25 - 30$
Multiply: $4 \times 25 = 100$
Subtract: $100 - 30 = 70$
Check: about $100 - 30 = 70$

Answer: 70 stickers

4 Visual Model

1. Read. What is the question?
2. Plan. Which steps? Write an equation with a letter.
3. Solve. One step at a time.
4. Check. Is the answer close to your estimate? Does it answer the question?

5 ★ Remember This · Watch Out!

★ Remember this

- Multiply or divide before you add or subtract, unless parentheses say otherwise.
- Decide what the remainder means before you answer.

⚠ Watch out!

- **Do not stop after one step:** reread the question
- **Label the answer:** 70 stickers, not just 70

6 Try It!

1. A class has 6 tables with 4 students and 3 students at the rug. How many students?
   Answer: 27
2. 125 students, 4 buses of 28. The rest ride in vans of 6. How many vans?
   Answer: 3

Answers are printed upside down. Turn the page to check!