Line Plots with Fractions

Explore ideas and representations

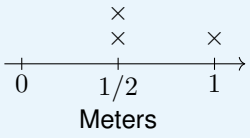
Name _____ **Date** _____ **Score** _____ / 6

QUICK REVIEW

A line plot puts one X above each measurement. Stack marks at lengths that repeat. To add lengths, count every mark and use equal-sized units. On a fourths plot, each small step is $\frac{1}{4}$ m.

Worked example

Find the total length of the pieces shown.



1. Read every mark as a length, in equal steps of $\frac{1}{2}$ m.

2. $1 + 1 + 2 = 4$ steps in all.

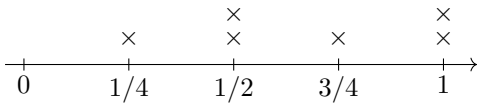
3. The total length is $\frac{4}{2} = 2$ m.

Answer: 2 m.

Practice Problems

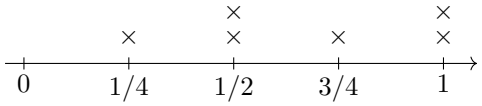
Show your thinking.

1. How many ribbons are shown?



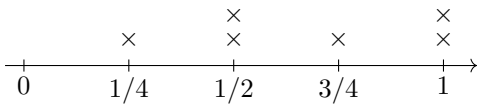
Meters; one X = one item

2. How many ribbons measure $\frac{1}{2}$ m?



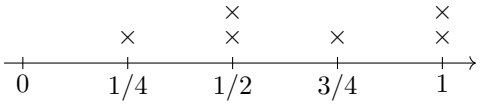
Meters; one X = one item

3. Find the total length of all the ribbons.



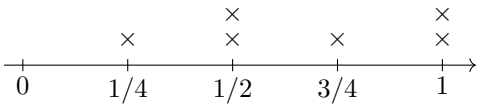
Meters; one X = one item

4. How much longer is the longest ribbon than the shortest?



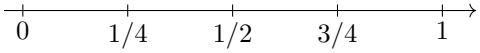
Meters; one X = one item

5. How many ribbons are strictly longer than $\frac{1}{2}$ m?



Meters; one X = one item

6. Draw a line plot for these ribbon lengths. Measurements (m): $\frac{1}{4}$, $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, $\frac{3}{4}$.



Meters; one X = one item

Answer Key

1. 6 items.
2. 2 items.
3. 4 m.
4. $\frac{3}{4}$ m.
5. 3 items.
6. Stacks (length in m): $\frac{1}{4}$: 2, $\frac{1}{2}$: 1, $\frac{3}{4}$: 2.

Step-by-Step Solutions

Follow each calculation, then check your own work.

Problem 1

1. Count the X marks in each occupied stack, from left to right.
2. $1 + 2 + 1 + 2 = 6$ marks.
3. Each mark represents one item, so there are 6 items.

Problem 2

1. Find $\frac{1}{2}$ m on the axis.
2. Count the 2 crosses in that stack.
3. Each is one item of that length, giving 2 matching items.

Problem 3

1. Read every mark as a length, in equal steps of $\frac{1}{4}$ m.
2. $1 + 2 + 2 + 3 + 4 + 4 = 16$ steps in all.
3. The total length is $\frac{16}{4} = 4$ m.

Problem 4

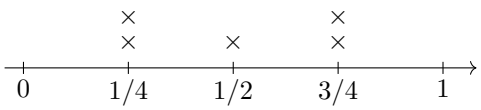
1. The first occupied tick is $\frac{1}{4} = \frac{1}{4}$ m.
2. The last is $1 = \frac{4}{4}$ m.
3. There are $4 - 1 = 3$ equal steps between them, a difference of $\frac{3}{4}$ m.

Problem 5

1. Look strictly to the right of $\frac{1}{2}$ m. Ignore the stack at the cutoff.
2. Count the marks at $\frac{3}{4}$, 1 m.
3. $1 + 2 = 3$ items are longer than the cutoff.

Problem 6

1. Tally repeats: $\frac{1}{4}$ has 2, $\frac{1}{2}$ has 1, $\frac{3}{4}$ has 2.
2. Place one X for every measurement above its tick.
3. $2 + 1 + 2 = 5$ marks in the completed plot.



Meters; one X = one item

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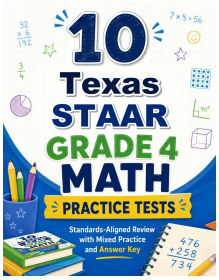

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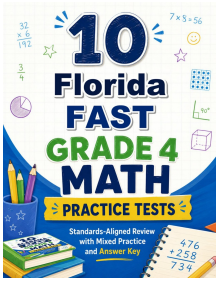

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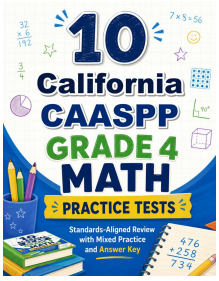

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