

Grade 4 - Line Plots with Fractions - Answer Key

Common Core 4.MD.B.4 · maths-pdf.fr/en/

Each answer shows how to read the plot, add or subtract the fractions, and write the final answer in bold. When a problem asks you to make a plot, the answer shows the finished plot. Use the steps to check your own work.

Grade 4 · Common Core State Standards: **4.MD.B.4**

Exercise 1 - Count the dots

Count the dots: $2 + 4 + 3 + 1 = 10$.

10 caterpillars

Exercise 2 - Most common length

The tallest stack has 4 dots, above $\frac{1}{2}$ inch.

$\frac{1}{2}$ inch

Exercise 3 - Longest and shortest

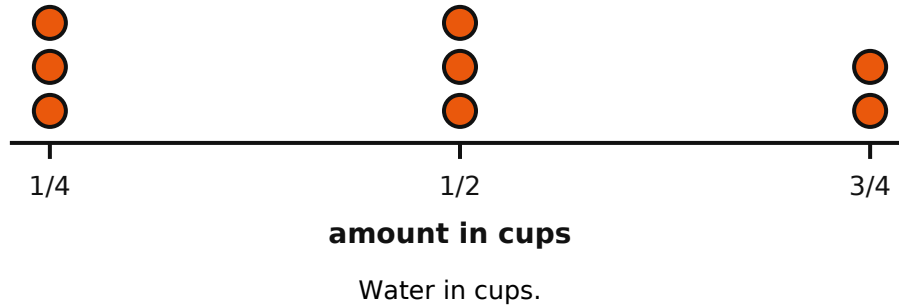
Longest: 1 inch. Shortest: $\frac{1}{4}$ inch.

$$1 - \frac{1}{4} = \frac{4}{4} - \frac{1}{4} = \frac{3}{4}.$$

$\frac{3}{4}$ inch longer

Exercise 4 - Make a line plot

Count each measurement: $\frac{1}{4}$ appears 3 times, $\frac{1}{2}$ appears 3 times, $\frac{3}{4}$ appears 2 times. That is 8 dots.



3 dots, 3 dots, 2 dots

Exercise 5 - Longer than half

Longer than $\frac{1}{2}$ inch means $\frac{3}{4}$ inch and 1 inch: $3 + 1 = 4$.

4 caterpillars

Exercise 6 - Add two lengths

$$1 + \frac{1}{4} = 1\frac{1}{4}.$$

$1\frac{1}{4}$ inches

Exercise 7 - Eighths of an inch

Longer than $\frac{1}{4}$ inch: $\frac{3}{8}$ inch has 2 dots and $\frac{1}{2}$ inch has 2 dots. $2+2=4$.

4 beads

Exercise 8 - One column total

There are 3 dots at $\frac{1}{4}$: $\frac{1}{4} + \frac{1}{4} + \frac{1}{4} = \frac{3}{4}$.

$\frac{3}{4}$ inch

Exercise 9 - Difference in eighths

Longest $\frac{1}{2} = \frac{4}{8}$, shortest $\frac{1}{8}$.

$$\frac{4}{8} - \frac{1}{8} = \frac{3}{8}.$$

$\frac{3}{8}$ inch

Exercise 10 - Plant heights

At least 1 foot means 1, 1 $\frac{1}{2}$, and 2 feet: $2+4+1=7$.

7 plants

Exercise 11 - Tallest column total

4 dots: $1\frac{1}{2} + 1\frac{1}{2} = 3$, then $3 + 1\frac{1}{2} = 4\frac{1}{2}$, then $4\frac{1}{2} + 1\frac{1}{2} = 6$.

6 feet

Exercise 12 - Compare two columns

2 plants at 1 foot: $1+1=2$ feet.

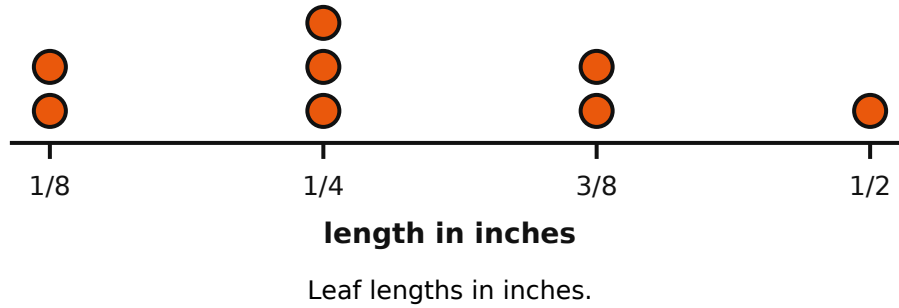
3 plants at $\frac{1}{2}$ foot: $\frac{1}{2} + \frac{1}{2} + \frac{1}{2} = 1\frac{1}{2}$ feet.

$$2 - 1\frac{1}{2} = \frac{1}{2}.$$

$\frac{1}{2}$ foot

Exercise 13 - Plot from a list

Counts: $\frac{1}{8}$ appears 2 times, $\frac{1}{4}$ appears 3 times, $\frac{3}{8}$ appears 2 times, $\frac{1}{2}$ appears 1 time.



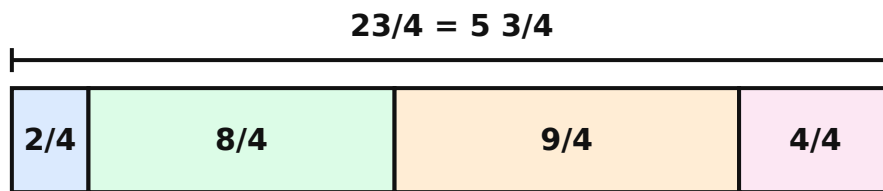
Longer than $\frac{1}{4}$ inch: $\frac{3}{8}$ (2 dots) and $\frac{1}{2}$ (1 dot), so $2+1=3$.

3 leaves

Exercise 14 - Total of all caterpillars

Think in fourths. 2 dots at $\frac{1}{4}$ make $\frac{2}{4}$. 4 dots at $\frac{2}{4}$ make $\frac{8}{4}$. 3 dots at $\frac{3}{4}$ make $\frac{9}{4}$. 1 dot at $\frac{4}{4}$ makes $\frac{4}{4}$.

$$\frac{2}{4} + \frac{8}{4} + \frac{9}{4} + \frac{4}{4} = \frac{23}{4} = 5\frac{3}{4}.$$



Fourths added up.

$5\frac{3}{4}$ inches

Exercise 15 - Rainfall

0 in: 2 days add nothing. $\frac{1}{4}$ in: 3 days, $\frac{3}{4}$. Then add $\frac{1}{2} + \frac{3}{4} + 1$.

In fourths: $\frac{3}{4} + \frac{2}{4} + \frac{3}{4} + \frac{4}{4} = \frac{12}{4} = 3$.

3 inches

Exercise 16 - Apple bags

1 bag of $\frac{1}{2}$ lb: $\frac{1}{2}$. 4 bags of 1 lb: 4. 3 bags of $1\frac{1}{2}$ lb: $1\frac{1}{2}+1\frac{1}{2}+1\frac{1}{2}=4\frac{1}{2}$. 1 bag of 2 lb: 2.

Total: $\frac{1}{2}+4+4\frac{1}{2}+2=11$ pounds.

Difference: $2-\frac{1}{2}=1\frac{1}{2}$ pounds.

11 lb total; heaviest is $1\frac{1}{2}$ lb heavier

Exercise 17 - Seedlings

Tallest $\frac{5}{8}$, shortest $\frac{1}{4}=\frac{2}{8}$.

$$\frac{5}{8}-\frac{2}{8}=\frac{3}{8}.$$

Taller than $\frac{3}{8}$: $\frac{1}{2}$ (3 dots) and $\frac{5}{8}$ (1 dot), $3+1=4$.

$\frac{3}{8}$ inch taller; 4 seedlings

Exercise 18 - Long jump

1 jump of 3: 3. 2 jumps of $3\frac{1}{2}$: $3\frac{1}{2}+3\frac{1}{2}=7$. 3 jumps of 4: 12. 2 jumps of $4\frac{1}{2}$: $4\frac{1}{2}+4\frac{1}{2}=9$.

Total: $3+7+12+9=31$ feet.

Difference: $4\frac{1}{2}-3=1\frac{1}{2}$ feet.

31 ft; $1\frac{1}{2}$ ft farther

Exercise 19 - Sugar scoops

3 scoops of $\frac{1}{4}$: $\frac{3}{4}$. 2 scoops of $\frac{1}{2}$: 1. 3 scoops of $\frac{3}{4}$: $\frac{9}{4}$.

In fourths: $\frac{3}{4}+\frac{4}{4}+\frac{9}{4}=\frac{16}{4}=4$ cups.

Still needed: $5-4=1$ cup.

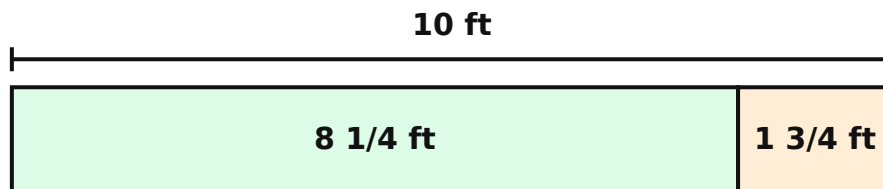
1 cup

Exercise 20 - Rope pieces

In fourths: 3 pieces of $\frac{2}{4}$ make $\frac{6}{4}$. 2 pieces of $\frac{3}{4}$ make $\frac{6}{4}$. 4 pieces of $\frac{4}{4}$ make $\frac{16}{4}$. 1 piece of $\frac{5}{4}$ makes $\frac{5}{4}$.

Total: $\frac{6}{4} + \frac{6}{4} + \frac{16}{4} + \frac{5}{4} = \frac{33}{4} = 8\frac{1}{4}$ feet.

Needed: $10 - 8\frac{1}{4} = 9\frac{4}{4} - 8\frac{1}{4} = 1\frac{3}{4}$ feet.



10 ft in all.

$1\frac{3}{4}$ feet