

Grade 5 - Line Plots and Data - Quiz

Common Core 5.MD.B.2 · maths-pdf.fr/en/

Name: _____ Class: _____ Date: ____/____/____

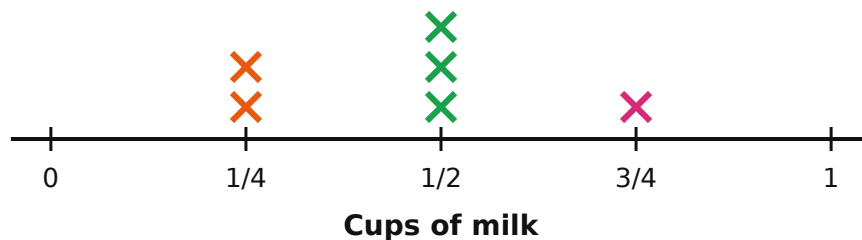
Check what you know about line plots with fractions. These 10 multiple-choice questions use halves, fourths and eighths. Choose the single best answer, then read the explanation for the common mistake.

Grade 5 · Common Core State Standards: **5.MD.B.2**

Questions

Question 1

What is the total of all the measurements, in cups?



Line plot. Each X is one measurement. Label: Cups of milk.

- A. $1\frac{1}{2}$ cups
- B. 6 cups
- C. $2\frac{1}{2}$ cups
- D. $2\frac{3}{4}$ cups

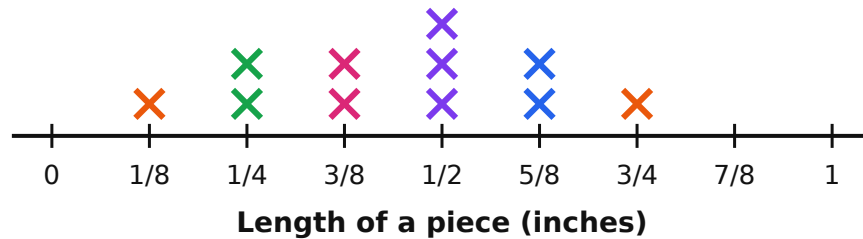
Question 2

Four glasses hold $\frac{1}{4}$, $\frac{1}{4}$, $\frac{3}{4}$ and $\frac{3}{4}$ cup of juice. The juice is shared equally. How much is in each glass?

- A. 2 cups
- B. $\frac{1}{2}$ cup
- C. $\frac{3}{4}$ cup
- D. $\frac{1}{8}$ cup

Question 3

How many pieces are longer than $\frac{1}{2}$ inch?



Line plot. Each X is one measurement. Label: Length of a piece (inches).

- A. 3
- B. 6
- C. 2
- D. 1

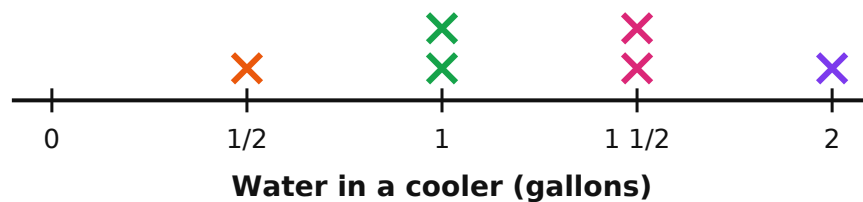
Question 4

The shortest nail is $\frac{1}{8}$ inch and the longest is $\frac{3}{4}$ inch. How much longer is the longest nail?

- A. $\frac{7}{8}$ inch
- B. $\frac{1}{4}$ inch
- C. $\frac{1}{8}$ inch
- D. $\frac{1}{2}$ inch

Question 5

Six coolers are leveled so each holds the same amount. How much water is in each cooler?



Line plot. Each X is one measurement. Label: Water in a cooler (gallons).

- A. $7\frac{1}{2}$ gallons
- B. $1\frac{1}{4}$ gallons
- C. $1\frac{1}{2}$ gallons
- D. 1 gallon

Question 6

Maya has $\frac{3}{8}$ pound of beads and Jamal has $\frac{5}{8}$ pound. They share equally. How many pounds

does each get?

- A. $\frac{1}{2}$ pound
- B. 1 pound
- C. $\frac{1}{4}$ pound
- D. $\frac{3}{4}$ pound

Question 7

Three pieces of ribbon are each $\frac{3}{8}$ yard long. What is their total length?

- A. $\frac{9}{24}$ yard
- B. $1\frac{1}{8}$ yards
- C. $\frac{3}{8}$ yard
- D. $1\frac{3}{8}$ yards

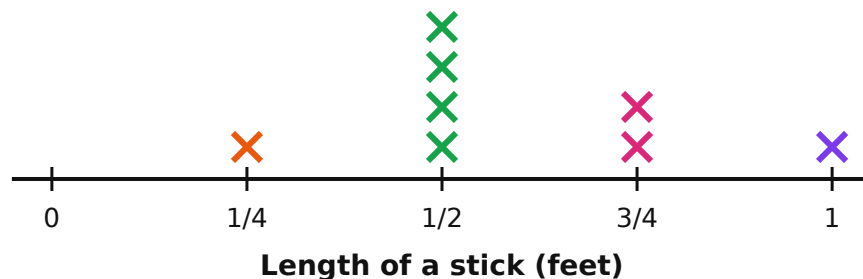
Question 8

Mei measured $\frac{1}{2}$ inch of rain, then $\frac{3}{4}$ inch, then $\frac{1}{4}$ inch. How many more inches are needed to reach 2 inches?

- A. $\frac{1}{2}$ inch
- B. $1\frac{1}{2}$ inches
- C. $\frac{1}{4}$ inch
- D. $2\frac{1}{2}$ inches

Question 9

Which expression gives the total of the data?



- A. $\frac{1}{4} + \frac{1}{2} + \frac{3}{4} + 1$
- B. $8 \times \frac{1}{2}$
- C. $1 + 4 + 2 + 1$
- D. $1 \times \frac{1}{4} + 4 \times \frac{1}{2} + 2 \times \frac{3}{4} + 1 \times 1$

Question 10

Two plants are $\frac{3}{4}$ foot and $1\frac{1}{4}$ feet tall. If their heights were leveled, how tall would each plant be?

- A. 2 feet
- B. $\frac{1}{2}$ foot
- C. 1 foot
- D. $1\frac{1}{4}$ feet

Answers

1. **D** - $2 \times \frac{1}{4} + 3 \times \frac{1}{2} + \frac{3}{4} = \frac{1}{2} + 1\frac{1}{2} + \frac{3}{4} = 2\frac{3}{4}$. Adding $\frac{1}{4} + \frac{1}{2} + \frac{3}{4}$ only once gives $1\frac{1}{2}$.
2. **B** - The total is 2 cups. Divide by 4 glasses: $2 \div 4 = \frac{1}{2}$ cup.
3. **A** - Longer than $\frac{1}{2}$ means only the marks $\frac{5}{8}$ and $\frac{3}{4}$: $2 + 1 = 3$. Including the $\frac{1}{2}$ mark gives 6, a common mistake.
4. **C** - Subtract: $\frac{3}{4} - \frac{1}{8} = \frac{6}{8} - \frac{1}{8} = \frac{5}{8}$. Adding gives $\frac{7}{8}$.
5. **B** - Total is $\frac{1}{2} + 2 + 3 + 2 = 7\frac{1}{2}$. Divide by 6 coolers: $7\frac{1}{2} \div 6 = 1\frac{1}{4}$.
6. **A** - Total $\frac{3}{8} + \frac{5}{8} = 1$ pound, then $1 \div 2 = \frac{1}{2}$. Stopping at the total gives 1 pound.
7. **B** - $3 \times \frac{3}{8} = \frac{9}{8} = 1\frac{1}{8}$. Adding numerators and denominators gives $\frac{9}{24}$, which is wrong.
8. **A** - The total is $\frac{1}{2} + \frac{3}{4} + \frac{1}{4} = 1\frac{1}{2}$. Then $2 - 1\frac{1}{2} = \frac{1}{2}$.
9. **D** - Multiply each value by its number of X's, then add. Adding the marks once ignores the counts.
10. **C** - The total is $\frac{3}{4} + 1\frac{1}{4} = 2$. Divide by 2 plants to get 1 foot.

Remember

- Each X on a line plot stands for one measurement.
- Multiply the count of X's by the fraction to find the total at one mark.
- Add the totals from all marks to find the sum of all the data.
- Equal share = total amount $\div$ number of containers.
- Greatest value minus least value tells how far the data spread.