

Grade 4 · Line Plots with Fractions · Test Answer Key

Common Core 4.MD.B.4 · mathovore.fr

Use this answer key to score the test out of 20 points. Each solution shows the work and a scoring guide. Give partial credit as described, and accept equivalent fractions such as two fourths for one half.

Grade 4 Common Core: 4.MD.B.4

Question 1: Reading a number line (2 points)

Each step is $\frac{1}{8}$. (a) C is 5 steps from 0: $\frac{5}{8}$. (b) D is 9 steps from 0: $1\frac{1}{8}$.

Scoring: 1 point for each correct value. Accept $1\frac{1}{8}$ written as $\frac{9}{8}$.

Question 2: Reading a line plot (2 points)

(a) Two marks are above 1: **2 ribbons**. (b) The tallest stack has 3 marks above $\frac{3}{4}$: $\frac{3}{4}$ ft.

Scoring: 1 point for each correct answer.

Question 3: Counting and comparing (2 points)

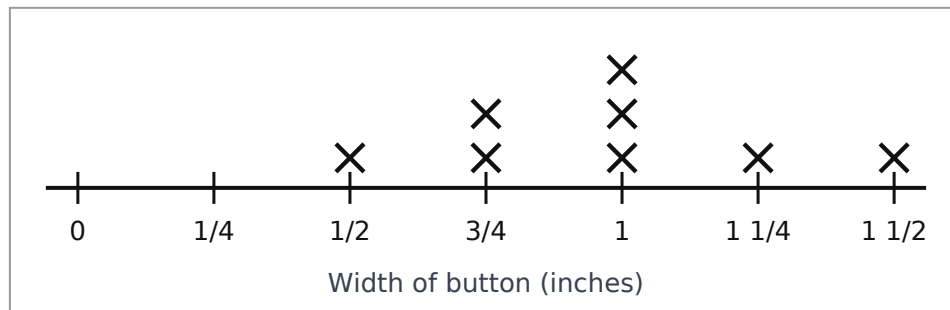
(a) $1 + 1 + 2 + 1 + 2 + 1 + 1 =$ **9 screws**.

(b) Screws longer than $1\frac{1}{4}$ are at $1\frac{3}{8}$ (1), $1\frac{1}{2}$ (2), $1\frac{5}{8}$ (1), $1\frac{3}{4}$ (2), $1\frac{7}{8}$ (1), 2 (1): $1 + 2 + 1 + 2 + 1 + 1 =$ **8 screws**.

Scoring: 1 point for each correct count.

Question 4: Make a line plot (3 points)

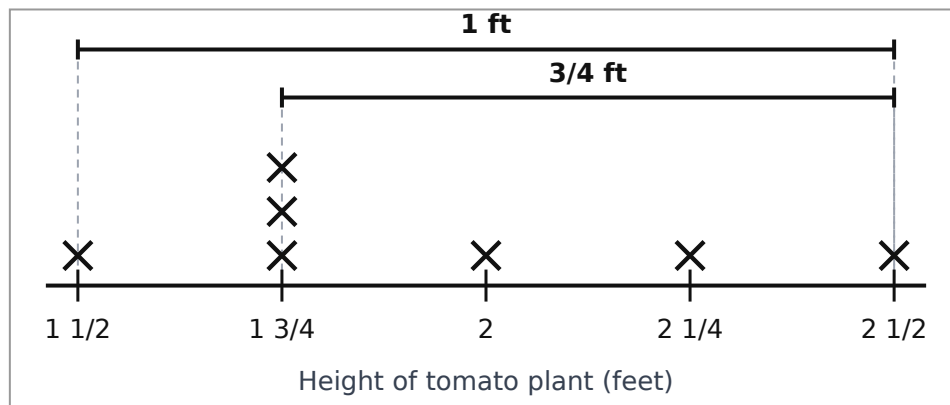
(a) The plot has 8 marks: 1 at $\frac{1}{2}$; 2 at $\frac{3}{4}$; 3 at 1; 1 at $1\frac{1}{4}$; 1 at $1\frac{1}{2}$.



(b) Buttons wider than $\frac{1}{2}$: $2 + 3 + 1 + 1 = 7$ buttons.

Scoring: (a) 1 point for a correct scale with the labels, 1 point for exactly the right number of marks above the right values. (b) 1 point.

Question 5: Subtracting from a plot (2 points)



(a) $\frac{10}{4} - \frac{6}{4} = \frac{4}{4} = 1$. Answer: 1 ft.

(b) The most common height is $1\frac{3}{4}$ ft. $\frac{10}{4} - \frac{7}{4} = \frac{3}{4}$. Answer: $\frac{3}{4}$ ft.

Scoring: 1 point for each correct answer; subtracting with the correct value but a small arithmetic slip earns no point.

Question 6: Adding from a plot (2 points)

(a) $2 + \frac{1}{2} = 2\frac{1}{2}$. Answer: $2\frac{1}{2}$ in.

(b) $\frac{3}{2} + \frac{3}{2} + \frac{2}{2} = \frac{8}{2} = 4$. Answer: 4 in..

Scoring: 1 point for each correct answer.

Question 7: Total length (3 points)

Write each length in eighths: $\frac{5}{8} + \frac{6}{8} + \frac{6}{8} + \frac{7}{8} + \frac{7}{8} + \frac{7}{8} + \frac{8}{8} + \frac{9}{8} = \frac{55}{8} = 6\frac{7}{8}$.

The total is $6\frac{7}{8}$ ft.

Scoring: 1 point for reading all 8 values correctly, 1 point for adding the numerators correctly, 1 point for the answer written as a mixed number.

Question 8: Find the mistake (2 points)

Maya subtracted the fractions without regrouping: $\frac{3}{4} - \frac{1}{4} = \frac{2}{4}$. But $\frac{1}{4}$ is less than $\frac{3}{4}$, so she must regroup.

$$5\frac{1}{4} = 4\frac{5}{4}, \quad 4\frac{5}{4} - 2\frac{3}{4} = 2\frac{2}{4} = 2\frac{1}{2}.$$

The correct difference is $2\frac{1}{2}$.

Scoring: 1 point for explaining the mistake, 1 point for the correct difference.

Question 9: Multi-step problem (2 points)

$$3\frac{1}{4} - \frac{3}{4} = \frac{13}{4} - \frac{3}{4} = \frac{10}{4} = 2\frac{2}{4} \text{ inches.}$$

$$2\frac{2}{4} - 2\frac{1}{4} = \frac{1}{4}.$$

The longer ribbon is $\frac{1}{4}$ in. **longer**.

Scoring: 1 point for the length left after the cut, 1 point for the final difference.

Total
20 points