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## Prerequisiteł Read a line Plot

## Study the example problem showing how to solve a problem by reading a line plot. Then solve problems 1-7.

## Example

Mason sold pumpkin seeds at the farmer's market on Saturday. The line plot shows the different weights of bags that he sold. What is the total weight of pumpkin seeds sold on Saturday?


## Pumpkin Seed Weight (in pounds)

Each X stands for 1 bag of pumpkin seeds sold.
Add the weight of each bag.
$\frac{1}{8}+\frac{1}{8}+\frac{1}{4}+\frac{1}{4}+\frac{1}{4}+\frac{3}{8}+\frac{3}{8}+\frac{3}{8}+\frac{3}{8}+\frac{1}{2}+\frac{1}{2}+\frac{5}{8}+\frac{7}{8}+\frac{7}{8}=5 \frac{7}{8}$
$5 \frac{7}{8}$ pounds of pumpkin seeds were sold on Saturday.

1 What are the weights of the lightest and heaviest pumpkin seed bags sold? What is the difference between these weights?
lightest $\qquad$
heaviest $\qquad$
difference
2 What is the total weight of the $\frac{1}{2}$-pound bags of pumpkin seeds sold?

3 Suppose 3 bags of $\frac{3}{4}$-pound seeds and 2 bags of 1-pound seeds were also sold. Add this data to the line plot in the example.

## Vocabulary

line plot a graph that uses Xs above a number line to show data; useful for showing how data is grouped.

## Solve.

Rodrigo recorded the weight of each acorn squash he sold at the farmer's market. The weights are shown below.

| $2 \frac{1}{4}$ | $2 \frac{3}{8}$ | $2 \frac{3}{4}$ | $2 \frac{1}{4}$ | $2 \frac{3}{4}$ | $2 \frac{5}{8}$ | $2 \frac{1}{2}$ | $2 \frac{1}{4}$ | $2 \frac{3}{4}$ | $2 \frac{1}{8}$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $2 \frac{1}{2}$ | $2 \frac{7}{8}$ | $2 \frac{1}{8}$ | $2 \frac{1}{2}$ | $2 \frac{1}{4}$ | $2 \frac{3}{4}$ | $2 \frac{1}{8}$ | $2 \frac{5}{8}$ | $2 \frac{3}{8}$ | $2 \frac{1}{4}$ |

4 Use the data in the table to complete the line plot.


5 What is the difference between the weights of the heaviest and lightest squash sold?
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6 Which weight includes the greatest number of squashes? Explain how you know.
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$\qquad$

7 What is the total weight of all the squashes that weigh less than $2 \frac{1}{2}$ pounds?

## Show your work.

Solution: $\qquad$
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## Make a Line Plot

## Study the example problem showing how to make a line plot. Then solve problems 1-4.

## Example

Rosa's grandfather gave her a box of old foreign coins. She measured the diameter of each coin. Then she made a table that showed the diameters and how many coins she had of each diameter. How can Rosa show this data in a line plot?

Make one $X$ to stand for each coin in the

| Diameter (in inches) | Number of Coins |
| :---: | :---: |
| $\frac{3}{8}$ | 3 |
| $\frac{5}{8}$ | 8 |
| $\frac{3}{4}$ | 11 |
| $\frac{7}{8}$ | 5 | table. The line plot below shows the number of coins with a $\frac{3}{8}$-inch diameter.



## Diameter of Coins (inches)

1 Plot the rest of the data from the table in the example on the line plot.

2 Describe how the data in the line plot are clustered.
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## Solve.

Gabe has a collection of stamps. He recorded the heights of the stamps along with the number of stamps at each height.

| Height <br> (in inches) | Number of <br> Stamps |
| :---: | :---: |
| $\frac{1}{2}$ | 2 |
| 1 | 5 |
| $1 \frac{1}{2}$ | 9 |
| 2 | 6 |
| $2 \frac{1}{2}$ | 3 |
| 3 | 1 |



3 Make a line plot to show the data in the table.

4 Below are widths in inches of some of Gabe's stamps.
Make a line plot to show this data. Then write a statement to describe the distribution of the data.

$$
\frac{3}{4}, 1,1 \frac{1}{2}, 1 \frac{1}{4}, 1 \frac{1}{2}, 1,1 \frac{3}{4}, 1 \frac{3}{4}, 1 \frac{1}{2}, \frac{1}{2}
$$



## Vocabulary

distribution how spread out or how clustered pieces of data are.
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## Solve Problems Using Data in a Hine Plot

## Study the example showing how to solve a problem using data in a line plot. Then solve problems 1-7.

## Example

Miguel has strips of colored tape that he uses to decorate his model planes. The line plot shows how many strips he has in several different lengths.

If Miguel places all of the $\frac{1}{4}$-inch strips in a row, how long is the line that he makes?

There are six $\frac{1}{4}$-inch strips, and $6 \times \frac{1}{4}=\frac{6}{4}$, or $1 \frac{1}{2}$. The line would be $1 \frac{1}{2}$ inches long.


Tape Strip Lengths (inches)

1 How long a line can you make using all the $\frac{3}{8}$-inch strips?

## Show your work.

Solution: $\qquad$
2 How long a line can you make using all the $\frac{5}{8}$-inch strips?

3 Miguel wants to make a 5-inch line. Can he do this using the $\frac{1}{2}$-inch strips that he has? Explain.
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$\qquad$
$\qquad$

## Use the data in the line plot to solve.

4 If Miguel uses 2 of each length strip to make a line, how long would it be?
Show your work.


Solution: $\qquad$

5 How many times longer are the longest strips than the shortest strips? Explain.
$\qquad$
$\qquad$
$\qquad$

6 Can Miguel use $\frac{3}{4}$-inch strips to make a line that is exactly 5 inches long? Explain.
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$\qquad$
$\qquad$

7 How could Miguel use strips of different lengths to make a 4-inch line?
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$\qquad$
$\qquad$
$\qquad$

## Make Uine Plots and interpret Data

## Solve the problems.

Kelly works at a grocery store. One day, she recorded the weight of each melon before she put it in a bin. The line plot shows the data.


Weight of Melons (pounds)

1 Look at the data in the line plot. Which statement about the data is true?

A There are 3 melons at the heaviest weight.
B The heaviest melon is $2 \frac{1}{2}$ times the weight of the lightest melon.

C All of the melons weigh between 1 and 3 pounds.

Be sure to check each statement against the data in the line plot.


D The weight of the greatest number of melons is $1 \frac{1}{2}$ pounds.
Shrina chose B as the correct answer. How did she get that answer?
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$\qquad$
$\qquad$

2 Describe the distribution of the data in the line plot.
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## Solve.

Dorothy has a basket of apples. She weighs them and makes a table to show how many apples she has of each weight.

| Weight (pounds) | Number of Apples |
| :---: | :---: |
| $\frac{1}{4}$ | 3 |
| $\frac{3}{8}$ | 6 |
| $\frac{1}{2}$ | 5 |
| $\frac{5}{8}$ | 4 |
| $\frac{3}{4}$ | 2 |

3 Make a line plot to show the data.


4 What is the total weight of Dorothy's apples?
Show your work.

What is the total weight of the apples for each weight?


Solution: $\qquad$

5 Dorothy groups apples that have the same weight in a basket. She has five baskets. Do any baskets have the same weight? Explain.
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