

Lesson 20

Dot Plots

NAME:



Start by navigating to the Online Lesson for instructions.

Objectives

- ✓ Calculate the mean, median, mode, and range from a dot plot
- ✓ Construct a dot plot with appropriate labels and scales

Why?

Learning how to construct and read dot plots is crucial to the fundamental concepts of statistics. They allow us to determine patterns, order, and frequency distributions. Dot plots allow us to visually estimate the median, mode, range, and shape of the data set.

Explore

Dot Plots

▶ *Fill in the notes as you watch the video in the Online Lesson.*

- A _____ is a basic graph that uses dots or shapes to display data on a _____ to represent each element in a data set.
- Dot plots are useful for representing _____ data sets with countable elements.
- Dot plots display the _____ of each value so that the data can be visualized and compared.
- _____ the numerical scale and create a _____ for each shape on the dot plot.

Measures of center:

- _____ is the average.
- _____ is the middle element of the data set when the data set is ordered.
- _____ is the most frequently occurring element in the data set.

Measure of spread:

- _____ is the maximum value of the data set minus the minimum value.

Example 1

🎥 Complete the example as you watch the video in the Online Lesson.

Determine the mean, median, mode, and range of the dot plot.

Mean:

Median:

Mode:

Range:



Key: ★ = 1 household

Example 2

▶ Complete the example as you watch the video in the Online Lesson.

Construct a dot plot.

Anna asked 15 friends how many books they read in a month. She was given the following results: {3, 4, 2, 4, 5, 3, 2, 5, 5, 4, 1, 1, 3, 4, 2}

Example 3

▶ Complete the example as you watch the video in the Online Lesson.

Construct a dot plot. Determine the mean, median, mode, and range.

Mrs. Neill's class collected cans for a food drive. Each student collected the following number of cans:

{22, 21, 22, 24, 24, 23, 22, 20, 23, 23, 25, 26, 25, 24, 23, 24, 24, 23, 25, 24}

Mean:

Median:

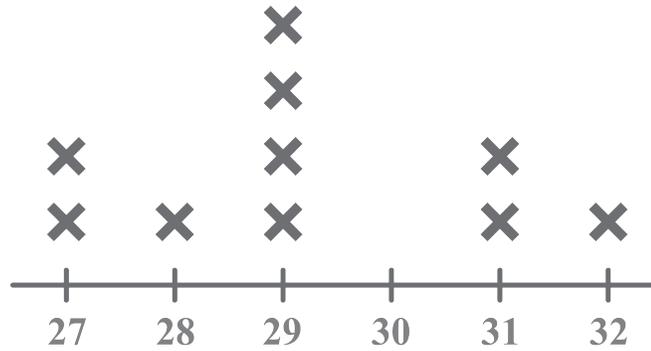
Mode:

Range:

 Practice

Determine the measures of center or measure of spread of the dot plot.

Mr. Russell's science class measured the height in centimeters of their plants after one month.



Height of Plant (cm)

Key: **X** = 1 plant

- 1) Determine the mean.
- 2) Determine the median.
- 3) Determine the mode.
- 4) Determine the range.

Construct a dot plot.

- 5) For ten days, Natalee logged her daily practice time in hours for her piano teacher.

The practice times were: $\left\{ \frac{1}{2}, \frac{1}{4}, \frac{1}{2}, \frac{3}{4}, 1, \frac{1}{2}, 1, \frac{3}{4}, \frac{3}{4}, \frac{1}{2} \right\}$



- 6) Fourteen customers rated Charlie's Chai and Coffee Company with one to five stars. The customer ratings were: $\{5, 5, 4, 4, 5, 5, 2, 4, 3, 5, 1, 2, 3, 4\}$



- 7) Talia has seven first cousins. The ages of Talia's cousins are:
{12, 15, 13, 16, 17, 15, 15}



- 8) The Math Club fundraiser sold raffle tickets to win a new calculator. Each club member sold the following number of tickets: {9, 7, 9, 5, 6, 7, 9, 10, 5, 8}



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