

How can I create a Stem and Leaf Plot with Decimals?

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A Stem and Leaf Plot with Decimals is a graphical representation of numerical data that allows for the visualization of the distribution and patterns within a given set of decimal values. To create this type of plot, first, the decimal values must be organized into a stem and leaf format, where the stem represents the leading digit(s) and the leaf represents the decimal digit(s). The data is then plotted in a vertical format, with the stems on the left and the leaves on the right. This plot can be useful in identifying clusters and outliers within the data.

Make a Stem and Leaf Plot with Decimals

A is a type of plot that displays data by splitting up each value in a dataset into a "stem" and a "leaf."

For example, suppose we have the following dataset:

Dataset: 12, 14, 18, 22, 22, 23, 25, 25, 28, 45, 47, 48

If we define the first digit in each value as the "stem" and the second digit as the "leaf" then we can create the following stem and leaf plot:

Stem	Leaf
1	2 4 8
2	2 2 3 5 5 8
3	
4	5 7 8

Key: 4|7 = 47

While stem and leaf plots are typically used with integer values, they can also be used for values with decimals as well.

The following examples illustrate how to create stem and leaf plots with decimals.

Example 1: Stem and Leaf Plot with One Decimal

Suppose we have the following dataset:

Dataset: 11.6, 12.2, 12.5, 12.6, 13.7, 13.8, 14.1, 15.2

If we define the digits in front of the decimal as the stem, and the digits after the decimal as the leaf, then we can create the following stem and leaf plot:

Stem	Leaf
11	6
12	2 5 6
13	7 8
14	1
15	2

Key: 12|2 = 12.2

When creating this stem and leaf plot, it's important to include a key at the bottom so the reader knows how to interpret the values in both the stem and the leaf.

Example 2: Stem and Leaf Plot with Multiple Decimals

Suppose we have the following dataset:

Dataset: 3.26, 3.28, 3.34, 3.38, 3.41, 3.42, 3.44, 3.59, 3.63

If we define the integer and the first value after the decimal place as the stem, and the second value after the decimal as the leaf, then we can create the following stem and leaf plot:

Stem	Leaf
3.2	6 8
3.3	4 8
3.4	1 2 4
3.5	9
3.6	3

Key: 3.3|4 = 3.34

Once again, the key at the bottom of the plot tells us how to interpret the values in the plot.

Example 3: Interpreting a Stem and Leaf Plot with Decimals

Suppose we have the following stem and leaf plot with decimals:

Stem	Leaf
4	5 7 9
5	2 4
6	1
7	8
8	2 2 2 3

Key: 5|4 = 5.4

Question 1: What is the max value in the dataset?

The max value would be 8.3.

Question 2: What is the range of the dataset?

The range of the dataset is the difference between the largest and smallest value. Thus, the range would be $8.3 - 4.5 = 3.8$.

Question 3: What is the mode of the dataset?

The mode is the value that occurs most often. This

would be 8.2.

Question 4: What is the median of the dataset?

The median is defined as the "middle" value of the dataset. To find this value, we can write out each of the individual values in the dataset and find the middle value:

Dataset: 4.5, 4.7, 4.9, 5.2, 5.4, 6.1, 7.8, 8.2, 8.2, 8.2, 8.3

The median is 6.1.