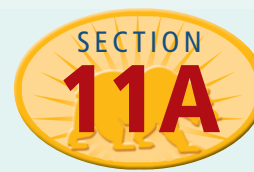


Section Overview



Line Plots and Stem-and-Leaf Plots

Lesson 11-1

Why? There are many ways to display data.

Data: 40, 43, 43, 46, 47, 51, 58, 59, 62

Stem-and-Leaf Plot

The remaining left digits in a value

Stems	Leaves
4	0 3 3 6 7
5	1 8 9
6	2

The right digit of a value

The **stems** are ordered from least to greatest, top to bottom.

Key: 5|1 means 51

The **leaves** are ordered from least to greatest, left to right.

Line Plot



Mean, Median, Mode, and Range

Lessons 11-2, 11-3

Why? To analyze a set of numerical data, we need ways to describe it. Central tendency is a way to describe a data set using one number.

$$\text{Mean} = \frac{70 + 70 + 81 + 82 + 85 + 88 + 88 + 90 + 93 + 95 + 100}{11} \approx 85.6$$

Median (the middle value, or average of two middle values): 88

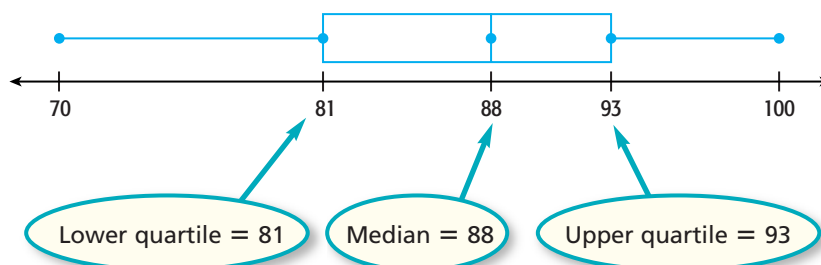
Mode (the value or values that occur most often): 70 and 88

Quiz Scores:

70 70 81 82
85 88 88 90
93 95 100

Measures of variability can be shown using a **box-and-whisker plot**.

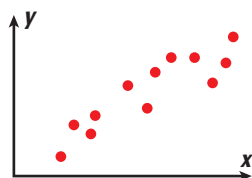
$$\begin{aligned} \text{Range} &= \text{greatest value} - \text{least value} \\ &= 100 - 70 = 30 \end{aligned}$$



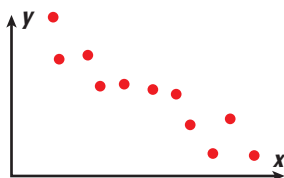
Scatter Plots

Lesson 11-4

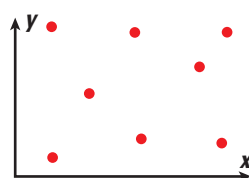
Why? A scatter plot is one of the best ways to show a correlation between two sets of data. A line of best fit is useful for making predictions.



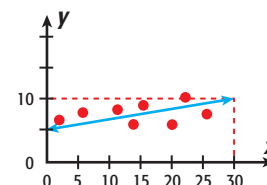
Positive correlation; both data sets increase together.



Negative correlation; as one data set increases, the other decreases.



No correlation; changes in one data set do not affect the other data set.



Predict the value of y when $x = 30$. (Using a line of best fit, you can predict that when $x = 30$, y will be approximately 10.)