

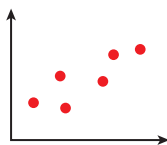
Section Overview

Scatter Plots and Trend Lines

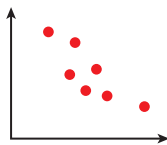
Lesson 4-5

Why? Scatter plots and trend lines are used in statistics to make predictions.

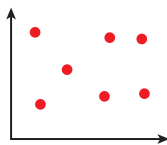
A **scatter plot** shows the relationship between two data sets.



Positive correlation
As one variable increases, the other increases.

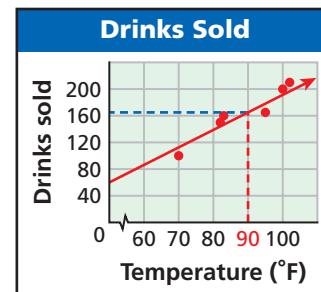


Negative correlation
As one variable increases, the other decreases.



No correlation
There is no relationship between the data sets.

The trend shown in the scatter plot is a positive correlation between daytime temperature and the number of drinks sold at a beverage stand.



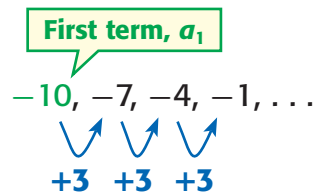
Based on the data, **165** is a reasonable estimate for the number of drinks that will be sold when the temperature is **90°F**.

Arithmetic Sequences

Lesson 4-6

Why? Arithmetic sequences are used to calculate terms in athletics, science, and number theory.

An **arithmetic sequence** is a list of numbers whose difference, **d** , is constant.



Common difference, d , is +3.

The **n th term** of an arithmetic sequence:

$$a_n = a_1 + (n - 1)d$$

Find the 15th term of the arithmetic sequence

$$-10, -7, -4, -1, \dots$$

$$a_n = a_1 + (n - 1)d$$

$$a_{15} = -10 + (15 - 1)3$$

$$a_{15} = -10 + (14)3$$

$$a_{15} = -10 + 42$$

$$a_{15} = 32$$

The 15th term of the arithmetic sequence is 32.