

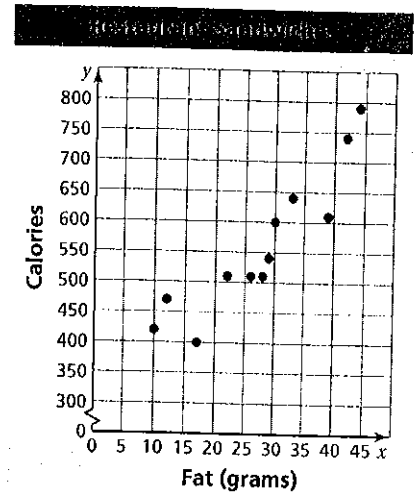
Chapter 12, Sections 5 Notes
Scatter Plots

Today's Learning Goal: At the end of today's lesson, you should be able to interpret a scatter plot. You should also be able to identify a relationship represented by a scatter plot, and find a line of best fit.

A scatter plot is a graph that shows the relationship between two data sets. The two sets of data are graphed as ordered pairs in a coordinate plane.

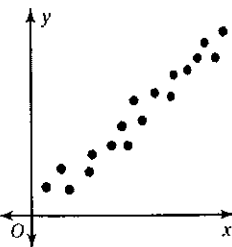
Example: The scatter plot shows the amounts of fat (in grams) and the numbers of calories in 12 restaurant sandwiches.

- A. How many calories are in the sandwich that contains 17 grams of fat?
- B. How many grams of fat are in the sandwich that contains 600 calories?
- C. What tends to happen to the number of calories as the number of grams of fat increases?

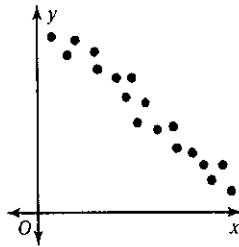


A scatter plot can show that a relationship exists between two data sets.

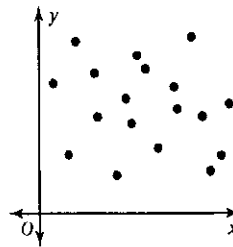
Positive Relationship



Negative Relationship



No Relationship



Example: Make a scatter plot of the data. Tell whether the data show a positive, a negative, or no relationship.

A.

Rocky Blms (mil)	30	20	60	90	45	10	30	75	120	80
(Rocky Blms), y	87	74	92	97	85	62	83	90	95	91

B.	Age of a Car (years), x	1	2	3	4	5	6	7	8
	Value (thousands), y	\$24	\$21	\$19	\$18	\$15	\$12	\$8	\$7

A line of best fit is a line drawn on a scatter plot close to most of the data points. It can be used to estimate data on a graph.

Example: The table shows the weekly sales of a DVD and the number of weeks since its release.

A. Make a scatter plot of the data.

B. Draw a line of best fit.

C. Write the equation of the line of best fit.

D. Interpret the slope of the line of best fit.

E. Predict the sales in week 9.

Week, x	Sales (millions), y
1	\$19
2	\$15
3	\$13
4	\$11
5	\$10
6	\$8
7	\$7
8	\$5

Example: The table shows the numbers of people who have attended a neighborhood festival over an 8-year period.

Year, x	1	2	3	4	5	6	7	8
Attendance, y	420	500	650	900	1100	1500	1750	2400

A. Make a scatter plot of the data.

B. Draw a line of best fit.

C. Write the equation of the line of best fit.

D. Interpret the slope of the line of best fit.

E. Predict the number of people who will attend in year 10.

Progress Monitoring: How do you feel about your level of understanding of scatter plots? (Rate yourself from 0 (don't understand at all) to 10 (doing awesome))

