Ch 1.5

Using Scatter Plots

A **scatter plot** is a graph that relates two groups of data. To make a scatter plot, plot the two groups of data as ordered pairs. Most scatter plots are in the first quadrant of a coordinate plane, because the data are usually positive numbers.

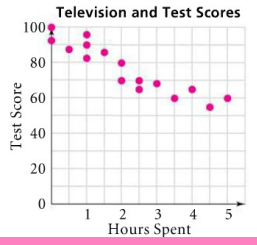
Aug 27-2:29 PM

1 EXAMPLE **Making a Scatter Plot**

Data Collection The table at the left shows data students collected on their test scores and the number of hours they watched television the previous day. Make a scatter plot of the data.

Television and Tests

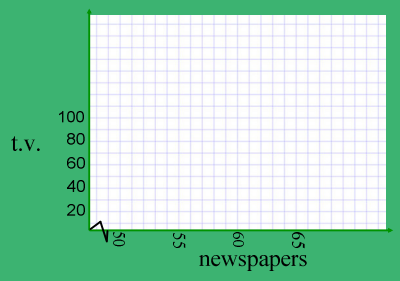
Hours Watched	Test Score	Hours Watched	Test Score
0	92	2	80
0	100	2.5	65
0.5	89	2.5	70
1	82	3	68
1	90	3.5	60
1	95	4	65
1.5	85	4.5	55
2	70	5	60



Aug 27-2:32 PM

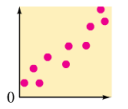
1 Use the data in the table below. Make a scatter plot of newspaper circulation and the number of households with television.

Year	1950	1960	1970	1980	1990	2000
Daily Newspaper Circulation (millions)	54	59	62	62	62	55
Households With Television (millions)	4	46	59	76	92	101

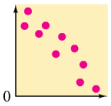


Aug 27-2:33 PM

You can use scatter plots to find trends in data. The scatter plots below show the three types of relationships that two sets of data may have.

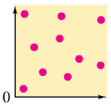


Positive correlation
In general, both sets of data increase together.



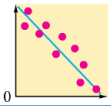
Negative correlation
In general, one set of data decreases as the other set increases.

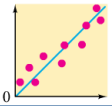
No correlation
Sometimes data sets are not related.



Aug 27-2:33 PM

A **trend line** on a scatter plot shows a correlation more clearly.





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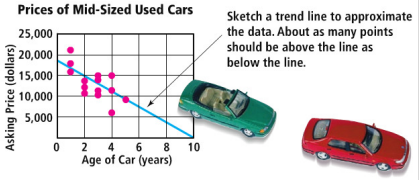
2 EXAMPLE **Real-World Problem Solving**

Multiple Choice The scatter plot shows the age and asking price of several used mid-sized cars. What type of relationship does the scatter plot show?



(A) a negative correlation
(B) no correlation
(C) an undefined correlation
(D) a positive correlation

2 a. Critical Thinking In the graph above, what does the data point at (4, 14,900) represent?

b. Use the graph to predict the asking price of a 7-year-old car.

Aug 27-2:34 PM