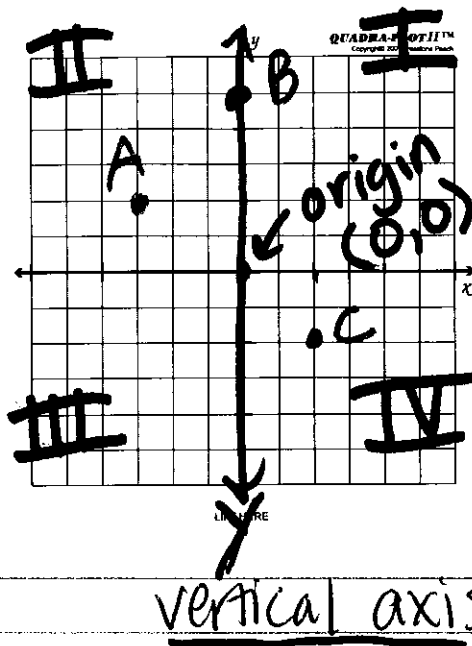


Day 5

1.5 Scatter Plots



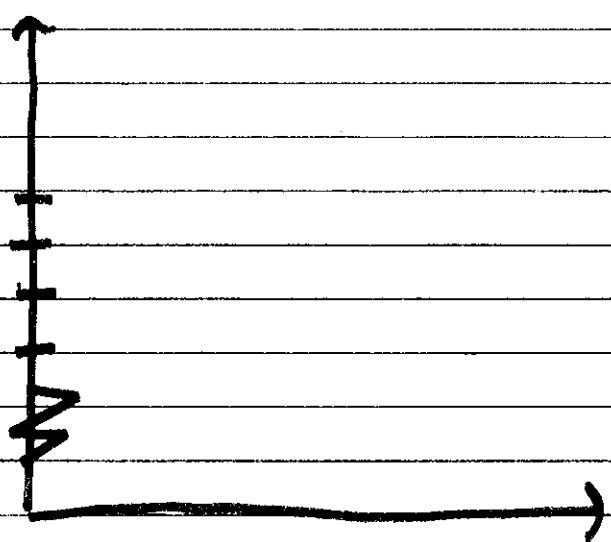
ordered pairs
 (x, y)
independent \leftrightarrow dependent

x horizontal axis

table

x	y
---	---

- Plot A. $(-3, 2)$ in quad II
- B. $(0, 5)$ on y-axis
- C. $(2, -2)$ in quad. IV



time is always on bottom (x-axis)

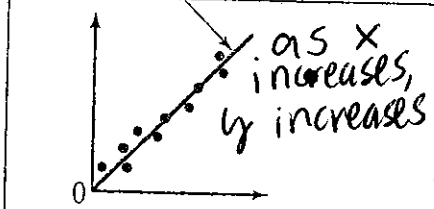
Lesson 1-5

Scatter Plots

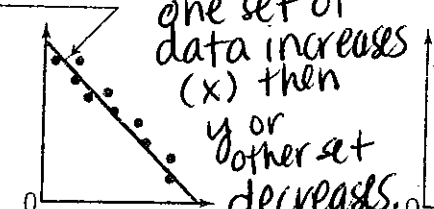
Lesson Objectives Analyze data using scatter plots	NAEP 2005 Strand: Algebra; Data Analysis and Probability Topics: Algebraic Representations; Data Representation (Histograms, Line Graphs, Scatter Plots, Box Plots, Circle Graphs, Stem and Leaf Plots, Frequency Distributions, and Tables); Characteristics of Data Sets Local Standards: _____
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Vocabulary

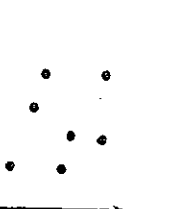
A scatter plot is a graph that relates 2 groups of data.



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



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

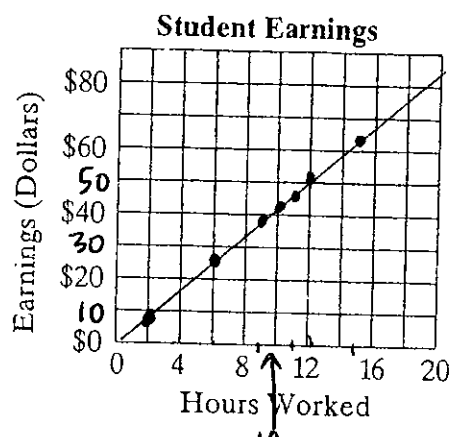


NO Correlation
 Sometimes data sets are not related.

A **trend line** or **line of best fit** on a scatter plot shows a correlation more clearly.

Examples

Making a Scatter Plot The table shows the number of hours worked and the amount of money each person earned. Make a scatter plot of the data.



The greatest amount earned is 63.75. A reasonable scale on the vertical axis is from 0 to 70 with every \$10 labeled.

For 6 hours worked and earnings of \$25.50, plot (6, 25.50).

Name	Hours Worked	Amount Earned
Janel	6	\$25.50
Roscoe	12	\$51.00
Victoria	11	\$46.75
Alex	9	\$38.25
Jordan	15	\$63.75
Jennifer	10	\$42.50

time
x y

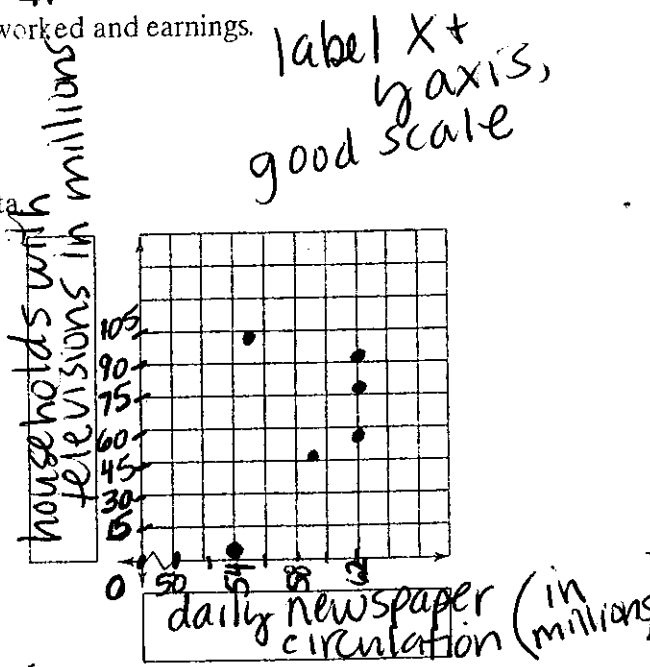
Identifying a Correlation from a Scatter Plot Use the scatter plot in Example 1 to answer the following question: Is there a positive correlation, negative correlation, or no correlation between the number of hours worked and the amount earned? Explain.

As the number of hours worked increases, the earnings increased
 There is a positive correlation between hours worked and earnings.

Quick Check

1. Use the data in the table. Make a scatter plot of the data.

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



2. Use the scatter plot from Example 1.

a. Critical Thinking What does the data point at (11, 46.75) represent?

Victoria worked 11 hours and earned \$46.75.

b. Use the graph to predict how much Conrad would earn if he worked 2 hours.

about \$8 or \$7

Quick
~~1~~
 NO correlation

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- 3. Negative
- 4. Positive
- 5. NO

6. Negative, because the more classes you take the less free time you have

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