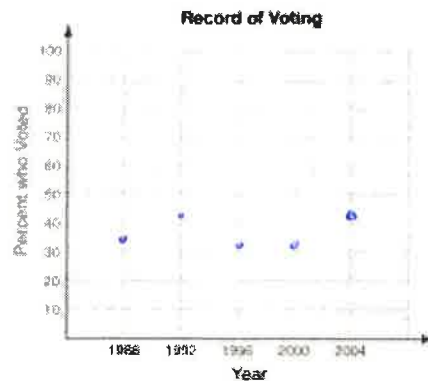Name _____Key_____ Date_____ Class _____

3-5 Worksheet

Scatter Plots and Trend Lines

Graph a scatter plot using the given data.

1. The table shows the percent of people ages 18–24 who reported they voted in the presidential elections. Graph a scatter plot using the given data.

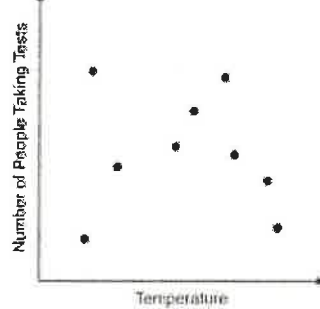| Year	1988	1992	1996	2000	2004
% of 18-24 year olds	36	43	32	32	42

Record of Voting

Write *positive*, *negative*, or *none* to describe the correlation illustrated by each scatter plot.

2.
House Painting

negative

3.
Tests
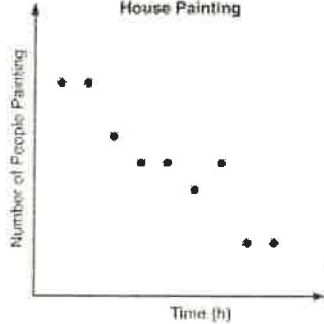
4. Identify the correlation you would expect to see between the number of pets a person has and the number of times they go to a pet store. Explain.

a positive correlation, more pets means
more pet needs from the pet store

Neal kept track of the number of minutes it took him to assemble sandwiches at his restaurant. The information is in the table below.
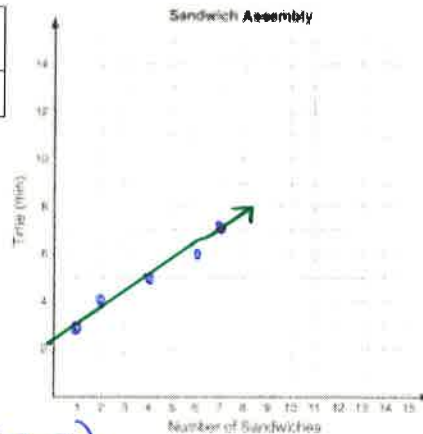
Number of sandwiches	1	2	4	6	7
Minutes	3	4	5	6	7

5. Graph a scatter plot of the data.

6. Draw a trend line.

7. Describe the correlation.

positive

Sandwich Assembly

8. Based on the trend line you drew, predict the amount of time it will take Neal to assemble 12 sandwiches.

about 9 minutes

$(1,3) \ (7,7)$

$\frac{7-3}{7-1} = \frac{4}{6} = \frac{2}{3}$

$3 = \frac{2}{3}(1) + b$

$b = \frac{1}{3}$
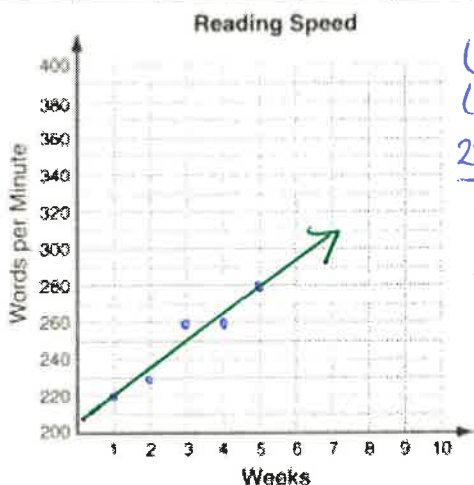
$y = \frac{2}{3}(12) + \frac{1}{3}$

$y = 8\frac{1}{3}$

3-5 Problem Solving

Scatter Plots and Trend Lines

Fawn is trying to improve her reading skills by taking a speed-reading class. She is measuring how many words per minute (wpm) she can read after each week of the class.

1. Graph a scatter plot using the given data.

Weeks	1	2	3	4	5
wpm	220	230	260	260	280

Reading Speed

2. Describe the correlation illustrated by the scatter plot.

   positive

3. Draw a trend line and use it to predict the number of words per minute that Fawn will read after 8 weeks of this class.

   (1,220)
   (5,280)

   $\dfrac{280-220}{5-1}$

   $\dfrac{60}{4}$

   15

   $y - 220 = 15(8-1) \rightarrow 325\text{ minutes}$

4. Fawn is paying for this class each week out of her savings account. Identify the correlation between the number of classes and Fawn's account balance.

   negative

Choose the scatter plot that best represents the described relationship.

5. the distance a person runs and how physically tired that person is

   A Graph 1   C Graph 3

   B Graph 2   D Graph 4

6. the price of a new car and the number of hours in a day

   F Graph 1   H Graph 3

   G Graph 2   J Graph 4

7. a person's age and the amount of broccoli the person eats

   A Graph 1   C Graph 3

   B Graph 2   D Graph 4

8. the number of cats in a barn and the number of mice in that barn

   F Graph 1   H Graph 3

   G Graph 2   J Graph 4

Graph 1

Graph 2

Graph 3

Graph 4