NAME:_____

1. The data below shows hours spent researching the stock market per week and the percent gain for an investor.

Hours	6	8	10	12	14	16	18
% Gain	17	20.5	26.5	29	32.5	37.5	41

Find an equation of the line of best fit for gain with respect to hours of study.

2. The data below shows hours spent researching the stock market per week and the percent gain for an investor.

Hours	6	8	10	12	14	16	18
% Gain	22	28.5	37.5	43	49.5	57.5	64

Find an equation of the line of best fit for gain with respect to hours of study.

3. The table shows the number of CDs that Disc-o CD factory produced for various months. Use a trend line to predict when the factory will produce 5500 discs in one month.

Jan.	Feb.	Mar.	Apr.	May
2400	2750	3550	3850	4300

[A] July   [B] November   [C] October   [D] June

4. The record times of the 1500 meter run for South High are given. Using a trend line, predict the year when a runner from South High will reach the 4-minute mark.

1991	1992	1993	1994	1995
4:11	4:11	4:11	4:07	4:07

NAME:_____

5. The spreadsheet shows the monthly income and expenses for a new business. Find a linear model for monthly income and a model for monthly expenses. Use the models to estimate the month in which income will equal expense.

	A	B	C
1	Month	Income	Expenses
2	Jan	5,000	45,000
3	Feb	10,000	39,000
4	Mar	14,000	37,000
5	Apr	18,000	34,000

6. Use a graphing calculator to find the equation of the line of best fit for the data below. Use your equation to predict the median family income in the year 2005.
Median Family Income (in current dollars)

Year	1988	1989	1990	1991	1992	1993
Income	32,191	34,213	35,353	35,939	36,573	36,950

Source: 1996 Information Please Almanac

7. The table below shows the population density per square mile of the United States from 1900 to 1990.
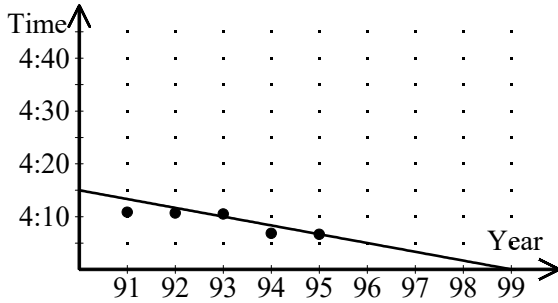
Year	Population Density
1900	25.6
1910	31.0
1920	35.6
1930	41.2
1940	44.2
1950	50.7
1960	50.6
1970	57.4
1980	64.0
1990	70.3

Draw a scatter plot. Describe the correlation, if any. Predict the population density in the year 2010.

[1] $y = 2x + 5$

[2] $y = \dfrac{7}{2}x + 1$

[3]   A

[4]   1999; answers may vary.

$x = $ month
$y = $ income
$y = 4300x + 1000$
$y = -3500x + 47500$

[5]   June

[6] $y = 898.88x - 1,754,028$; $48,226

[7]   Check students' graphs. Strong, positive correlation; a good estimate is about 77. Accept reasonable estimates.