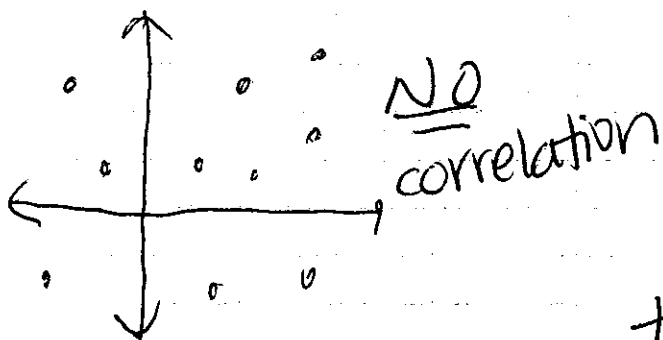
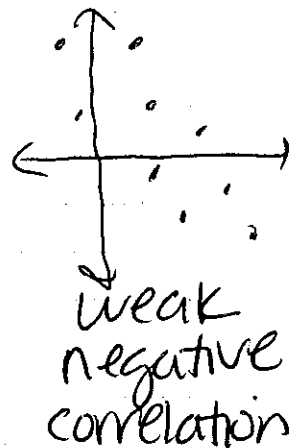
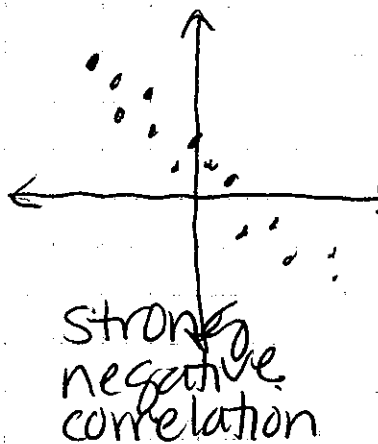
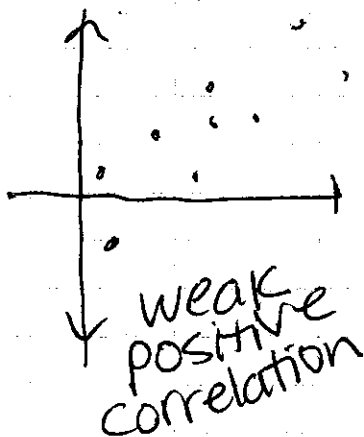
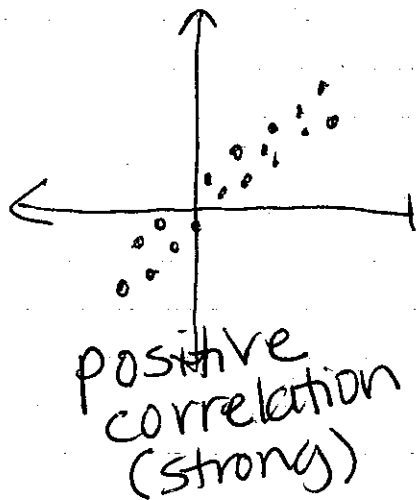


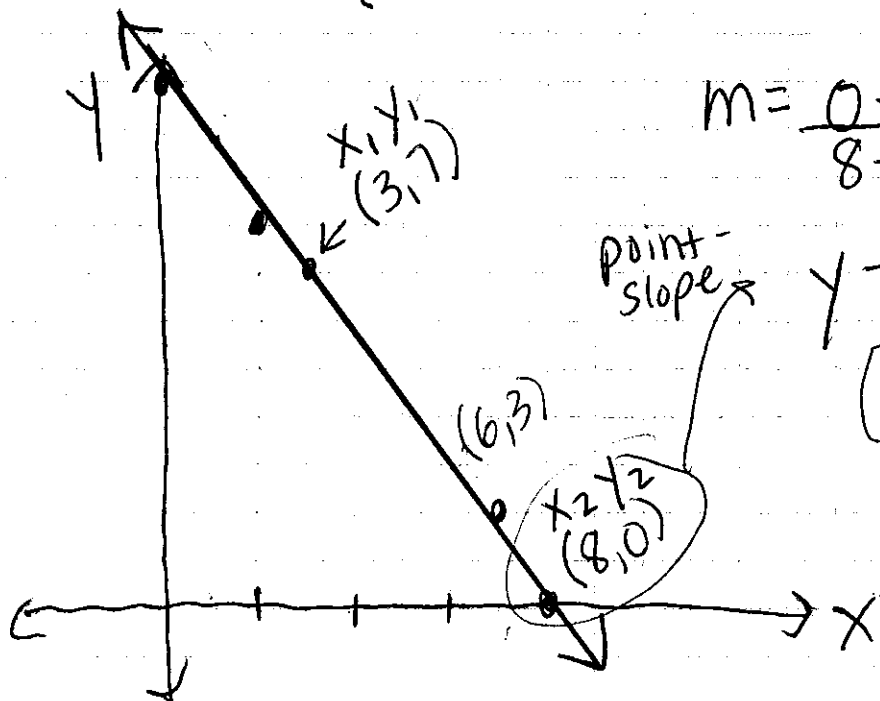
Day 19

## 2.4 continued Scatter Plots



If there is a positive or negative correlation, we can draw a trend line (line of best fit) to predict data.

⑧ p.8)  $\{ (0, 11) (2, 8) (3, 7) (7, 2) (8, 0) \}$



$$m = \frac{0 - 7}{8 - 3} = \frac{-7}{5} = -1.4$$

point-slope  $y - 0 = -1.4(x - 8)$

$$y = -1.4x + 11.2$$

# Graphing Calculator

**stat** **edit**

put x-values in L<sub>1</sub>  
y-values in L<sub>2</sub>

**2nd** **mode**

**Stat** **→** **Calc**

Linear regression

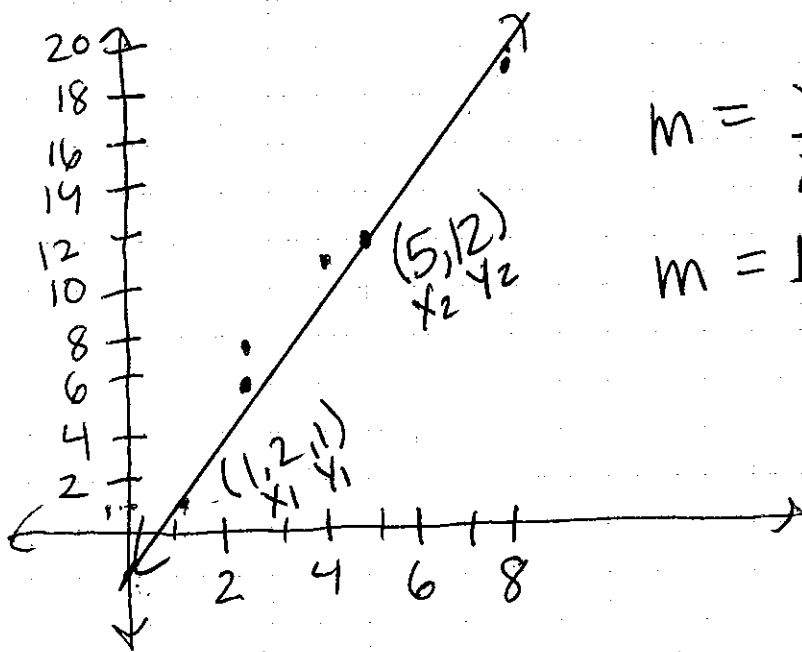
LinReg L<sub>1</sub>, L<sub>2</sub>

$$y = -1.326x + 10.9$$

slope

a  
↓  
b ↗

9



$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

$$m = \frac{12 - 1}{5 - 1.2} = \frac{11}{3.8}$$

$$m = 2.89$$

(1.2, 1) (2.5, 6) (2.5, 7.5) (4.1, 11) (7.9, 19)

$$y = 2.53x - 32.1$$

10. The table shows the percentage of the population not covered by health insurance in selected states for the years 1990 and 1999.

State	Idaho	Illinois	Michigan	Montana	New York
1990	15.1	10.9	9.4	14.0	12.1
1999	19.1	14.1	11.2	18.6	16.4

Source: *The World Almanac and Book of Facts, 2001*

- a. Draw a scatter plot showing the relationship between the percentage not covered by health insurance in 1990 and the percentage not covered in 1999. Use the 1990 percentage as the independent variable(x). *on graph paper*
- b. Use your scatter plot to develop a model relating the 1990 percentage to the 1999 percentage. *equation (by hand or on the calculator)*
- c. In Wyoming, 12.5% of the population were not covered by health insurance in 1990. Use your model to estimate the percentage who were not covered in 1999. *plug 12.5 in for x into the eq.*
- d. The actual percentage for Wyoming in 1999 was 16.1. Is your model reasonable?

