

Linear Regress/Point-Slope/Slope-Intercept

(Problems taken from Brown)

For problems 1 – 5, use the data on the table below.

VCR Households (in millions)	Video Sales (in millions)
8.3	9.5
15.0	22.0
23.5	52.0
32.5	84.0
45.8	110.0

1. Draw a scatter plot.
2. Draw the line of best fit on your graph.
3. Write the equation for your line of best fit by completing A – D.

A. Name 2 points on your line of best fit.

(_____ , _____) and (_____ , _____)

B. Show work in finding the slope of your line using using the 2 points above.

$$\text{Slope} = \frac{[\text{.....}] - [\text{.....}]}{[\text{.....}] - [\text{.....}]} = \frac{[\text{.....}]}{[\text{.....}]} =$$

C. Write the point-slope form of the equation of your line of best fit.

D. Write the slope-intercept form of the equation of your line of best fit.

4. Use your calculator to draw the scatter plot and the regression line. Write the equation of the regression line. Round to slope and y-intercept to the nearest thousandth.

5. Use the regression equation to predict the number of video sales if there are 5 million VCR Households. (Show work using your regression equation.)

For problems 6 – 10, use the data on the table below.

Sunny School Days (# per month)	School Attendance % Present/Month
15	88
12	92
10	93
14	89
8	96

6. Draw a scatter plot.
7. Draw the line of best fit on your graph.
8. Write the equation for your line of best fit by completing A – D.

A. Name 2 points on your line of best fit.

(_____ , _____) and (_____ , _____)

B. Show work in finding the slope of your line using the 2 points above.

$$\text{Slope} = \frac{[\text{.....}] - [\text{.....}]}{[\text{.....}] - [\text{.....}]} = \frac{[\text{.....}]}{[\text{.....}]} =$$

C. Write the point-slope form of the equation of your line of best fit.

D. Write the slope-intercept form of the equation of your line of best fit.

9. Use your calculator to draw the scatter plot and the regression line. Write the equation of the regression line. Round to slope and y-intercept to the nearest thousandth.

10. Use the regression equation to predict the percent of students present for a month in which there are 20 sunny days. (Show work using your regression equation.)