Teacher: A Rabutan Time Frame: 50 minutes

Subject Matter: Scatter Plots and Correlation Coefficients Date: March 24, 2011

TELL ME

Objective: TSWBAT draw a scatter plot and compute the correlation coefficient between the two variables and classify analytically the relationships as either positive, negative, or zero.

Standards: DA – 3.5 and 3.6

 Materials: Construction papers, Pastes, Markers, Calculators, and Worksheets

Presentation of Information:

**Project: Flip Charts of Scatter Plots & Correlation Coefficients**

* In pair, the students will be asked to make a four-page flipchart of the problems below.
* The students are to choose three problems; either cut and paste the problems on their flipcharts or copy them, then
	+ Draw the scatter plot for the variables.
	+ Compute the value of the correlation coefficient.
	+ Classify the relationships as either positive, negative, or zero.

Sample:

First page Second page

Problem 1:

Scatter Plots

&

Correlation Coefficients

Submitted by:

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1. A random sample of U.S. cites is selected to determine if there is a relationship between the population (in thousands) of people under 5 years of age and the population (in thousands) of those 65 years of age and older. The data for the sample are shown.

|  |  |
| --- | --- |
| Under 5 (x) | 65 and older (y) |
| 178 | 361 |
| 27 | 72 |
| 878 | 1496 |
| 314 | 501 |
| 322 | 585 |
| 143 | 207 |

1. The results of the survey of the average monthly rents (in dollars) for one-bedroom apartments and two-bedroom apartments in randomly selected metropolitan areas are shown. Determine if there is a relationship between the rents.

|  |  |
| --- | --- |
| One-bedroom (x) | Two-bedroom (y) |
| 782 | 1223 |
| 486 | 902 |
| 451 | 739 |
| 529 | 954 |
| 618 | 1055 |
| 520 | 875 |
| 845 | 1455 |

1. The average normal daily temperature (in degrees Fahrenheit) and the corresponding average monthly precipitations (in inches) for the month of June are shown her for seven randomly selected cities in the United States. Determine if there is a relationship between the two variables.

|  |  |
| --- | --- |
| Average daily temp. (x) | Average mo. Precip. (y) |
| 86 | 3.4 |
| 81 | 1.8 |
| 83 | 3.5 |
| 89 | 3.6 |
| 80 | 3.7 |
| 74 | 1.5 |
| 64 | 0.2 |

1. A random sample of Hall fame pitchers’ career wins and their total number of strikeouts is shown here. Is there a relationship between the variable?

|  |  |
| --- | --- |
| Wins (x) | Strikeouts (y) |
| 329 | 4136 |
| 150 | 1155 |
| 236 | 1956 |
| 300 | 2266 |
| 284 | 3192 |
| 207 | 1277 |
| 247 | 1068 |

1. The number of calories and the number of milligrams of cholesterol for a random sample of fast-food chicken sandwiches from seven restaurants are shown here. Is there a relationship between variables?

|  |  |
| --- | --- |
| Calories (x) | Cholesterol (y) |
| 390 | 43 |
| 535 | 45 |
| 720 | 80 |
| 300 | 50 |
| 430 | 55 |
| 500 | 52 |
| 440 | 60 |