Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Bivariate Test B

Directions: Answer each question completely. Show all of your work for full credit!

1. Which of the scatterplots shows a negative trend?



1. II b. III c. I d. none of these
2. The scatterplot below shows the population of a village (P) over time (t). Describe the relationship between the population of the village and time.



1. The population is decreasing over time.
2. The population remains roughly the same over time.
3. The population is increasing over time.
4. None of these
5. What type of trend does the scatter plot below show? Describe a real-world situation that the scatter plot might represent.



1. No trend: the number of pets owned and the owner’s height
2. Negative trend: the water level in a tank in the hot sun over time
3. Negative trend: weight and height
4. Positive trend: weight and height
5. What is the type of scatter plot you would expect to see when you compare time you spend

 studying for your final exam to your final exam grade?



1. I b. II c. III d. none of these
2. Tina drew a scatter plot comparing the number of people helping clean up after a school dance

 and the amount of time it takes to clean up. She graphed the ordered pairs (number of people,

 amount of time) for each date of the dance. Which of the three scatter plots below most likely

 represents the data?



1. I b. II c. III d. none of these
2. Create at scatter plot using the given table and draw in your line of best fit. Then, answer the questions that follow.

|  |  |
| --- | --- |
| Temperature | Ice Cream Cones Sold |
| 74 | 80 |
| 80 | 71 |
| 93 | 89 |
| 95 | 93 |
| 101 | 94 |

1. What type of trend does this relationship represent? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Use the two circled ordered pairs to write an equation for your trend line. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(round to the nearest thousandth)

1. Given the following scatter plot, use the **given** equation for the line of best fit to answer the questions that follow. You must show your work!
2. Predict the number of calories

for 75 grams of fat

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Predict the number of grams of fat

for 498 calories

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Given the following scatter plot, use the **given** equation for the line of best fit to answer the questions that follow. You must show your work!
2. Predict the age of a child that has 5

baby teeth

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Predict the number of baby teeth

a 7 year old would have

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. A class was surveyed about whether they have been to Canada or Mexico. Out of the 14 students who have been to Mexico, 5 have not been to Canada. 17 out of the 35 students surveyed have been to Canada. Complete the two way frequency table and answer the questions that follow.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Been to Mexico** | **Have not been to Mexico** | **Total** |
| **Been to Canada** |  |  |  |
| **Have not been to Canada** |  |  |  |
| **Total** |  |  |  |

1. How many students have not been to Canada or Mexico? \_\_\_\_\_\_\_\_\_\_\_
2. What is the relative frequency a student has been to Canada but not Mexico? \_\_\_\_\_\_\_\_\_\_\_
3. What is the relative frequency a student has been to Mexico? \_\_\_\_\_\_\_\_\_\_\_
4. What is the probability a student has been to Canada? \_\_\_\_\_\_\_\_\_\_\_
5. What is the probability a student who has been to Canada has also been to Mexico? \_\_\_\_\_\_\_\_\_\_\_
6. What percent of the students have traveled to one of the two countries? \_\_\_\_\_\_\_\_\_\_\_
7. The following two way table shows the places people have volunteered in the last month. Complete the two way frequency table, recreate the two way frequency table so it represents a relative frequency table, and answer the questions that follow.

**Relative Frequency Table**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Males** | **Females** | **Total** |
| **Animal Shelter** |  |  |  |
| **Hospital** |  |  |  |
| **Library** |  |  |  |
| **Total** |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Males** | **Females** | **Total** |
| **Animal Shelter** | 26 |  | 47 |
| **Hospital** |  | 17 |  |
| **Library** |  | 14 | 23 |
| **Total** | 49 |  |  |

1. How many people were surveyed? \_\_\_\_\_\_\_\_\_\_\_
2. Which gender had more people volunteer? \_\_\_\_\_\_\_\_\_\_\_
3. What was the most popular place to volunteer? \_\_\_\_\_\_\_\_\_\_\_
4. What is the relative frequency a male volunteered at the library? \_\_\_\_\_\_\_\_\_\_\_
5. What is the relative frequency someone volunteered at the hospital? \_\_\_\_\_\_\_\_\_\_\_
6. What is the probability a female volunteered at the animal shelter? \_\_\_\_\_\_\_\_\_\_\_