Diet Coke Activity   Name_____

AP Statistics – Mr. Maychrowitz & Mr. Murphy

Some AP Stats students think that they notice that the more Diet Coke Mr. Maychrowitz consumes in a day, the faster he can solve a 4 by 4 Rubiks Cube (not because of caffeine mind you but because Diet Coke is inarguably the elixir to the intellectual gods). To further explore this, they set up an experiment in which they monitor how many Diet Cokes he had before noon and then measure how long it takes him to solve a 4 by 4 Rubiks Cube during lunch. The data is shown below.

# Diet Cokes Consumed	Number of minutes required to solve
2	5
0	8
4	2
1	4
1	3
3	5
2	2
2	3
3	3
1	6

1) Identify the explanatory and response variables.

2) Given that the correlation coefficient of this data is –0.6262,
   $\bar{x} = 1.9$, $\bar{y} = 4.1$, $S_x = 1.1972$, and $S_y = 1.9119$, without using the LinReg function on your calculator, find the LSRL of the data. Round your answers to the nearest whole number.

3) Use the regression line to predict how many minutes it would take for him to solve a cube if he drinks 5 diet cokes.

4) The process in #3 is an example of _____

5) Write an interpretation of the slope and y intercept *in the context of this problem.*

6) What percentage of the variation in Mr. M's times is explained by his Diet Coke consumption?