

Applied Math 30S

Name: _____

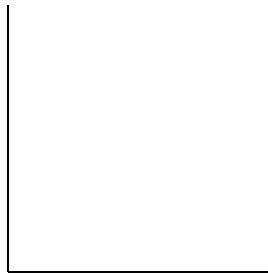
Introduction to Graphing Hand-In Assignment 2 Data, Trends, Regressions (L3 and L4)

Complete the following questions. Round to **2 decimal places** if needed. Hand in this assignment when you're done.

1. A local pizza restaurant recently celebrated their grand opening. The owner has tracked the number of pizza deliveries every month for the past five months. The data that she collected is shown in the table below.

Month	1	2	3	4	5
Number of Deliveries	171	220	266	328	379

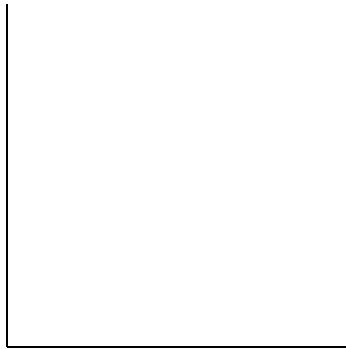
- a) Enter the data into your TI-84 and display the scatterplot. Draw a sketch of the scatterplot using the axes below. Don't forget to include labels and a scale on each axis.



- b) Describe any trends or relationships you see in the data.
- c) Use a TI-84 to determine the regression equation that best represents this data. Record the regression equation below.
- d) Use the regression equation to predict the number of deliveries in Month 12.

2. If you are ever lucky enough to find yourself in Havana, Cuba at 9 p.m. you can go and witness the firing of the 9 o'clock cannon. One observer measured the height of the cannonball over time (in milliseconds) and found the following data:

Time (ms)	Height (m)
50	325
100	419
150	432
200	376
250	218
300	92

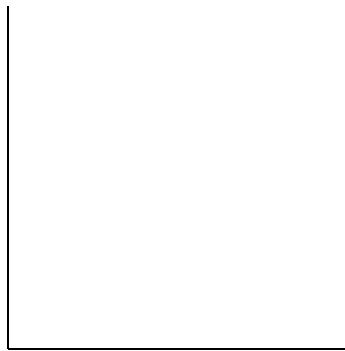


- a) Draw a scatterplot of the data shown using the axes above.
- b) Describe any trends or relationships you see in the data.
- c) Determine a regression equation that best represents this data. Record the regression equation below. **ROUND YOUR 'a' VALUE TO 5 DECIMAL PLACES.**
- d) Use your regression equation to determine the height of the cannonball at 175 ms.
- e) When the height of the cannonball reaches 0 (or a negative number) it has hit the water of the Port of Havana and sunk. Will the cannonball still be flying through the air at 350 ms? Justify your answer.

3. Ella is a grade 7 student who surveyed her friends in her class. She asked them two things: how many hats they owned and the number of pets in their household. She arrived at the following data:

Name	# of Hats	# of Pets
Annick	0	2
Briana	3	0
Lexie	10	1
Marwa	5	5
Madeline	2	4
Mariah	6	3

- a) Draw a scatterplot of this data on the axes below.



- b) Does this data seem to indicate any type of relationship between the number of hats and the number of pets that these students own?
- c) Perform a linear regression on this data and record the regression equation below.
- d) Use your regression equation to predict the number of pets for a student with 8 hats.
- e) Comment on the probability that your prediction in question d) is correct.