

Project – Using Zillow to Find Line of Best Fit/Write Equation of the Line

Directions: Scatter plots are used to represent data. Often times, this data represents a positive or negative correlation. When there is strong positive or strong negative correlation, an equation of a straight line can be used for predicting values that may not be displayed. Such a straight line is called the line of best fit.

Students will use Zillow to understand the positive correlation between house size (square footage) and house price. Students will enter their home address on Zillow. Using the data displayed, students will create a scatter plot showing the square footage and price for 25-30 nearby homes. Students will then derive the equation of the line so predictions can be made.

Steps to complete project:

- 1) Go to www.zillow.com.
- 2) Enter home address.

The screenshot shows the Zillow website interface. At the top, there are navigation links for 'Buy', 'Rent', 'Sell', 'Mortgages', 'Agent finder', 'Advice', 'Home design', and 'More'. The search bar contains the address '1795 Aster Road Macungie, PA 1'. Below the search bar, there are filters for 'LISTING TYPE', 'ANY PRICE', '0+ BEDS', and 'HOME TYPE'. The main content area is split into two parts: a map on the left and a property details panel on the right. The map shows a neighborhood with several houses, each labeled with its price. The property details panel for '1795 Aster Rd, Macungie, PA 18062' shows '3 beds · 2.5 baths · 1,550 sqft'. The 'OFF MARKET' section shows a 'Zestimate' of '\$128,538' and a 'Rent Zestimate' of '\$1,295/mo'. The 'EST. MORTGAGE' section shows '\$475/mo'. The 'GET A PROFESSIONAL ESTIMATE' section lists three agents: Meryl D Cooper, Peter Ryan, and Robert Dandi. A black arrow points from the text 'Enter home address.' to the search bar. Two black circles highlight the 'Price' and 'Size of Home' labels, with lines pointing to the 'Zestimate' and '1,550 square foot' values respectively.

- 3) Collect data on your home and 24-29 other homes in your neighborhood. To see square footage of a particular home, scroll over a home displayed on Zillow and double click on the price displayed.

4) The data collected should be displayed in a neat, organized table. Don't forget to label your x and y.

Home Address	Square Footage (x)	Price (y)

5) Use your completed table to create a scatter plot on the calculator. Carefully consider the values you will use on the x and y-axes.

6) Sketch a scatterplot.

7) Write an equation that best represents your data displayed.

8) Predict a data point that is not on the graph. For example, use the line of best fit to predict how much your house would cost if your parents made a 500 square foot addition to the house.

9) Predict the cost of a home with the following square footage:

- a) 1,000 sq ft
- b) 3,000 sq ft
- c) 10,000 sq ft

10) Make a poster showing all of the information including

- 1. Name of your neighborhood
- 2. Table
- 3. Scatter plot with line of best fit drawn
- 4. The equation of the line of best fit, with all steps displayed
- 5. Predictions