

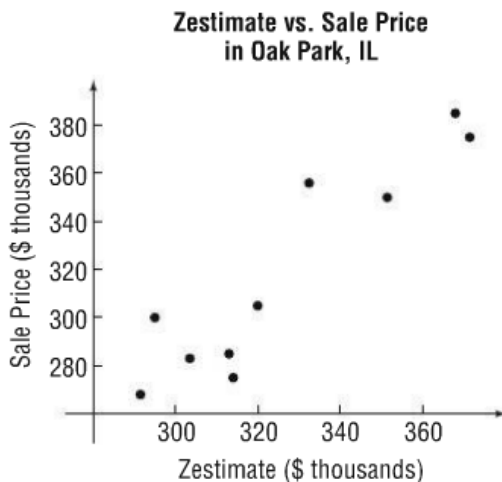
Determining the Selling Price of a Home



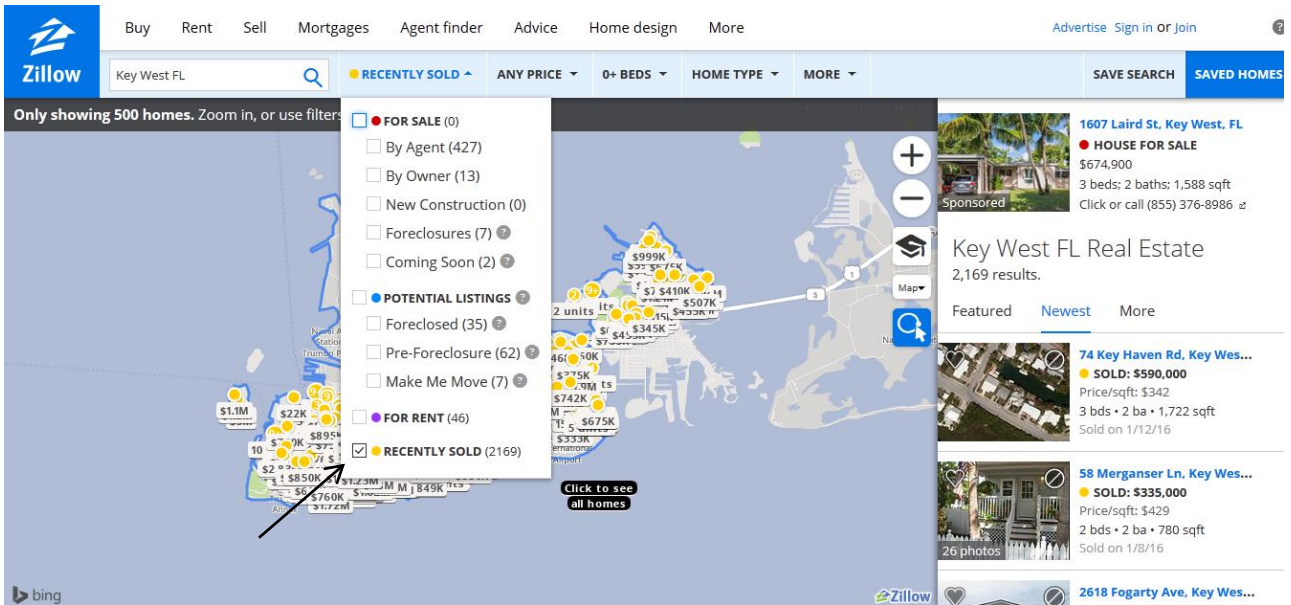
Determining how much to pay for a home is one of the more difficult decisions that must be made when purchasing a home. There are many factors that play a role in a home's value. Location, size, number of bedrooms, number of bathrooms, lot size, and building materials are just a few. Fortunately, the website Zillow.com has developed its own formula for predicting the selling price of a home. This information is a great tool for predicting the actual sale price. For example, the data below show the “zestimate” - the selling price of a home as predicted by the folks at Zillow - and the actual selling price of the home, for homes in Oak Park, Illinois. Notice that sometimes the zestimate is too high or too low.

Zestimate (\$ thousands)	Sale Price (\$ thousands)
291.5	268
320	305
371.5	375
303.5	283
351.5	350
314	275
332.5	356
295	300
313	285
368	385

The graph below, called a scatter diagram, shows the points from the table plotted in a Cartesian plane. Notice that x represents the zestimate and y represents the actual selling price: (291.5, 268), (320, 305), ... (368, 385)



1. Imagine drawing a line through the data that appears to fit the data well. Do you believe the slope of the line would be positive, negative, or close to zero? Why?
2. Pick two points from the scatter diagram (for exact values, reference the table on the first page). Treat the zestimate (in thousands) as the value of x , and the treat the sale price (in thousands) as the corresponding value of y . List the two points and find the equation of the line through the two points you selected.
3. Interpret the slope of the line in the context of actual sale price as related to the zestimate. For every one (thousand) dollar increase in the zestimate, what happens to the sale price?
4. Use your equation to predict the selling price of a home whose zestimate is \$335,000. (Note that the x and y in your equation is in thousands.)
5. Use your equation from 4 to determine the selling price for a house with a zestimate of \$950,000. Do you believe it would be a good idea to use the equation you found in part 2 if the zestimate were \$950,000? Why or why not?
6. Do some of your own research online.
 - a. Choose a city in which you would like to live. Go to www.zillow.com and randomly select at least ten homes that have sold. Filter your search by only searching homes under 'Recently Sold'. (See the screenshot on the following page.)
 - o Record the zestimate and the actual selling price of each home, both rounded to the nearest thousand.
 - o List the city and the date that you pulled the data.



- Draw a scatter diagram of your data. Again, let x be the zestimate (in thousands) and y be the sale price (in thousands). You can either accurately draw your scatter diagram by hand or use Excel.
- Select two points from the scatter diagram and find the equation of the line through the points.
- Interpret the slope as you did in question 3.
- Find a home for sale on Zillow in the same city from part (a) that interests you and has a zestimate available. **Do not choose one of the homes that you used for part a and has already been sold.** List the address and use your equation from part (c) to predict the sale price based on the zestimate. Do you believe your equation predicts an accurate sale price?