P Discovery Project

Home Sweet Home: Using Confidence Intervals to Analyze and Compare Home Prices

Data

The data can be found by visiting stat.hawkeslearning.com and navigating to **Discovering Business Statistics, Second Edition > Data Sets > Mount Pleasant Real Estate Data**.

One of the biggest purchases we make in our lives is a home. As we buy a home we ask ourselves many questions such as:

How much should I spend for a home?

How many bathrooms are there?

What is the cost per square foot?

Suppose you are looking for a house near Charleston in Mount Pleasant, SC, and you have narrowed your search to three subdivisions: Carolina Park, Dunes West, and Park West.

1. Download the Mount Pleasant Real Estate data set.
2. Import the data into Minitab, Excel or other statistical software.
3. For the variable *List Price,* calculate the sample mean, the sample standard deviation, and the sample size for the three different subdivisions. Put the calculations in a table and round to the nearest dollar for the sample standard deviation and the mean.
4. Based on the data set and the information we have, which confidence interval should we use here, a z or a t interval? Why?
5. Find the critical value for a 95% confidence level for each subdivision for the variable *List Price*.
6. Construct an interval to estimate the true average *List Price* for each subdivision with 95% confidence. Based on these confidence intervals, is it possible that Carolina Park and Dunes West have the same average *List Price*. Discuss.
7. Do you think a *List Price* of $520,000 is a reasonable value for the Carolina Park subdivision?
8. Do you think a *List Price* of $670,000 is a reasonable value for the Dunes West subdivision?
9. Do you think a *List Price* of $568,000 is a reasonable value for both the Carolina Park and Park West subdivisions?