

Chapter Project

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

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?

Data

The data can be found at
stat.hawkeslearning.com

**Data Sets > Mount Pleasant
Real Estate Data**

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.

- Download the Mount Pleasant Real Estate data set.
- Import the data into Minitab, Excel or other statistical software.
- 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.
- Based on the data set and the information we have, which confidence interval should we use here, a *z* or a *t* interval? Why?
- Find the critical value for a 95% confidence level for each subdivision for the variable *List Price*.
- 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.
- Do you think a *List Price* of \$520,000 is a reasonable value for the Carolina Park subdivision?
- Do you think a *List Price* of \$670,000 is a reasonable value for the Dunes West subdivision?
- Do you think a *List Price* of \$568,000 is a reasonable value for both the Carolina Park and Park West subdivisions?