

Final Exam, Part 1 (take home)

Name \_\_\_\_\_

BUSAD 360

Fall 2014

**Show All Work! Answers limited to 6 pages (see below)!**

Download Pueblo Real Estate data:

<http://www.justinholman.com/wp-content/uploads/2014/11/PuebloRESales2014Q1Q2.xlsx>

You will be assigned one of 4 Pueblo Divisions.

Your assigned Division is (Central, East, North or South): \_\_\_\_\_.

Bivariate Analysis:

1. Using only your assigned Division, create a **unique** randomly selected sample of 20 properties. Print a list of the selected properties with all variables (p. 1).
2. Examine the relationship between “Total SqFt” (x) and “Selling Price” (y)
  - a. Produce a scatter plot.
  - b. Calculate the Pearson Correlation Coefficient.
  - c. Find the equation of the regression line.
  - d. Calculate the Coefficient of Determination.
  - e. Calculate the t test of slope.
  - f. Calculate the F test of the overall model.
  - g. Produce price estimates (4) with 95% confidence intervals assuming “Total SqFt” equal to 1,200, 1,600, 2,000 and 2,400
  - h. Demonstrate all work with answers clearly indicated (p. 2-3).

Multivariate Analysis:

1. Using only your assigned division build a multiple regression model in Excel to predict “Selling Price” using “Bedrooms”, “Bathrooms” and “Total SqFt”. Print output (p. 4).
2. Create and test indicator (dummy) variables corresponding to each “Sub Area” within your assigned Division. Print output (p. 5).
3. Build a regression model combining the most significant variables found in steps #1 and #2 (under Multivariate Analysis, not Bivariate Analysis) above. Your resulting model should attempt to maximize accuracy and significance while avoiding too much complexity. Print output (p. 6).