

1. **Simple Linear Regression.** An economist studies the relationship between household income (x) and annual landscape expenditures (y) in a region, both in dollars. Here are the summary statistics: $n = 11$, $\bar{x} = 83,031$, $s_x = 45,796$, $\bar{y} = 5,535$, $s_y = 4,048$, $r = 0.49$, $\hat{\sigma} = 3718$.
- Find the coefficients of the regression line.
 - What is the predicted annual landscape expenditure for a home with household income of \$100,000.
 - Describe an informal method for testing if the linear model is adequate.
 - The standard error for the slope of the model is 0.02568. Find a 95% confidence interval for the slope.
 - Is the p-value for the hypothesis that the slope is zero less than or greater than 0.05? Briefly explain.
2. In a study of the effect of smoking on heart rate after exercise, six individuals each from groups of nonsmokers, light smokers, moderate smokers, and heavy smokers undertook sustained physical exercise and then had their heart rates measured after three minutes of rest. Complete the following ANOVA table.

Source	df	SS	MS	F
Smoking		1464.125		
Residual		1594.833		
Total				