

Week 2 - Check Your Understanding

1. Multiple Linear Regression means
 - a. Multiple responses
 - b. Multiple predictors
2. A statistician have data for the sales and the amount of money spent advertising on TV, the radio and in newspapers. She wants to build a model to predict the number of sales. Which one is a better approach?
 - a. Run three separate simple linear regressions each of which uses a different advertising medium as a predictor.
 - b. Run a multiple linear model with three predictors are the amount of money spent advertising on TV, the radio and in newspapers.
3. In the multiple linear regression table that has no multicollinearity, a predictor with a small p-value (less than .05) indicates that the variable is not significant and should not be included in the model.
 - a. True
 - b. False
4. It is possible that a predictor is significant (p-value less than .05) in simple linear model but not significant (p-value greater than .05) in multiple linear model.
 - a. True
 - b. False
5. In multiple linear regression, a predictor could be categorical.
 - a. True
 - b. False
6. To incorporate a categorical predictor with r levels (i.e., it has r different categories), one needs to introduce $r - 1$ dummy variables.
 - a. True
 - b. False
7. In multiple linear model, we can test for the significant of a reduced model (using a subset of predictors) using
 - a. t-test
 - b. F-test
8. Including predictors in multiple linear model will always increase the R^2 of the model.
 - a. True
 - b. False
9. Multicollinearity in multiple linear model does not affect the predictive power of the model
 - a. True
 - b. False