

For each problem presented do the following:

- a State each model statistically, identifying each predictor with one or more component variables.
 - b Identify and interpret each regression parameter.
 - c State each hypothesis requested as a formal statistical hypothesis involving a null and alternative hypothesis using proper parameters, and give the degrees of freedom of the test.
1. The mean of an outcome Y is linear in age and blood pressure, and there may be an interaction between the two predictors. Test: H_0 : there is no interaction between age and blood pressure. Test: H_0 : blood pressure is not associated with Y in any fashion.
 2. Consider a linear additive model involving three treatments (control, drug Z, and drug Q) and one continuous adjustment variable, age. Test H_0 : treatment group is not associated with response, adjusted for age. Test H_0 : the response for drug Z has the same effect as the response for Drug Q, adjusted for age.