

Quiz: More Complex Models

Select the best answer for each question. When you are finished, click **Submit Quiz**.

1. If you want to compare the average monthly spending for teenagers, adults, and senior citizens, which statistical method should you choose?

- ☐ a. one-sample t test
- ☒ b. one-way ANOVA
- ☐ c. two-way ANOVA

2. If you're trying to understand the relationship between age, weight, and running time, what is your goal?

- ☒ a. explanatory analysis
- ☐ b. prediction

3. When you perform a two-way ANOVA in SAS, which of the following statements correctly defines the model that includes the interaction between the two main effect variables?

- ☐ a. `class Drug*Disease;`
- ☐ b. `class Drug=Disease;`
- ☐ c. `model Drug*Disease;`
- ☒ d. `model Health=Drug Disease Drug*Disease;`

4. Which of the following is not an assumption in a two-way ANOVA?

- ☒ a. The sample is large.
- ☐ b. The observations are independent.
- ☐ c. The data is normally distributed.
- ☐ d. The population variances are equal for each treatment combination.

5. Consider a table of individual effects. Which statistic adjusts for all other effects in the table?

- ☐ a. Type I sum of squares

☒ b. Type III sum of squares

6. You know you'll need to do postprocessing analysis, so you use the statement below to create an item store. Later, you can start a new SAS session and perform additional analysis on the item store, **proj1results**.

```
STORE OUT=proj1results;
```

- ☐ a. true
☒ b. false
-

7. A multiple regression analysis shows that at least one slope in the regression of the population is not 0, and at least one predictor variable explains a significant amount of variability in the response variable. What should you do?

- ☒ a. Reject the null hypothesis.
☐ b. Fail to reject the null hypothesis.
☐ c. There isn't enough information to make a decision.
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8. The adjusted R-square increases for every term that is added to the model.

- ☐ a. true
☒ b. false
-

9. A best practice in a two-way ANOVA is to plot the data to identify possible interactions between the variables. Which statement is true when you consider an interaction plot?

- ☒ a. An interaction occurs when the difference between group means of one variable changes at different levels of another variable. This causes non-parallel lines in the interaction plot.
☐ b. An interaction occurs when the difference between group means are consistent at different levels of another variable. This causes parallel lines in the interaction plot.
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10. You want to use PROC PLM to analyze the item store named **mystore** which was created in the **stat1** library. Which of the following statements uses the correct syntax?

- ☐ a. PROC PLM DATA=stat1.mystore;
☒ b. PROC PLM RESTORE=stat1.mystore;
☐ c. PROC PLM STORE=stat1.mystore;
☐ d. PROC PLM LIB=stat1 STORE=mystore;
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