

✔ **Congratulations! You passed!**

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1. Fill in the blank: The _____ determines whether an observed categorical variable follows an expected distribution.

1 / 1 point

- ☒ chi-squared goodness of fit test
- ☐ F-test
- ☐ bias-variance test
- ☐ chi-squared test for independence

✔ **Correct**

2. What examines the relationship between categorical variables and continuous variables?

1 / 1 point

- ☐ Loss function
- ☐ Explanatory variance
- ☐ Adjusted R-squared
- ☒ Analysis of variance

✔ **Correct**

3. A data professional at an online retailer wants to understand the expected outcome of an upcoming sale. They perform a test that compares the means of one continuous dependent variable based on five groups of two categorical variables. What type of test does this scenario describe?

1 / 1 point

- ☐ Post hoc test
- ☐ One-way analysis of variance
- ☒ Two-way analysis of variance
- ☐ T-test

✔ **Correct**

4. Fill in the blank: The post hoc test performs a pairwise comparison between _____ while controlling for the error rate.

1 / 1 point

- ☐ only two groups
- ☒ all available groups
- ☐ only one group
- ☐ only three groups

✔ **Correct**

5. A data professional at an automotive manufacturer is asked to find a solution to a common manufacturing defect. They research the relationship between categorical and continuous variables to ensure all variables are relevant to the specific defect. What type of statistical technique do they use?

1 / 1 point

- ☐ Analysis of regression
- ☐ Analysis of variance
- ☐ Analysis of independence
- ☒ Analysis of covariance

✔ **Correct**

6. A data professional compares how two or more continuous variables vary according to categorical independent variables. What statistical technique are they using?

1 / 1 point

- ☐ Mean analysis of variables
- ☒ Multivariate analysis of variance
- ☐ Analysis of variables
- ☐ Analysis of variance

✔ **Correct**

7. A researcher wants to evaluate the effectiveness of different job training programs on various skill outcomes. She has two continuous dependent variables: a technical skills score and a soft skills score. Her independent variable is the training program, which can be either in-person instruction or online instruction. What type of analysis should she use?

1 / 1 point

- ☒ MANOVA
- ☐ ANOVA
- ☐ ANCOVA
- ☐ MANCOVA

✔ **Correct**