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1. A data team working for an online magazine uses a regression technique to learn about advertising sales in different sections of the publication. They estimate the linear relationship between one continuous dependent variable and four independent variables. What technique are they using? 1 / 1 point

- (●) Multiple linear regression
- ( ) Coefficient regression
- ( ) Interaction regression
- ( ) Simple linear regression

✓ Correct

2. What technique turns one categorical variable into several binary variables? 1 / 1 point

- (●) One hot encoding
- ( ) Multiple linear regression
- ( ) Overfitting
- ( ) Adjusted R squared

✓ Correct

3. Fill in the blank: The no multicollinearity assumption states that no two _____ variables can be highly correlated with each other. 1 / 1 point

- ( ) continuous
- (●) independent
- ( ) categorical
- ( ) dependent

✓ Correct

4. What term represents how the relationship between two independent variables is associated with changes in the mean of the dependent variable? 1 / 1 point

- (●) Interaction term
- ( ) Coefficient term

- ○ Selection term
- ○ Normality term

✓ Correct

5. Which regression evaluation metric penalizes unnecessary explanatory variables? 1 / 1 point

- ○ Overfitting
- ○ Holdout sampling
- ○ Regression sampling
- ◉ Adjusted R squared

✓ Correct

6. Which of the following statements accurately describe forward selection and backward elimination? Select all that apply. 0.5 / 1 point

- ☑ Forward selection begins with the full model with all possible independent variables.

✗ This should not be selected
Review the video about variable selection.

- ☑ Backward elimination begins with the full model with all possible independent variables.

✓ Correct

- ☐ Forward selection begins with the full model and zero independent variables.
- ☐ Forward selection begins with the full model with all possible dependent variables.

7. A data professional reviews model predictions for a project involving financial data. During the review, they notice a model that oversimplifies the relationship and underfits the observed data. This generates inaccurate estimates for the company's annual budget. What quality does this model have? 1 / 1 point

- ○ Selection
- ○ Elimination
- ◉ Bias
- ○ Variance

✓ Correct

8. What regularization technique completely removes variables that are less important to predicting the y variable of interest? 1 / 1 point

- ○ Ridge regression
- ◉ Lasso regression
- ○ Independent regression
- ○ Elastic net regression

✓ Correct