Congratulations! You passed!

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1. A data professional determines the best fit line by calculating the difference between observed values and the predicted value of a regression line. What is this calculation? **1 / 1 point**

- (●) Residual
- ( ) Coefficient
- ( ) Notion
- ( ) Parameter

Correct

2. A data professional minimizes the sum of squared residuals to estimate parameters in a linear regression model. What method are they using? **1 / 1 point**

- ( ) Mean absolute error
- (●) Ordinary least squares
- ( ) Residual coefficients
- ( ) R squared

Correct

3. A data professional testing for linear regression assumptions notices that their visualization of the data appears like a random cloud. Which model assumption does this invalidate? **1 / 1 point**

- ( ) Independent observation
- (●) Linearity
- ( ) Homoscedasticity
- ( ) Normality

Correct

4. FIll in the blank: A scatterplot matrix is a series of scatterplots that show the _____ between pairs of variables. **1 / 1 point**

- ( ) discrepancies
- (●) relationships
- ( ) variability
- ( ) distances

Correct

5. A data analytics professional working for a storage facility checks model assumptions while determining optimal storage space sizes. They notice dependent variables appear in a cone-shaped pattern when plotting the residuals against the dependent variable. Which model assumption does this invalidate? **0 / 1 point**

- ( ) Homoscedasticity
- ( ) Normality
- ( ) Independent observation
- (●) Linearity

Incorrect
Review the video about linear regression assumptions.

6. Fill in the blank: A confidence band is the area surrounding a line that describes the _____ around the predicted outcome at every value of X. **1 / 1 point**

- ( ) accuracy

- (●) uncertainty
- ( ) inaccuracy
- ( ) certainty

Correct

7. A data professional determines how much of the variation in the X variable explains the variation in the Y variable. Which model evaluation metric enables this determination? **1 / 1 point**

- (●) R squared
- ( ) Mean absolute error (MAE)
- ( ) Mean squared error (MSE)
- ( ) P-value

Correct

8. Which of the following statements accurately describe running a randomized, controlled experiment? Select all that apply. **0.75 / 1 point**

- [ ] To be successful, data professionals must control for every factor in the experiment.
- [ ] It cannot have a control group.
- [x] It is typically used when arguing for causation between variables.

Correct

- [x] It is a study design that randomly assigns participants into groups.

Correct

You didn't select all the correct answers