

Congratulations! You passed!  
Grade received 93.75%  
Latest Submission Grade 93.75%  
To pass 80% or higher  
Go to next item

1. Fill in the blank: \_\_\_\_\_ is the difference between observed values and the predicted values of a regression line. 1 / 1 point

- ☐ Error  
☐ Coefficient  
☒ Residual  
☐ Intercept

☒ Correct

2. In linear regression, what mathematical technique is used to calculate the best fit line? 1 / 1 point

- ☒ Ordinary least squares  
☐ Coefficient of determination  
☐ Sum of squared residuals  
☐ Hold out coefficient

☒ Correct

3. A data professional testing for linear regression assumptions notices that their visualization appears with an upward curve. Which model assumption does this invalidate? 1 / 1 point

- ☐ Normality  
☒ Linearity  
☐ Homoscedasticity  
☐ Independent observation

☒ Correct

4. Fill in the blank: A scatterplot \_\_\_\_\_ is a series of scatterplots that show the relationships between pairs of variables. 1 / 1 point

- ☐ succession  
☐ progression

- ☒ matrix
- ☐ array

☒ Correct

5. A data team at a forestry organization checks model assumptions while working on a project about tree propagation. They ensure the dependent variables appear in a random cloud, which occurs when plotting the residuals against the dependent variable. What does this scenario describe?

1 / 1 point

- ☐ Linearity
- ☐ Normality
- ☐ Independent observation
- ☒ Homoscedasticity

☒ Correct

6. Fill in the blank: A confidence band is the area surrounding a line that describes the uncertainty around the predicted outcome at every value of \_\_\_\_.

1 / 1 point

- ☐ Y
- ☐ slope
- ☒ X
- ☐ intercept

☒ Correct

7. What measures the proportion of variation in the dependent variable Y explained by the independent variable X?

1 / 1 point

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

☒ Correct

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

0.5 / 1 point

☒ It is a study design that systematically and methodically assigns participants into groups.

☐ This should not be selected  
Review [the reading about correlation versus causation.](#)

☒ The differences between the control and treatment groups must be observable and measurable.

☒ Correct

☐ To be successful, data professionals must control for every factor in the experiment.

☒ It is typically used when arguing for causation between variables.

☒ Correct