



AML Course Entry Quiz Sample Questions

Please review the sample questions below, which will give you an idea of the types of questions you will encounter on the Applied Machine Learning Course Entry Quiz. Please note that these are not the exact questions from the quiz.

1. What is the derivative of $(2x^2 + 9)^2$
 - a. $4x^2 + 4x + 18$
 - b. $16x^3 + 72x$
 - c. $16x^2$
 - d. $32x^2$

2. A simple linear regression model is fit relating $X = [\text{product price in dollars}]$ with $Y = [\text{product sales revenue in dollars}]$. The estimate of the model is $\hat{Y} = 41.50 - 42.50X$. Which of the following statements is correct?
 - a. A unit increase in price corresponds to a \$42.50 decrease in sales revenue.
 - b. A unit decrease in price corresponds to a \$84.00 increase in sales revenue.
 - c. A unit decrease in price corresponds to a \$1.00 decrease in sales revenue.
 - d. This cannot be determined from the information provided.

3. Consider the following values of highway mileage ratings. What is the median value?

Mileage Ratings
30.0
42.1
35.6
35.0
37.2
36.0
38.5
35.6
36.7
41.5



- a. 36.0
 - b. 35.6
 - c. 36.7
 - d. 36.35
4. Which of the following are **not** assumptions required before implementing a **multiple linear regression model**?
- a. X_k and Y have an approximately linear relationship for all k .
 - b. X_k and Y are independent of one another for all k .
 - c. All errors ε_i and ε_j are independent of one another for $i \neq j$.
 - d. All errors ε_i are equal.
5. A best fit line relating X and Y has a R^2 value of 0.7. How do I interpret this information?
- a. The model is performing with 70% accuracy.
 - b. X and Y are 70% related.
 - c. 70% of the variance in Y is explained by X .
 - d. The correlation between X and Y is 0.7.
 - e. None of the above is the proper interpretation of R^2 .
6. Which of the following algorithms is non-parametric?
- a. Linear Regression
 - b. Logistic Regression
 - c. Convolutional Neural Network
 - d. Decision Tree

Answer Key:

1. B
2. A
3. D
4. D
5. C
6. D