

***Introductory Econometrics A Modern Approach 7th
edition Wooldridge Test Bank***

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TRUE/FALSE

1 : A natural measure of the association between two random variables is the correlation coefficient.

A : true

B : false

Correct Answer : A

2 : Simple regression is an analysis of correlation between two variables.?

A : true

B : false

Correct Answer : A

3 : The sample covariance between the regressors and the Ordinary Least Square (OLS) residuals is always positive.

A : true

B : false

Correct Answer : B

4 : R^2 is the ratio of the explained variation compared to the total variation.

A : true

B : false

Correct Answer : A

5 : There are $n-1$ degrees of freedom in Ordinary Least Square residuals.

A : true

B : false

Correct Answer : B

6 : The variance of the slope estimator increases as the error variance decreases.

A : true

B : false

Correct Answer : B

7 : In general, the constant that produces the smallest sum of squared deviations is always the sample average.

A : true

B : false

Correct Answer : A

8 : In a simple linear regression model, $\text{wage} = \beta_0 + \beta_1 \text{male} + u$

, where male is a binary variable (1 if a person is male, and 0 otherwise), β_1 is the difference in the average wage between males and non-males.

A : true

B : false

Correct Answer : A

MULTIPLE CHOICE

9 : A dependent variable is also known as a(n) _____.

A : explanatory variable

B : control variable

C : predictor variable

D : response variable

Correct Answer : D

10 : If a change in variable x causes a change in variable y, variable x is called the _____.

A : dependent variable

B : explained variable

C : explanatory variable

D : response variable

Correct Answer : C

11 : $y = \beta_0 + \beta_1 x + u$, β_0

In the equation is the _____.

A : dependent variable

B : independent variable

C : slope parameter

D : intercept parameter

Correct Answer : D

12 : $y = \beta_0 + \beta_1 x + u$

In the equation , what is the estimated value of ?

A :

B :

Correct Answer : A

13 : $c = \beta_0 + \beta_1 i + u$

In the equation , c denotes consumption and i denotes income. What is the residual for the 5th observation if $=\$500$ and $=\$475$?

A : \$975

B : \$300

C : \$25

D : \$50

Correct Answer : C

14 : What does the equation denote if the regression equation is $\hat{y} = \hat{\beta}_0 + \hat{\beta}_1 x$

?

- A : The explained sum of squares
- B : The total sum of squares
- C : The sample regression function
- D : The population regression function

Correct Answer : C

15 : If x_i and y_i are positively correlated in the sample then the estimated slope is _____.?

- A : ?less than zero
- B : ?greater than zero
- C : ?equal to zero
- D : ?equal to one

Correct Answer : B

16 : The sample correlation between x_i and y_i is denoted by _____.?

Correct Answer : D

17 : Consider the following regression model: $y = \alpha_0 + \alpha_1 x_1 + u$. Which of the following is a property of Ordinary Least Square (OLS) estimates of this model and their associated statistics?

- A : The sum, and therefore the sample average of the OLS residuals, is positive.
- B : The sum of the OLS residuals is negative.
- C : The sample covariance between the regressors and the OLS residuals is positive.
- D : The sample covariance between the regressors and the OLS residuals is negative.

Correct Answer : D

18 : $y_i = \beta_0 + \beta_1 x_{i1} + u_i$

The explained sum of squares for the regression function, $\hat{y}$, is defined as _____.?

- C : ?
- A : ?
- D : ?

B : ?
Correct Answer : B

C :

19 : If the total sum of squares (SST) in a regression equation is 81, and the residual sum of squares (SSR) is 25, what is the explained sum of squares (SSE)?

- A : 64
- B : 56
- C : 32

D : 18

Correct Answer : B

20 : If the residual sum of squares (SSR) in a regression analysis is 66 and the total sum of squares (SST) is equal to 90, what is the value of the coefficient of determination?

A : 0.73

B : 0.55

C : 0.27

D : 1.2

Correct Answer : C

21 : Which of the following is a nonlinear regression model?

A : $y =$

$$\beta_0 + \beta_1 x^{1/2} + u$$

$$\beta_0 + \beta_1 \log x + u$$

B : $\log y = \beta_0 + \beta_1 x + u$

$$\beta_0 + \beta_1 x + u$$

C : $y = 1 / ($

Correct Answer : C

D : $y =$

22 : In a regression equation, changing the units of measurement of only the independent variable does not affect the _____.

A : ?dependent variable

B : ?slope

C : ?intercept

D : ?error term

Correct Answer : C

23 : Which of the following is assumed for establishing the unbiasedness of Ordinary Least Square (OLS) estimates?

- A : The error term has an expected value of 1 given any value of the explanatory variable.
- B : The regression equation is linear in the explained and explanatory variables.
- C : The sample outcomes on the explanatory variable are all the same value.
- D : The error term has the same variance given any value of the explanatory variable.

Correct Answer : B

24 : The error term in a regression equation is said to exhibit homoskedasticity if _____.

- A : it has zero conditional mean
- B : it has the same variance for all values of the explanatory variable
- C : it has the same value for all values of the explanatory variable
- D : if the error term has a value of one given any value of the explanatory variable

Correct Answer : B

25 : In the regression of y on x , the error term exhibits heteroskedasticity if _____.

- A : it has a constant variance
- B : $\text{Var}(y|x)$ is a function of x
- C : x is a function of y
- D : y is a function of x

Correct Answer : B

26 : What is the estimated value of the slope parameter when the regression equation, $y = \beta_0 + \beta_1 x + u$ passes through the origin?

A :

B :

Correct Answer : C

C :

27 : Consider a simple linear regression model, $y = \beta_0 + \beta_1 x + u$, . What does the zero conditional mean assumption imply?

- A : The expected value of the error term, u , is zero, regardless of what the value of the explanatory variable, x , is.
- B : The estimated average value of β_1 is zero.
- C : The expected value of the explained variable, y , is zero, regardless of what the value of the explanatory variable, x , is.
- D : The estimated average value of β_0 is zero.

Correct Answer : A

28 : Which of the following will cause Ordinary Least Square (OLS) estimates of a simple regression model, $y = \beta_0 + \beta_1 x + u$ to be biased?

A : Every individual in the population has the same probability of being observed in the sample.

B : The observed values of y span a wide range.

C : The constant,

is greater than the coefficient, β_1 .

D : The constant, β_0 , is greater than the coefficient, β_1 .

Correct Answer : D

29 : Which of the following is an example of a dummy variable?

- A : A person's hourly wage
- B : The number of years of education someone has
- C : The number of years of work experience someone has
- D : Whether or not someone has a college degree

Correct Answer : D

30 : Consider a simple linear regression model, $\text{wage} = \beta_0 + \beta_1 \text{male} + u$

, where male is a binary variable (1 if a person is male, and 0 otherwise). Now suppose that we know being a male means there is a lower probability of attaining higher education, another factor that is also expected to affect wage.

Which of the key assumptions made to establish unbiasedness of OLS estimates do not hold?

- A : Linear in parameters
- B : Random sampling
- C : Sample variation in the explanatory variable
- D : Zero conditional mean

Correct Answer : D