21 When implementing linear regression of some dependent variable $y$ on the set of independent variables $\mathbf{x} = (x_1, ..., x_r)$, where $r$ is the number of predictors, which of the following statements will be true?

**a) $\beta_0, \beta_1, ..., \beta_r$ are the regression coefficients.**

22 ) What indicates that you have a perfect fit in linear regression?

**b) The value $R^2 = 0$, which corresponds to SSR = 1**

23)

In simple linear regression, the value of what shows the point where the estimated regression line

crosses the $y$ axis?

**a) Y**

24) Check out these four linear regression plots:

Which one represents an under fitted model?

**a) The bottom-left plot**

25)

There are five basic steps when you're implementing linear regression:

• a. Check the results of model fitting to know whether the model is satisfactory.

• b. Provide data to work with, and eventually do appropriate transformations.

• c. Apply the model for predictions.

• d. Import the packages and classes that you need.

• e. Create a regression model and fit it with existing data.

However, those steps are currently listed in the wrong order. What's the correct order-

**c) d, b, e, a, c**

26 ) Which of the following are optional parameters to Linear Regression in scikit-learn?

**b) fit_intercept.**

27) While working with scikit-learn, in which type of regression do you need to transform the array of inputs to include nonlinear terms such as $x^2$?

**a) Multiple linear regression**

28) You should choose stats models over scikit-learn when:

**d) You need to include optional parameters.**

29) _____ is a fundamental package for scientific computing with Python. It offers comprehensive mathematical functions, random number generators, linear algebra routines, Fourier transforms, and more. It provides a high-level syntax that makes it accessible and productive.

**b) Numpy.**

30 ) _____ is a Python data visualization library based on Matplotlib. It provides a high-level interface for drawing attractive and informative statistical graphics that allow you to explore and understand your data. It integrates closely with pandas data structures.

b) **Seaborn**