Microsoft AI-900 - Microsoft Azure AI Fundamentals Exam

Question 26 (Single Topic)

DRAG DROP -
Match the machine learning tasks to the appropriate scenarios.
To answer, drag the appropriate task from the column on the left to its scenario on the right. Each task may be used once, more than once, or not at all.
NOTE: Each correct selection is worth one point.
Select and Place:

Learning Types	Answer Area	
Feature engineering	Task	Examining the values of a confusion matrix
Feature selection	Task	Splitting a date into month, day, and year fields
Model deployment	Task	Picking temperature and pressure to train a weather model
Model evaluation		
Model training		

Answer :

Learning Types	Answer Area	
Feature engineering	Model evaluation	Examining the values of a confusion matrix
Feature selection	Feature engineering	Splitting a date into month, day, and year fields
Model deployment	Feature selection	Picking temperature and pressure to train a weather model
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Box 1: Model evaluation -
The Model evaluation module outputs a confusion matrix showing the number of true positives, false negatives, false positives, and true negatives, as well as
ROC, Precision/Recall, and Lift curves.

Box 2: Feature engineering -
Feature engineering is the process of using domain knowledge of the data to create features that help ML algorithms learn better. In Azure Machine Learning, scaling and normalization techniques are applied to facilitate feature engineering. Collectively, these techniques and feature engineering are referred to as featurization.
Note: Often, features are created from raw data through a process of feature engineering. For example, a time stamp in itself might not be useful for modeling until the information is transformed into units of days, months, or categories that are relevant to the problem, such as holiday versus working day.

Box 3: Feature selection -
In machine learning and statistics, feature selection is the process of selecting a subset of relevant, useful features to use in building an analytical model. Feature selection helps narrow the field of data to the most valuable inputs. Narrowing the field of data helps reduce noise and improve training performance.
Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/studio/evaluate-model-performance https://docs.microsoft.com/en-us/azure/machine-learning/concept-automated-ml

Question 27 (Single Topic)

HOTSPOT -
To complete the sentence, select the appropriate option in the answer area.
Hot Area:

Answer Area

Data values that influence the prediction of a model are called [ ]
- dependant variables.
- features.
- identifiers.
- labels.

Answer Area

Data values that influence the prediction of a model are called [ ]
- dependant variables.
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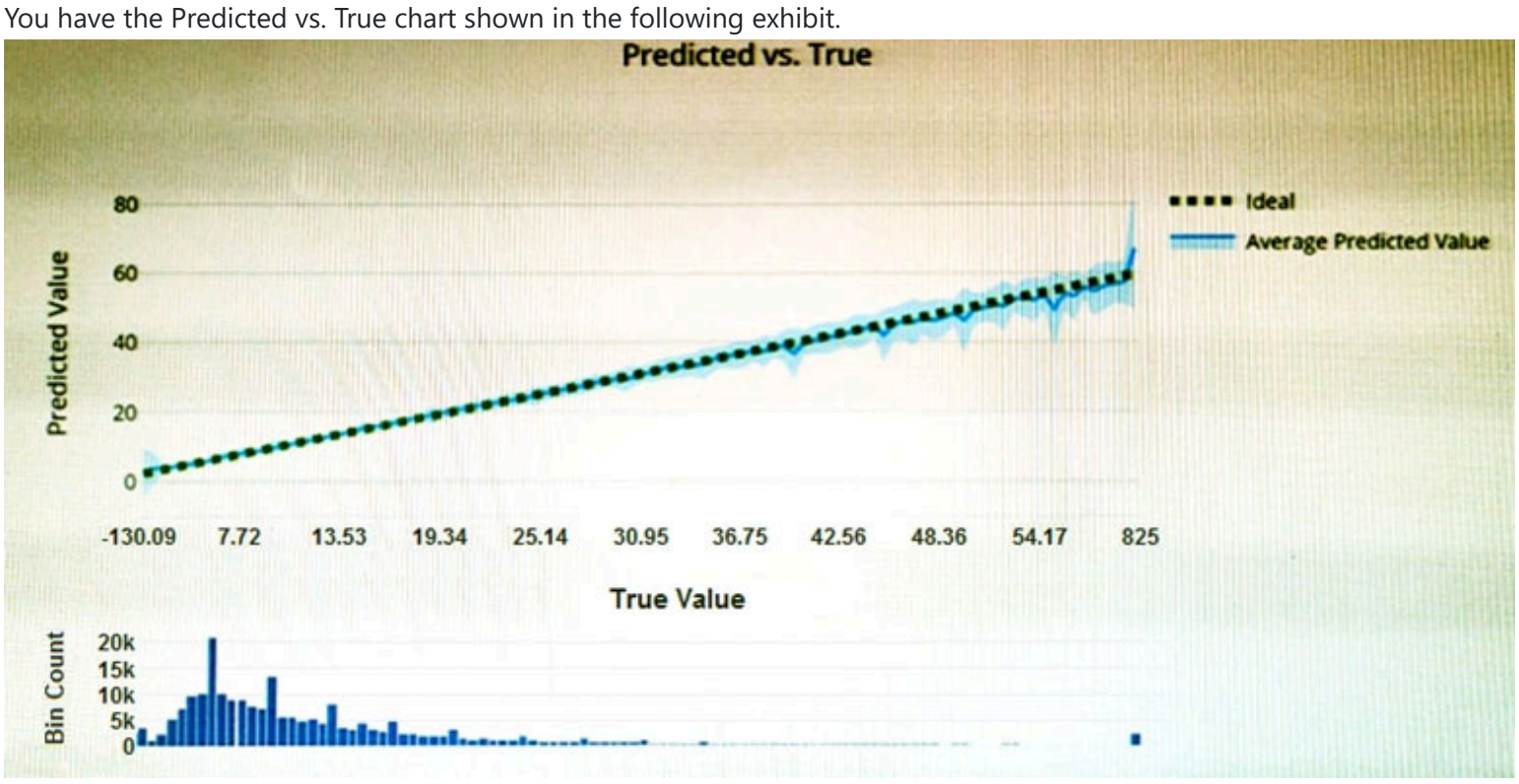
- identifiers.
- labels.

Answer :

Reference:
https://www.baeldung.com/cs/feature-vs-label
https://machinelearningmastery.com/discover-feature-engineering-how-to-engineer-features-and-how-to-get-good-at-it/

Question 28 (Single Topic)

You have the Predicted vs. True chart shown in the following exhibit.



Which type of model is the chart used to evaluate?

A. classification
B. regression
C. clustering

Answer : **B**

What is a Predicted vs. True chart?
Predicted vs. True shows the relationship between a predicted value and its correlating true value for a regression problem. This graph can be used to measure performance of a model as the closer to the y=x line the predicted values are, the better the accuracy of a predictive model.

Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/how-to-understand-automated-m

Question 29 (Single Topic)

Which type of machine learning should you use to predict the number of gift cards that will be sold next month?

A. classification
B. regression
C. clustering

Answer : **B**

In the most basic sense, regression refers to prediction of a numeric target.
Linear regression attempts to establish a linear relationship between one or more independent variables and a numeric outcome, or dependent variable.
You use this module to define a linear regression method, and then train a model using a labeled dataset. The trained model can then be used to make predictions.
Reference:
https://docs.microsoft.com/en-us/azure/machine-learning/studio-module-reference/linear-regression

Question 30 (Single Topic)

You have a dataset that contains information about taxi journeys that occurred during a given period.
You need to train a model to predict the fare of a taxi journey.
What should you use as a feature?

A. the number of taxi journeys in the dataset
B. the trip distance of individual taxi journeys
C. the fare of individual taxi journeys
D. the trip ID of individual taxi journeys

Answer : **B**

The label is the column you want to predict. The identified Featuresare the inputs you give the model to predict the Label.
Example:
The provided data set contains the following columns:
vendor_id: The ID of the taxi vendor is a feature.
rate_code: The rate type of the taxi trip is a feature.
passenger_count: The number of passengers on the trip is a feature. trip_time_in_secs: The amount of time the trip took. You want to predict the fare of the trip before the trip is completed. At that moment, you don't know how long the trip would take. Thus, the trip time is not a feature and you'll exclude this column from the model. trip_distance: The distance of the trip is a feature. payment_type: The payment method (cash or credit card) is a feature. fare_amount: The total taxi fare paid is the label.
Reference:
https://docs.microsoft.com/en-us/dotnet/machine-learning/tutorials/predict-prices