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Question 1

Supervised learning requires a model with both input and output. We use supervised learning for prediction, estimation, and inference. Unsupervised learning models have an input, but the response variable is unknown. In other words, unsupervised models don't have an answer key!

Question 2

Regression models use quantitative data with a continuous outcome, or numerical values, while classification models are qualitative and typically involve discrete options for the outcome.

Question 3

2 common metrics for regression ML problems are mean squared error and R-squared values. 2 common metrics for classification ML problems are accuracy and precision.

Question 4

- Descriptive models are mostly used to visualize trends in data.
- Predictive models aim to predict the response while minimizing reducible errors.
- Inferential models look at which predictors are most significant in producing the outcome. They look for relationships between predictor and response.