# Regression

**TOTAL POINTS 15**

1. **Multiple Linear Regression** is appropriate for: 3 points

   - ○ Predicting the sales amount based on month
   - ○ Predicting whether a drug is effective for a patient based on her characterestics
   - ◉ Predicting tomorrow's rainfall amount based on the wind speed and temperature

2. Which of the following is the meaning of "**Out of Sample Accuracy**" in the context of evaluation of models? 3 points

   - ◉ "Out of Sample Accuracy" is the percentage of correct predictions that the model makes on data that the model has NOT been trained on.
   - ○ "Out of Sample Accuracy" is the accuracy of an overly trained model (which may captured noise and produced a non-generalized model)

3. When should we use **Multiple Linear Regression**? 3 points

   - ☑ When we would like to identify the strength of the effect that the independent variables have on a dependent variable.
   - ☐ When there are multiple dependent variables
   - ☑ When we would like to predict impacts of changes in independent variables on a dependent variable.

4. Which of the following statements are **TRUE** about **Polynomial Regression**? 3 points

   - ☑ Polynomial regression can use the same mechanism as Multiple Linear Regression to find the parameters.
   - ☑ Polynomial regression fits a curve line to your data.
   - ☑ Polynomial regression models can fit using the Least Squares method.

5. Which sentence is **NOT TRUE** about **Non-linear Regression**? 3 points

   - ○ Nonlinear regression is a method to model non linear relationship between the dependent variable and a set of independent variables.
   - ○ For a model to be considered non-linear, y must be a non-linear function of the parameters.
   - ◉ Non-linear regression must have more than one dependent variable.

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