1. Which of the following statements about model complexity is TRUE?  1 / 1 point

   ○ Higher model complexity leads to a lower chance of overfitting.
   ◉ Higher model complexity leads to a higher chance of overfitting.
   ○ Reducing the number of features while adding feature interactions leads to a lower chance of overfitting.
   ○ Reducing the number of features while adding feature interactions leads to a higher chance of overfitting.

   ⊘ Correct
   Correct! You can find more information in the Bias Trade Off lesson.

2. Which of the following statements about model errors is TRUE?  1 / 1 point

   ○ Underfitting is characterized by lower errors in both training and test samples.
   ◉ Underfitting is characterized by higher errors in both training and test samples.
   ○ Underfitting is characterized by higher errors in training samples and lower errors in test samples.
   ○ Underfitting is characterized by lower errors in training samples and higher errors in test samples.

   ⊘ Correct
   Correct! You can find more information in the Bias Trade Off lesson.

3. Which of the following statements about regularization is TRUE?  1 / 1 point

   ○ Regularization always reduces the number of selected features.
   ○ Regularization increases the likelihood of overfitting relative to training data.
   ◉ Regularization decreases the likelihood of overfitting relative to training data.
   ○ Regularization performs feature selection without a negative impact in the likelihood of overfitting relative to the training data.

   ⊘ Correct
   Correct! You can find more information in the Regularization Techniques lesson.

4. Which of the following statements about scaling features prior to regularization is TRUE?  1 / 1 point

   ○ Feature scaling is not recommented prior to regularization.
   ○ Features should rarely or never be scaled prior to implementing regularization.
   ◉ The larger a feature's scale, the more likely its estimated impact will be influenced by regularization.
   ○ The smaller a feature's scale, the more likely its estimated impact will be influenced by regularization.

   ⊘ Correct
   Correct! You can find more information in the Regularization Techniques lesson.

5. Which one of the 3 Regularization techniques: Ridge, Lasso, and Elastic Net, performs the fastest under the hood?  1 / 1 point

- ( ) Ridge
- ( ) Lasso
- ( ) Elastic Net
- ( ) None of the above

✓ Correct
Correct. You can find more information in the Polynomial Features and Regularization Demo.

6. Which of the following statements about Elastic Net regression is TRUE?      1 / 1 point

- (●) Elastic Net combines L1 and L2 regularization.
- ( ) Elastic Net does not use L1 or L2 regularization.
- ( ) Elastic Net uses L2 regularization, as with Ridge regression.
- ( ) Elastic Net uses L1 regularization, as with Ridge regression.

✓ Correct
Correct! You can find more information in the Regularization Techniques lesson.

7. BOTH Ridge regression and Lasso regression      1 / 1 point

- ( ) Do not adjust the cost function used to estimate a model.
- (●) Add a term to the loss function proportional to a regularization parameter.
- ( ) Add a term to the loss function proportional to the square of parameter coefficients.
- ( ) Add a term to the loss function proportional to the absolute value of parameter coefficients.

✓ Correct
Correct! You can find more information in the Regularization Techniques lessons.

8. Compared with Lasso regression (assuming similar implementation), Ridge regression is:      1 / 1 point

- ( ) Less likely to overfit to training data.
- ( ) More likely to overfit to training data.
- (●) Less likely to set feature coefficients to zero.
- ( ) More likely to set feature coefficients to zero.

✓ Correct
Correct! You can find more information in the Regularization Techniques lessons.

9. Which of the following about Ridge Regularization is TRUE?      1 / 1 point

- ( ) It enforces the coefficients to be lower, but not 0
- ( ) It minimizes irrelevant features
- ( ) It penalizes the size  magnitude of the regression coefficients by adding a squared term

○ All of the above

○ **Correct**
Correct! Incorrect! For more information review the Ridge Regression lesson.

10. Whixh of the below statements are correct?                                              1 / 1 point

○ Neither RidgeCV nor LassoCV use L1 regularization function.
○ Both RidgeCV and LassoCV use L1 regularization function.
○ Only RidgeCV use L1 regularization function.
◉ Only LassoCV use L1 regularization function.

○ **Correct**
Correct! You can find more information in the Polynomial Features and Regularization Demo.