Assessing Performance

13 questions

1 point

1. If the features of Model 1 are a strict subset of those in Model 2, the TRAINING error of the two models can **never** be the same.

- True
- False

1 point

2. If the features of Model 1 are a strict subset of those in Model 2, which model will USUALLY have lowest TRAINING error?

- Model 1
- Model 2
- It's impossible to tell with only this information

1 point

3. If the features of Model 1 are a strict subset of those in Model 2. which model will USUALLY have lowest TEST error?

- Model 1
- Model 2
- It's impossible to tell with only this information

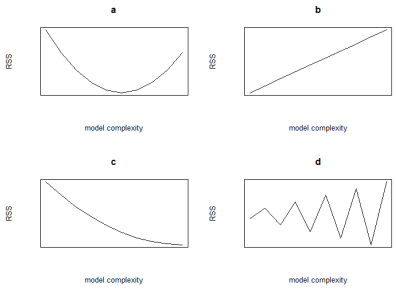
1 point

4. If the features of Model 1 are a strict subset of those in Model 2, which model will USUALLY have lower BIAS?

- Model 1
- Model 2
- It's impossible to tell with only this information

1 point

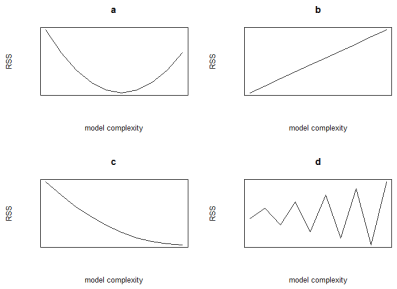
5. Which of the following plots of model complexity vs. RSS is most likely from TRAINING data (for a fixed data set)?



- a
- b
- c
- d

1 point

6. Which of the following plots of model complexity vs. RSS is most likely from TEST data (for a fixed data set)?



- a
- b
- c
- d

1 point

7. It is **always** optimal to add more features to a regression model.

- True
- False

1 point

8. A simple model with few parameters is most likely to suffer from:

- High Bias
- High Variance

1 point

9. A complex model with many parameters is most likely to suffer from:

- High Bias
- High Variance

1 point

10. A model with many parameters that fits training data very well but does poorly on test data is considered to be

- accurate
- biased
- overfitted
- poorly estimated

1 point

11. A common process for selecting a parameter like the optimal polynomial degree is:

- Bootstrapping
- Model estimation
- Multiple regression

- Minimizing test error
- Minimizing validation error

1 point

12. Selecting model complexity on test data (choose all that apply):

- [ ] Allows you to avoid issues of overfitting to training data
- [ ] Provides an overly optimistic assessment of performance of the resulting model
- [ ] Is computationally inefficient
- [ ] Should never be done

1 point

13. Which of the following statements is true (select all that apply): For a **fixed model complexity**, in the limit of an infinite amount of training data,

- [ ] The noise goes to 0
- [ ] Bias goes to 0
- [ ] Variance goes to 0
- [ ] Training error goes to 0
- [ ] Generalization error goes to 0

Submit Quiz