

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

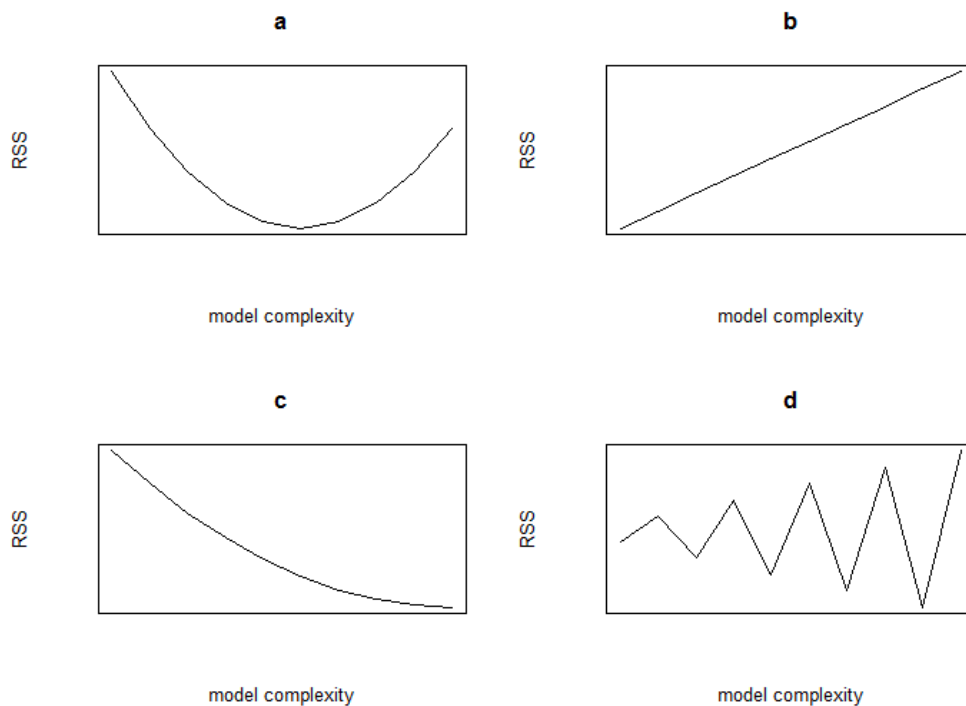
1
point

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)?



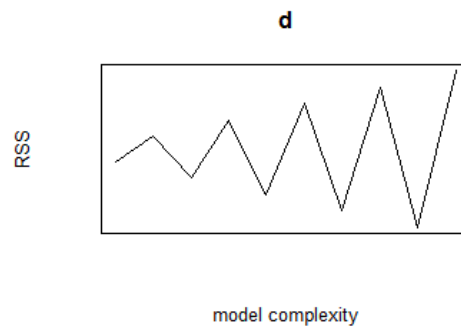
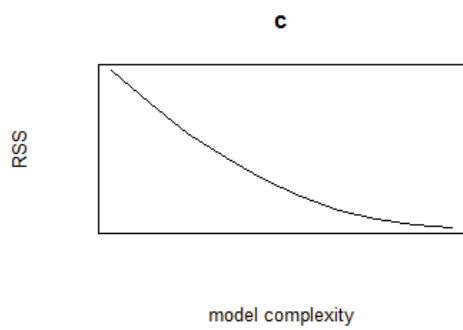
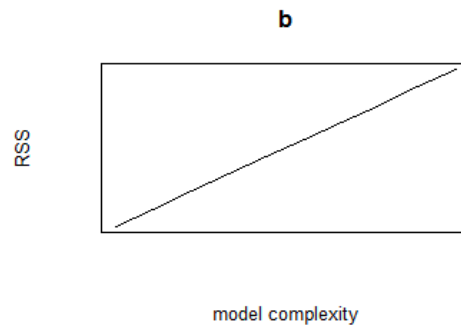
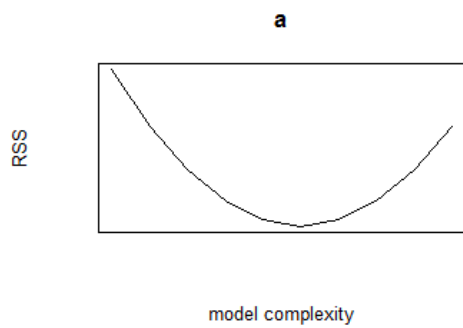
☐ a

- ☒ 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

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

