Feedback — Quiz: Week Four

Help Center

You submitted this quiz on **Mon 13 Apr 2015 9:46 PM PDT**. You got a score of **7.00** out of **7.00**.

Question 1

Which of the following models is an example of a second order polynomial model ($k = 2$)?

Your Answer		Score	Explanation
○ $y = c_0 + c_1 X + c_2 X^3$			
◉ $y = c_0 + c_1 X + c_2 X^2$	✔	1.00	Great job, this is correct!
○ $y = c_0 + c_1 X$			
Total		1.00 / 1.00	

Question 2

If you fit a polynomial regression model and obtain an overall p-value of 0.17 for the model, what does this indicate?

Your Answer		Score	Explanation
◉ This model does not fit better than the naïve model	✔	1.00	Great job! In this instance, large p-values (>.05) indicate that the current model does not fit any better than the naïve model. If this p-value were significant at p<.05, this would indicate a better fit than the naïve model.
○ This model fits better than the naïve model			
○ This does not tell us anything about the model			

○ This model has the same fit as the naïve model		
Total	1.00 / 1.00	

Question 3

If you added any random variable into a model, what would happen to the sums of squares due regression?

Your Answer		Score	Explanation
○ The sums of squares due regression would decrease			
◉ The sums of squares due regression would increase	✔	1.00	Nice work! Adding any variable into a model will always increase the sums of squares due regression. Even if the added variable is a series of random numbers, by chance you will always end up artificially increasing the sums of squares due regression.
○ The sums of squares due regression would remain the same			
○ We do not have enough information to interpret this			
Total		1.00 / 1.00	

Question 4

What is a partial F test used for in polynomial regression?

Your Answer		Score	Explanation
◉ To determine if the addition of a new x^2 variable to the model already containing x is significant	✔	1.00	Yes, you got it!
○ To determine which model best fits the data			
○ To determine the amount of variability in Y explained by X			
Total		1.00 / 1.00	

Question 5

How is extra sums of squares calculated in polynomial regression?

Your Answer		Score	Explanation
◉ By subtracting the due regression sums of squares for the straight line model from the due regression sums of squares for the polynomial model	✔	1.00	Great job!
○ By subtracting the total sums of squares for the straight line model from the total sums of squares for the polynomial model			
○ This cannot be calculated			
Total		1.00 / 1.00	

Question 6

You conduct a partial F-test of a polynomial term and yield an F value of 16. You compare this value to a critical value of F of 2.02. Should the polynomial term be added to the model?

Your Answer	Score	Explanation
○ No. You do not reject the null so the term is not significant.		
○ No. You reject the null and the term is not significant.		

Yes. You reject the null and conclude the term is significant.	✔	1.00	Yes, this is correct!
Total		1.00 / 1.00	

Question 7

Conclusions from t-test and partial f test are exactly equivalent.

(please answer True or False below)

Your Answer		Score	Explanation
True	✔	1.00	Great job, you got it right! Conclusions for both tests will be equivalent because we know that $t^2 = F$
False			
Total		1.00 / 1.00	