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## Properties of Least Squares Estimation - Quiz

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### Question 1

1/1 point (graded)

Why do we generally use OLS (the “ordinary least squares”) estimator to estimate  $\beta_0$  and  $\beta_1$ ? (Select all reasons that hold under the Classical Linear Regression Model.)

- ☒ a. Provides the most efficient unbiased estimate of  $\beta$ s
- ☒ b. Assuming normality of errors, it is the maximum likelihood estimator
- ☐ c. Is the fastest estimator to calculate
- ☒ d. Provides estimates that are consistent and asymptotically normal



### Explanation

We generally use OLS estimators because they hold several nice properties (a, b, and d above) that do not hold true of the other estimators we have seen. There may be times when the other estimators are useful (e.g. when you're worried about outliers having undue influence), but typically we choose to use OLS estimators because the properties are so good.

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**The Linear Model**

due Nov 28, 2016 05:00 IST



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You have used 1 of 2 attempts

✓ Correct (1/1 point)

**Question 2**

1/1 point (graded)

There are closed-form solutions for least squares estimators.



☒ a. True ✓☐ b. False**Explanation**

Unlike some other estimators where we have to do complicated numerical minimization, least squares estimators do have closed-form solutions. It is tedious to derive the closed-form solutions using summation notation, but we will do this with matrix notation in a later lecture.

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✓ Correct (1/1 point)

**The Multivariate Linear Model**due Nov 28, 2016 05:00 IST **Module 9: Homework**due Nov 21, 2016 05:00 IST 

- ▶ Module 10: Practical Issues in Running Regressions, and Omitted Variable Bias

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**Discussion****Topic:** Module 9 / Properties of Least Squares Estimation - Quiz[Show Discussion](#)

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