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## Properties of Maximum Likelihood Estimators - Quiz

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### Question 1

1.0/1.0 point (graded)

Which of the following is true about maximum likelihood estimators? (Select all that apply.)


- ☒ a. Under certain regularity conditions, maximum likelihood estimators will have asymptotically normal distributions.
- ☐ b. In general, maximum likelihood estimators are more robust to mistakes in assumptions about the underlying distribution than method of moment estimators.
- ☒ c. If there is an efficient estimator in a class of estimators, maximum likelihood estimation will produce it.
- ☐ d. If there is an unbiased estimator in a class of estimators, maximum likelihood estimation will produce it.




**Explanation**

- ▶ [Module 5: Moments of a Random Variable, Applications to Auctions, & Intro to Regression](#)
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### **Assessing and Deriving Estimators**

[Finger Exercises due Nov 14, 2016 at 05:00 IST](#) 

### **Confidence Intervals and Hypothesis Testing**

[Finger Exercises due Nov 14, 2016 at 05:00 IST](#) 

### **Module 7: Homework**

[Homework due Nov 07, 2016 at 05:00 IST](#) 

One reason MLEs are nice is this result that they will have asymptotically normal distributions under certain assumptions. MLEs are also nice because we know that they will produce an efficient estimator if it exists in that class of estimators. However, MLEs are in general more sensitive to mistakes about the underlying distribution, because they rely on these assumptions more than estimators derived using method of moments. We know that MLEs do not always produce unbiased estimators; for example, the  $n^{th}$  order statistic is a biased estimator for  $\theta$  in  $U[0, \theta]$  distributions, so (d) is incorrect.

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### **Discussion**

**Topic:** Module 7 / Properties of Maximum Likelihood Estimators - Quiz

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