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## Another Example of Maximum Likelihood Estimation - Quiz

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### Question 1

1.0/1.0 point (graded)

In this example we see a uniform distribution  $U[\theta - \frac{1}{2}, \theta + \frac{1}{2}]$ . Which of the following is true about the  $n^{th}$  order statistic? (Select all that apply)


- ☐ a.  $\theta$  must be at least  $\frac{1}{2}$  below the  $n^{th}$  order statistic.
- ☒ b.  $\theta$  can be no more than  $\frac{1}{2}$  below the  $n^{th}$  order statistic.
- ☐ c. The  $n^{th}$  order statistic can be no more than  $\frac{1}{2}$  away from the first order statistic.
- ☒ d. The  $n^{th}$  order statistic can be no more than 1 away from the first order statistic.




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](#) 

In this example, the distribution has known length equal to 1. Therefore the  $1^{st}$  and  $n^{th}$  order statistics cannot be separated by a length of more than 1. Also, the  $n^{th}$  order statistic cannot be more than  $\frac{1}{2}$  above  $\theta$  because  $\theta + \frac{1}{2}$  is an upper bound on the distribution.

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You have used 1 of 2 attempts

### **Discussion**

**Topic:** Module 7 / Another Example of Maximum Likelihood Estimation - Quiz

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