Order Statistics - Quiz

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Question 1

1 point possible (graded)

In which of the following situations are you likely to be interested in the distribution of an order statistic? (Select all that apply)

- [x] a. you want to know the chance of you winning the lottery, since you just bought 13 tickets.
- [x] b. you are holding an auction to sell your car. ✔
- [ ] c. your boss decides to give everyone the day off if everyone in your team is able to finish their work. ✔
- [ ] d. you made a bet with your friend that it will rain 3 times in the next week. If it doesn't, you owe her $20.

✖

Explanation

In statistics, the k^{th} order statistic of a given sample is the k^{th} smallest value. You would be interested in the distribution of an order statistic, if you are only interested in estimating the PDF of the k^{th} smallest value. In the situation described in B, you are interested in the maximum price at an auction. In the situation described in C, you are interested in the distribution of the 1st order statistic. On the other hand, in example A, you are interested in the probability of any of the tickets you bought being the winning number. And in example D, you are concerned with the probability of an event taking place k times in n trials.

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✖ Incorrect (0/1 point)

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