

## 1. Two five-sided dice

### Problem 1. Two five-sided dice

4/4 points (graded)

You roll two five-sided dice. The sides of each die are numbered from 1 to 5. The dice are "fair" (all sides are equally likely), and the two die rolls are independent.

Part (a): Event **A** is "the total is 10" (i.e., the sum of the results of the two die rolls is 10).

1. Is event **A** independent of the event "at least one of the dice resulted in a 5"?

No



2. Is event **A** independent of the event "at least one of the dice resulted in a 1"?

No



Part (b): Event **B** is "the total is 8."

1. Is event **B** independent of getting "doubles" (i.e., both dice resulting in the same number)?

No



2. Given that the total was 8, what is the probability that at least one of the dice resulted in a 3?

2/3



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You have used 3 of 3 attempts

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	<u>Where can we find solution set to the problem set for the previous week ? Is there a place where the solution...</u>	3
✓	<u>deadline</u> <u>what is the deadline for problem set2 , some where it is showing Sept 19 and somewhere it is showing Sept 18</u>	5
✓	<u>I have a hard time understanding 1b</u> <u>Is event A independent of the event "at least one of the dice resulted in a 1", does that mean that at least 1 di...</u>	7
?	<u>Regarding Independence in general...?</u> <u>Regarding independence in general, answering the question: "Does event A affect result B if occurred?" Woul...</u>	7
?	<u>clue needed for question 2(b).</u> <u>I have drawn sample space for both the dice. The grader shows my answer is incorrect. Is there any other clue?</u>	3
💬	<u>Got all correct in first attempt..</u> <u>I understand now the concept of independence, conditional probability and disjoint properly.</u>	4
💬	<u>Understading part b (2).</u> <u>If the total is know to be 8 - then the combinations for summing to that, with the 5 faced dice. Would that co...</u>	5
?	<u>Restating b-1</u> <u>I understood the question to mean. "You learned that A happens. Given that information, is B dependent?" B...</u>	2
💬	<u>1A : Independence of events</u> <u>In 1:A , mathematically we get the correct answer, but intuitively, even before getting the information "at leas...</u>	8
💬	<u>Dependency.</u> <u>Lets say Event A has equally possible outcomes b, c, and d. Can we say that A is independent of c? or does A i...</u>	3
✓	<u>2 dice vs 2 rolls or both?</u> <u>My question is a bit silly but at one point, I did find myself pondering over it. Am I right in interpreting that th...</u>	2

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