

#### MITx: 6.041x Introduction to Probability - The Science of Uncertainty

Help



- Unit 0: Overview
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#### **Unit overview**

## Lec. 2: Conditioning and Bayes' rule

Exercises 2 due Feb 2, 2017 20:59 ART

# Lec. 3: Independence

Exercises 3 due Feb 2, 2017 20:59 ART

#### Solved problems

### **Problem Set 2**

Problem Set 2 due Feb 2, 2017 20:59 ART

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# Problem 1 Vertical: Two five-sided dice

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#### 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  $\boldsymbol{A}$  is "the total is 10" (i.e., the sum of the results of the two die rolls is 10).

1. Is event  $m{A}$  independent of the event "at least one of the dice resulted in a 5"?



2. Is event  $m{A}$  independent of the event "at least one of the dice resulted in a 1"?



Part (b): Event  $oldsymbol{B}$  is "the total is 8."

1. Is event  ${\it B}$  independent of getting "doubles" (i.e., both dice resulting in the same number)?



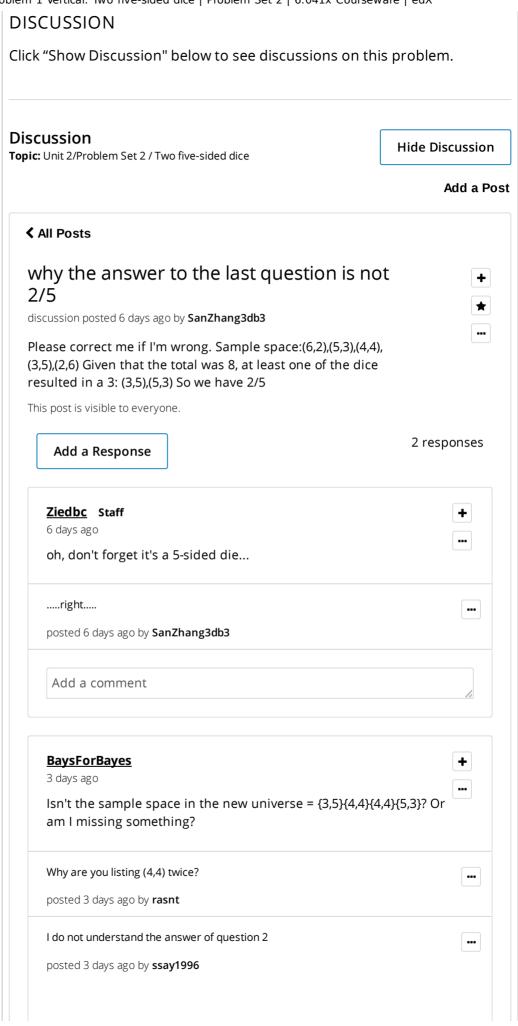
2. Given that the total was 8, what is the probability that at least one of the dice resulted in a 3?

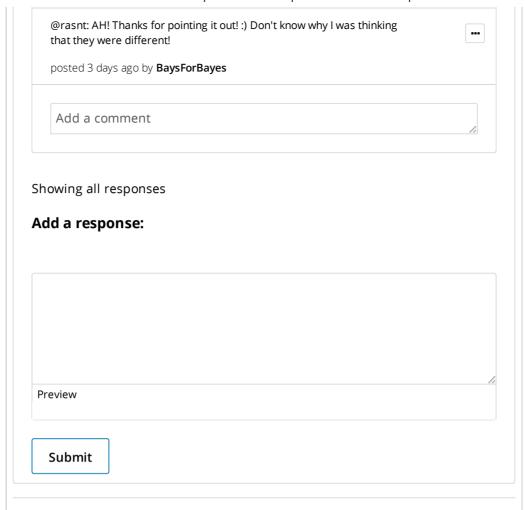


Submit You have used 1 of 1 attempt

Correct (4/4 points)

Printable problem set available here.





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